

PLANNING BOARD

Tuesday, December 10, 2024 at 4:30 PM
Room 24 (Ground Level of City Hall) and
Zoom



MEMBERS

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

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AGENDA:

WORKSHOP - 4:30 PM

- i. Major Site Plan and Traffic Movement Permit; 203 Fore Street; Chatham Lodging Trust, Applicant. The Planning Board will hold a hybrid workshop to consider a proposal to develop a new 132-room Home 2 Suites hotel with three ground-level retail spaces, a valet parking area with space for 105 vehicles, and a new pocket park along Middle Street. The subject property totals 48,000 square feet and is zoned India Street Form Based Code (ISFBC). A project and plan summary are available for viewing on the city's CSS Portal (<https://css.portlandmaine.gov/>) by referencing Plan Number PL-002892-2024.
- ii. Design Manual; City of Portland, Applicant. **At the City's request, this item is being tabled.**

PUBLIC HEARING - 6:00 PM

1. ROLL CALL AND DECLARATION OF QUORUM

2. COMMUNICATION AND REPORTS

PB 2025 Meeting Schedule

3. REPORT OF ATTENDANCE AT THE MEETING HELD ON NOVEMBER 26, 2024.

Workshop

Tech Manual: Barker, Mazer, Murphy, Smith and Stanley present. Chann and Silk absent.

Public Hearing

1001 Westbrook Street: Barker, Mazer, Murphy, Smith and Stanley present. Chann and Silk absent.

360 Spring Street: Barker, Mazer, Murphy and Stanley present. Smith recused, Chann and Silk absent.

4. REPORTS OF DECISIONS AT THE MEETING HELD ON NOVEMBER 26, 2024.

- i. Major Site Plan; 1001 Westbrook Street (Jetport Expansion); City of Portland, Applicant. Barker motioned, and Stanley seconded a motion to table the public hearing to January 28, 2025 for the applicant to provide additional justification of the requested waivers (Chann and Silk absent).
- ii. Major Site Plan; 360 Spring Street; Waynflete School, Applicant. Barker motioned, and Stanley seconded a motion to waive Smith seconded a motion to waive Site Plan Standard Sec. 14.6.1.B.3, to waive the requirement that new sidewalk and curbing be constructed along Fletcher Street, due to the narrow width of the public right-of-way. Vote 4-0 (Smith recused, Chann and Silk absent). Barker motioned, and Stanley seconded a motion to approve the major site plan application. Vote 4-0 (Smith recused, Chann and Silk absent). Barker motioned, and Stanley seconded a motion to adopt the draft approval letter as the Board's decision, and authorize the Board Chair to sign the approval letter as drafted. Vote 4-0 (Smith recused, Chann and Silk absent).

5. NEW BUSINESS

- i. Planning Board Officer Elections
- ii. Design Manual; City of Portland, Applicant. The Planning Board will hold a hybrid public hearing to consider the adoption of a minor amendment to the City of Portland Design Manual, detailing how projects subject to zoning and use-based design requirements should be evaluated following the adoption of ReCode, and prior to the adoption of an updated Design

Manual. Materials associated with this item will be posted to the [City's Agenda Center](#) the Friday before this public hearing.

- iii. Remand of Level III Site Plan and Subdivision; 19 Willis Street/33 Montreal Street; 37 Montreal, LLC, Applicant. The Planning Board will hold a hybrid public hearing to reconsider Application PL-000807-2019 in order to make additional findings of fact pursuant to orders from the Maine Supreme Judicial Court and Maine Superior Court related to height, setback, and design review requirements in connection with the approved application for a four-story, 12-unit residential building at 19 Willis Street. The development site is located within an R-6 zone. The application associated with the remand order, PL-000807-2019, was originally approved by the Planning Board at its December 14, 2021 meeting. Materials associated with this item will be posted to the [City's Agenda Center](#) the Friday before this public hearing.
- iv. Technical Manual; City of Portland, Applicant. The Planning Board will hold a hybrid public hearing to consider amendments to the City of Portland Technical Manual, to modify the City's stormwater management and site landscaping requirements, introduce new low impact development requirements, and revise submission requirements for site plan and subdivision applications. Other amendments include reformatting of the technical manual and minor clean-up of text to align with ReCode. Materials associated with this item will be posted to the [City's Agenda Center](#) the Friday before this public hearing.

To: Chair Brandon Mazer & Members of the Planning Board
From: Eric Freeman
Date: December 5, 2024
Re: 203 Fore Street
Project ID: PL-002892-2024
CBL: 029 L003
Meeting Date: December 10, 2024.

I. INTRODUCTION

Gorrill Palmer engineering and Chatham Lodging Group have submitted a Major Site Plan application for the construction of a five-story, 132-room extended stay hotel with three retail units along with other associated site improvements at 203 Fore Street, within the India Street Form-Based Code District. This application is being referred to the Planning Board for compliance with the City of Portland's Land Use Code Site Plan Standards, Section 14.6. Additionally, this application is required to meet the City of Portland's inclusionary zoning requirements outlined in Section 18.2 of the City's Land Use Code.

The Planning and Urban Development Department mailed 338 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the 11/29/2024 and 11/30/2024 edition of the Portland Press Herald.

Applicant: Chatham Lodging Group

Applicant Representatives: Gorrill Palmer Engineering



Figure 1: Rendering from the corner of India and Fore Streets

II. REQUIRED REVIEWS

<i>Review</i>	<i>Applicable Standards</i>
Site Plan	Section 14.6
Inclusionary Zoning	Section 18.2.3
ISFBC Design Review Standards	Section 9.1 City of Portland Design Manual (I)

<i>Project Data</i>	
Existing Zoning	ISFBC
Property Size	47,473 SF
Existing Use	Surface Parking Lawn and decorative landscaping
Proposed Development Program	Five-Story, 132-room hotel 3 retail units 108 valet parking spaces

III. EXISTING CONDITIONS AND SURROUNDING AREA

The subject property is located within the India Street neighborhood and is bounded by Middle, India and Fore Streets. This block was formerly the site of Jordan's Meats, which ceased operations in 2009 and subsequently burned down in 2010. The site is currently used as surface-level valet parking for the adjacent Hampton Inn, which was built in 2010 as the first phase of an intended multi-phase redevelopment of this block. The existing valet parking lot is accessed via Fore street and is buffered on all sides by lawn and landscaped areas. There is an approximately 8-foot change in elevation between Middle Street and Fore Street.

The surrounding India Street neighborhood has an urban context with a wide variety of building typologies and uses.



Figure 2: The existing site

IV. PROPOSED DEVELOPMENT

The proposed development involves the construction of a five-story, 132-room Home2 Suites extended stay hotel. The proposed building would have frontages on Middle, India and Fore Streets, with the primary hotel entrance being located at the corner of India and Fore Streets. Given the change in elevation on the site, the building will have a five-story frontage along Fore Street and a Four-story frontage along Middle street. The proposed building will have approximately 5,400 square feet of retail space, with two retail units fronting Middle Street and one retail unit fronting India Street

The ground floor of the hotel will feature a lobby and reception area, restaurant space and one retail unit fronting India Street. The primary entrance at the corner of Fore and India Street will feature an outdoor patio area fronting the street corner. The second floor will feature two additional retail spaces fronting Middle Street. The upper floors will consist entirely of hotel guest rooms.

The existing valet parking lot will be expanded from 87 to 105 spaces and will be reconfigured, to serve as parking for both the existing Hampton Inn and the proposed Home2 Suites. The shared valet parking area will be accessed from an existing curb cut on Fore Street.

The proposed development will feature two publicly accessible landscaped terraces along Middle Street. These terraces will create a partial canopy over the valet parking lot and will serve as a visual buffer between the parking area and Middle Street. These landscaped terraces will be publicly accessible and will feature a mixture of landscaping and programed elements. Additionally, a “pocket park” is proposed along Fore Street to create a landscaped buffer between the proposed building and the existing Hampton Inn.



Figure 3: India Street elevation

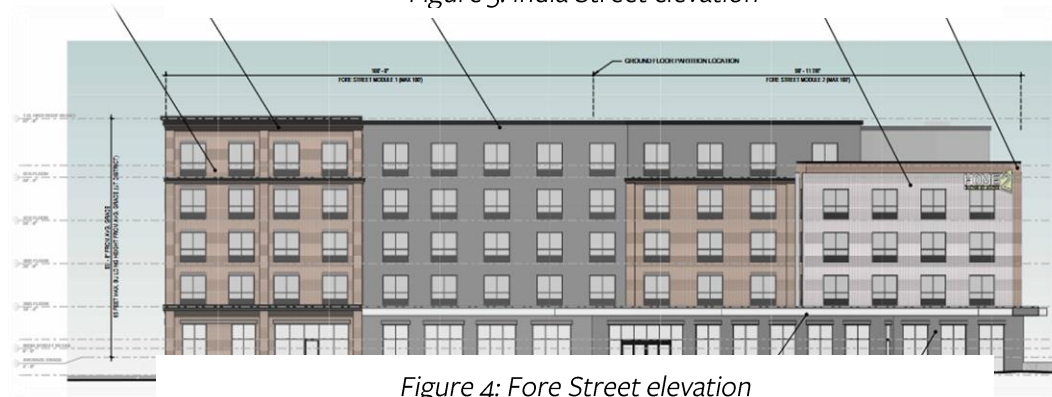


Figure 4: Fore Street elevation

V. RIGHT, TITLE, & INTEREST

The applicant has demonstrated sufficient right, title and interest to the parcel involved in this application. The subject lot was conveyed together with associated rights and easements to Chatham Lodging trust on December 21, 2012. The easements associated with this conveyance grants access to parking for this parcel through the 209 Fore Street property.

Conveyance of this parcel is recorded in the Cumberland County Registry of Deeds Book 28022, Page 181.

Full Right, Title and Interest documentation is included as attachment D

VI. FINANCIAL & TECHNICAL CAPACITY

The applicant has provided a written statement detailing their financial standing with RBC Bank. The applicant will be required to provide a letter from their financial institution prior to a Public Hearing.

Gorrill Palmer Engineering is an experienced engineering firm and has demonstrated experience completing projects of similar scale throughout Maine.

Full financial and technical capacity documentation is included as attachment H and I

VII. ZONING ANALYSIS

All three phases lie within the India Street Form Based Code (ISFBC) zone. The India Street Form-Based Code is different than traditional zoning, placing the primary emphasis on a building's design and its relationship to the street. The intent of the India Street Form-Based Code Zone is to establish a zone that creates a walkable, mixed-use urban district, that preserves and values the existing historic neighborhood fabric, and fosters and supports a mixture of local businesses and residential areas. The ISFBC establishes subdistricts and siting standards to define how buildings should interact with the existing character of the street they are on. This project fronts both Urban Active (UA) and Urban Transitional (UT) streets, which each promote different levels of use.

- Urban Active (UA)**
 The proposed hotel fronts Middle and India Streets, which are defied as Urban Active streets by the ISFBC.

UA streets should promote moderate-scale and mixed-use buildings with active ground floor spaces. Building frontages should be transparent and directly engage the street. Buildings should be smaller in scale.

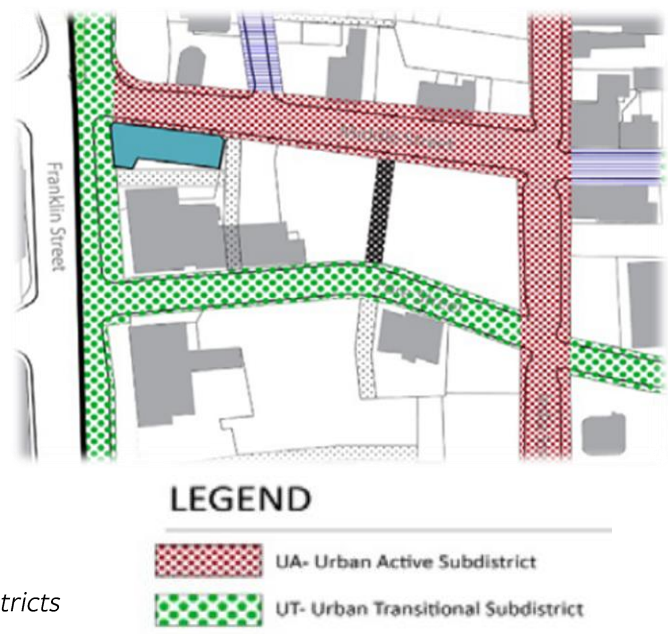


Figure 5: ISFBC Subdistricts

- **Urban Transitional (UT)**

The proposed building's primary entrance is on Fore Street, which is defined as an Urban Transitional street.

UT streets should feature higher density mixed-use buildings with larger footprints and a wider variety of uses. The streetscape may be less active than the UA subdistrict, with wider sidewalks and street trees to help break the massing of larger buildings.

UT streets should feature higher density mixed-use buildings with larger footprints and a wider variety of uses. The streetscape may be less active than the UA subdistrict, with wider sidewalks and street trees to help break the massing of larger buildings

ISFBC Siting Standards

- **Mid-Block Permeability**

This parcel is required to provide mid-block permeability as outlined in Section 9.1.6 of the Land Use Code. Mid-Block permeability is defined as:

“A continuous, open-air corridor at least 20 feet in width that connects two streets or public rights-of-way and physically provides a break in the street wall. The corridor must be unobstructed and open to the sky for the majority of its length”

The applicant provides mid-block permeability through the site with a pedestrian walkway connecting Middle Street to Fore Street. This walkway would cut through the middle of the valet parking lot and connect to Middle street via a stairwell between the two landscaped terraces.

- **Building Length and Street Frontage**

UA: Within the UA subdistrict, buildings may have no more than 50 ft. of street frontage

UT: Buildings may have no more than 100 feet of street frontage. Buildings may be allowed up to an additional 100 ft. in street frontage provided the building includes ground floor partitions and massing variation.

The proposed building provides ground floor partitions and massing variations on UA and UT frontages. This application meets the building length and frontage requirements of the ISFBC.

- **Height**

UA: Within the UA subdistrict, buildings must be a minimum of two stories in height and no more than 45 ft. in height. Buildings providing mid-block permeability are eligible for up to 12 ft. in bonus height along a UA street.

UT: Within the UT subdistrict, buildings must be a minimum of three stories in height and no more than 65 ft. in height.

This application provides a mid-block pedestrian connection and is eligible for up to 12 feet in bonus height. The proposed building will have a 50 ft. height along Middle Street (UA) and a 58 ft. height along Fore Street (UT)

This application meets the building height requirements of the ISFBC.

	Required	Proposed
Lot Size	None	15,224 SF
Maximum Height (ft)	50 ft. (UA with bonus) 65 ft. (UT)	50 ft. (UA) 58 ft. (UT)
Front Yard Maximum	5 ft (UA) 10 ft. (UT)	8 ft
Yard Right Maximum	5 ft. (Fore Street)	<2 feet.
Side Setback	5 ft	7 ft
Stepback	15 ft.	15 ft.
Lot Coverage	90%	~40%

Inclusionary Zoning

As outlined in Section 18.2.5 of the City of Portland's Land Use Code, this application is subject to Inclusionary Zoning standards. The applicant intends to pay a fee-in-lieu into the City's Jill C. Dusen Housing Trust Fund for the 132 guest rooms.

VIII. SITE PLAN 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

This application proposes to utilize three existing hourly parking spaces on Fore Street for valet pick-up and drop-off. Valet drivers will deliver the vehicles to either the on-site valet parking lot or nearby parking lots.

This application will require a Traffic Movement Permit. The applicant is in the process of preparing their TMP materials.

Existing traffic patterns on surrounding streets will not change.

B. Access and circulation

The proposed building will have multiple entry points for different uses. The primary entrance to the hotel will be located at the corner of India and Fore Streets. Retail storefronts will be accessed from Middle and India Streets.

A mid-block pedestrian connection is provided to enable direct access from Fore Street to Middle Street. This pedestrian connection crosses the valet parking lot and ascends to the Middle Street elevation with a stairwell.

Sidewalks along Middle, India and Fore Street's will be reconstructed with brick pavers and granite curbing.

Staff have requested the applicant enhance the mid-block connection by better defining its path through the valet parking lot and providing further separation between the stairwell and the landscaped terraces on Middle street to enhance the experience and functionality of the space and ensure that no structures are within the 20-foot corridor.

C. Public transit access

This site is directly serviced by METRO's Route 8 and Husky Line. The site is also proximate to routes 1, 7, 9A/B and Breez.

D. Parking

This application involves the expansion and reconfiguration of the existing 87-space valet parking area which currently serves the Hampton Inn, which has a total of 125 guest rooms and 12 residential units.

This application is proposing an expansion of the valet parking area from 87 to 105 spaces. These spaces would serve as valet parking for both the 125-room Hampton Inn and the proposed 132-room Home2 Suites. The primary entrance to the shared valet parking lot would remain with the existing curb cut and two-way drive aisle off of Fore Street and underneath the existing Hampton Inn.

Additionally, the applicant has contracted with third-party operators to provide approximately 85 off-site valet parking spaces in nearby surface parking lots during peak times. The applicant has also contracted with the owners of 100 Middle Street to provide approximately 240 enclosed parking spaces to be utilized on weekends only. The applicant anticipates needing approximately 35 to 40 off-site parking spaces during peak times.

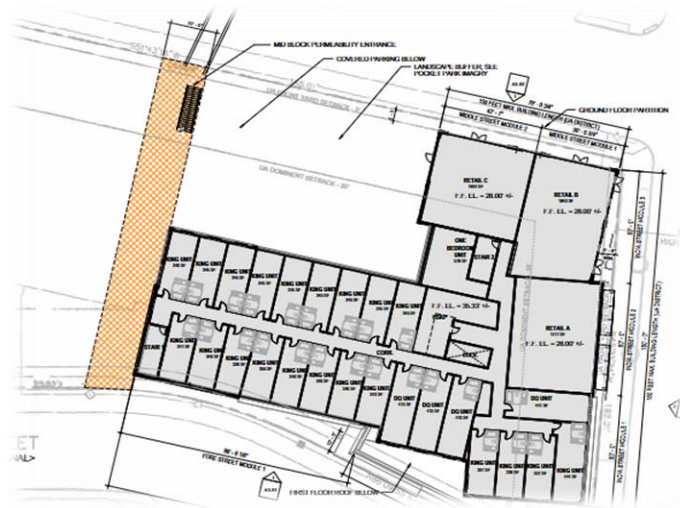


Figure 6: The 20 ft. mid-block corridor (orange) in relation to the proposed building

Staff have requested that the applicant provide additional information regarding anticipated valet operations and parking demand.

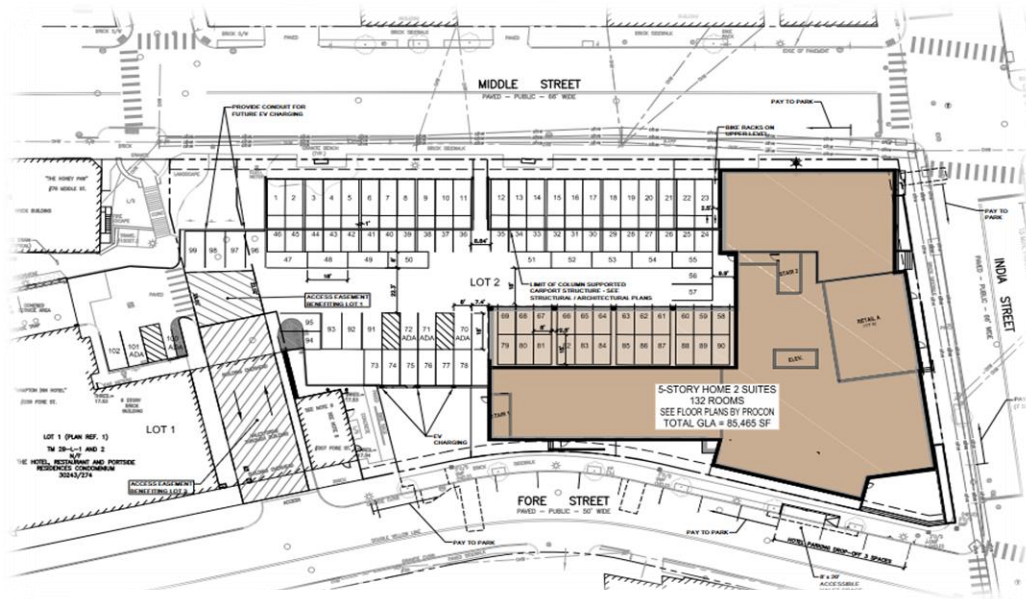


Figure 7: Valet parking plan

E. Transportation demand management (TDM)

The applicant has provided a draft TDM Plan. TDM strategies outlined by the applicant include:

- Guest shuttle service to the Jetport, Transportation Center and destinations off-peninsula
- Incentive programs for staff to utilize rideshare or transit

The full draft TDM plan is included as attachment J.

Staff consider this standard to be met.

2. Environmental Quality Standards (Section 14.6.2)

A. Preservation of significant natural features

This parcel is an urban infill lot which was previously fully built over. There are no significant natural features on this site.

Staff consider this standard to be met.

B. Landscape preservation

The existing site consists primarily of surface parking and grassed open space with landscaping features which were planted at the time of the Hampton Inn's construction in 2010. There are six newly planted street trees along Fore Street and one more mature street tree along India Street. All but one existing street tree will be preserved. Landscaping within the 35' buffer will be removed.

Staff consider this standard to be met

C. Site landscaping and buffers

The site will feature a new “pocket park” along Fore Street to create a green buffer between the proposed hotel and the existing Hampton Inn. This pocket park will also serve as an entryway to the mid-block pedestrian connection through the site to Middle Street. The pocket park will feature a mix of perennial plantings, bushes and trees.

The applicant intends to preserve all but one existing street tree on Fore Street, which will be replanted, and will plant three new street trees along India Street.

Two publicly accessible landscaped terraces will be created along Middle Street. These terraces will create a partial canopy over the below-grade valet parking area, and will create new public open space. These terraces will feature a mixture of open grassed surface, street trees, seating, and perennial plantings. The terraces will feature a decorative wall on their interior edge of the terrace to create a visual separation between the public space and the valet parking area below.

The applicant is not proposing any landscaping within the valet parking area. The applicant will require a waiver of Section 4.5.5 of Chapter 4 of the City of Portland Technical Manual. Given the confined nature of the parking area and its limited use for valet operations, staff are supportive of a waiver request.

The two terraces will be intersected by a publicly accessible stairwell connecting Middle Street to Fore Street via a mid-block pedestrian walkway.

The applicant has provided a landscaping plan included as attachment 35.



Figure 8: Fore Street rendering with pocket park

D. Water quality/storm water management/erosion control

The project results in the creation of more than 1,000 square feet of new impervious surface and 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 applicant has submitted a full stormwater management plan demonstrating compliance with both Section 5 of the Technical manual and Maine DEP chapter 500 standards.

Stormwater Treatment will be accomplished using a “Focal Point” subsurface filtration system which will retain and treat runoff from the flat-roof building. Additional impervious surface will be treated with an R-tank chamber located underneath the valet parking lot. This system will provide storage and treatment for stormwater before discharging into the Fore Street catch basin.

Staff consider this standard to be met.

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

A. Consistency with City Master Plans

There are no City Master Plans that apply to this application.

B. Availability and capacity of public utilities

The proposed building will be served by existing electrical, water and sewer services. Utility providers have been contacted for their ability to serve the proposed project. The applicant has requested ability to serve letters from Central Maine Power and Portland Water district.

The applicant is continuing to explore alternative methods for resolving a horizontal clearance issue with overhead electrical utilities at the corner of Middle and India Streets. The applicant may have to shift the massing of the building in order to maintain minimum clearance. As an alternative, the City would recommend that utility lines be undergrounded in this location in order for the project to comply with the maximum setback requirements for the zone, and remove the need for maintaining minimum clearance.

4. Site Design Standards (Section 14.6.4)

A. Massing, ventilation, and wind impact

The proposed building meets all height and dimensional standards of the ISFBC and is similar in height and scale to the existing Hampton Inn. There are no massing impacts anticipated with this application.

Staff consider this standard to be met.

B. Shadows

The proposed building is similar in height and scale to surrounding buildings. No adverse shadow impacts are anticipated with this application.

Staff consider this standard to be met.

C. Snow and ice loading

The location of this building is not anticipated to impact snow and ice clearing on abutting properties or public rights-of-way. The applicant has detailed snow storage locations on included plans.

Staff consider this standard to be met.

D. View corridors

This application is not within a protected view corridor.

E. Historic resources

Not applicable. Although this site is in direct proximity to the India Street Historic District, the ISHC does not require Historic Preservation Advisory Review for sites outside of the district's boundary.

F. Exterior lighting

The proposed development includes full cutoff / dark sky compliant light fixtures to minimize light spillover. The building will feature architectural and brand-specific signage which will be illuminated.

A full photometric plan has been included as attachment 37.

Staff consider this standard to be met.

G. Noise and vibration

HVAC, air handling units, and other necessary equipment will be installed on the roof of the building.

Given the location of the proposed building, the placement of HVAC, generators and other equipment is not anticipated to interfere with abutting residential properties.

Staff consider this standard to be met.

H. Signage and wayfinding

No wayfinding signage is proposed as part of this application. The proposed hotel will feature brand-specific signage.

I. Zoning-related design standards

This application subject to a design review according to the India Street Form Based Code design standards from the City of Portland *Design Manual* as defined in the Land Use Code Section 14.6.4.I Design standards.

A full design review is included as attachment S2.

IX. NEIGHBORHOOD MEETING & PUBLIC COMMENT

The applicant held a neighborhood meeting on August 24, 2024 at 5:30 PM. The in-person meeting was held in conference room at the Hampton Inn at 209 Fore street. 29 members of the public were in attendance.

Public comment centered on:

- Building design and massing
- Construction management
- Parking and valet operations
- Waste removal, snow clearing and day-to-day operations
- Open space and water views

A full sign-in sheet and meeting minutes are included as attachment L

ATTACHMENTS**Public Comment**

P1. Portside Condominium Association

Report Attachments

- S1. Applicant Response to Comments – 10.08.24
- S2. ISFBC Design Review Memo – 8.16.24
- S3. Applicant Response to Design comments.
- S4. ISFBC Design Review Memo – 10.25.24
- S5. Landscape Plan Design Review Markup

Applicants Submittal

- A. Cover Letter
- B. Major Site Plan Checklist
- C. Project Description
- D. Right Title Interest
- E. Zoning Assessment
- F. Site Plan Review Standards
- G. Easements and Covenants
- H. Financial Capacity
- I. Technical Capability
- J. Transportation Demand Management Draft 2024.08.01
- K. Stormwater Report
- L. neighborhood meeting certification
- M. Construction Management Plan
- N. Utilities

Plans

- 1. Cover Sheet
- 2. Ground Floor Plan

3. Second Floor Plan
4. Third and Fourth Floor Plan
5. Fifth Floor Plan
6. Roof Plan
7. East Elevation
8. South Elevation
9. North Elevation
10. West Elevation
11. Materials Board
12. Isometric View
13. India Street Rendering
14. Fore Street Rendering
15. Middle Street Rendering
16. Middle Street Pocket Park Rendering
17. Pocket Park Perspective Images
18. Retail Entries Detail
19. Site Plan Cover Sheet
20. General Notes and Legend
21. Boundary and Topographic Survey
22. Existing Conditions Plan
23. Original Subdivision Plan
24. Site Plan
25. Parking Plan
26. Grading and Drainage Plan
27. Stormwater Treatment
28. Stormwater FocalPoint Details
29. Utility Plan
30. Details
31. Details
32. Details
33. Utility Details
34. Utility Details
35. Landscape Plan
36. Landscape Details
37. Site lighting package

October 8, 2024

Eric Freeman, City Planner
Planning & Urban Department
389 Congress Street
Portland, ME 04101

Subject: Project ID – PL-002882-2024
203 Fore Street
Proposed Home 2 Suites
Applicant: Chatham Lodging Trust
Letter of Response to Planner Comments

Dear Eric:

On behalf of **Chatham Lodging Trust (Applicant)**, our office is pleased to provide this letter of response to City Review Comments dated August 22nd, 2024, for the proposed development at 203 Fore Street. We offer the following response for each comment, below. For ease of reference, we have repeated those comments in *italics* followed by our responses for the City's consideration in **bold**.

Staff Review Comments received via email August 22nd, 2024:

Transportation Standards (Sec. 14.6.1)

Impact on Surrounding Street Systems

- The applicant shall conduct a trip generation analysis for the project. Additionally, the applicant should note if there are any High Crash Locations in the vicinity of the project. A determination on the need for a traffic study will be determined following receipt of this information.*

Response: Based on our preliminary calculations, this project will require a 100-200 Level MaineDOT Traffic Movement Permit. The permit process will be administered through the City's delegated review authority. A pre-scoping meeting was held with the City on September 3rd, 2024, to initially discuss the project. Turning movement counts have been completed for intersections in the immediate area and are in the process of being reduced to useable information and will be summarized in the TMP Application. This information will provide guidance on trip distribution and assignment and will also be summarized in the TMP Application.

- Recognize that India Street is currently under moratorium until 9/25/25, A moratorium repair will be required. The applicant shall get permission from the Department of Public Works prior to any work within the street Right of Way.*



Response: A note has been added to C-3.0 to coordinate with Dept. of Public Works for final moratorium pavement restoration. This will include a full street width pavement restoration subject to Section 4.09 Five Year Street Restoration Requirements of the City Technical Standards and Rules and Regulations for Excavation Activity within the Public ROW. All restoration shall extend at least 20 feet from the edge of road pavement disturbance.

- *DPW does not support the use of curb extensions at the corner of Middle Street and India Street. The applicant shall redesign the corner maintaining the existing radius/layout.*

Response: The curb extensions at the Middle/India Street have been removed based on this comment. As a reminder the proposal for the curb extensions was due to the existing overhead utility wire locations and need for separation from the face of the building. If the overhead wires remain as currently located the face of building will need to be shifted away from the wires to create greater separation, which currently is less than 10 feet. Central Maine Power has suggested a separation distance of up to 18' from the face of the building.

- *C-3.0 – Call out all monuments to be protected*

Response: Existing monuments have been identified and noted to be protected accordingly.

- *C-3.0 – Extend sidewalk to ROW boundary along Middle Street.*

Response: The brick sidewalk has been widened to the ROW boundary as requested along the Middle Street frontage.

- *Provide a proposed signage plan sheet*

Response: A signage legend has been added to the Site Plan.

- *C-3.0 – Remove special pavers from the ROW*

Response: The limits of the plaza pavers along Middle Street has been revised to remain on private property.

- *C-3.0 – Show the proposed pavement cuts for utility connection in the public ROW.*

Response: The sawcut/trenching limits for utility service connections has been added to all applicable plans.



Access and Circulation

- *C-3.1 – Proposed valet parking drop off does not comply with ADA requirements. How does the applicant intend to meet these requirements? Could the applicant utilize the valet drive through that is serving the existing hotel if this is all the same ownership?*

Response: One (1) accessible valet parking space has been included at the main entrance. Additionally, accessible parking spaces for the proposed hotel, existing Hampton Inn, and other permitted parking spaces will be provided in the onsite parking lot for 5 parking spaces including 1 van space. This is reflected on the revised Site Plans.

- *C-4.0 – The plans do not have enough information to determine if the existing sidewalks are accessible (ADA compliant). The applicant shall update the plans. Spot grades and slopes shall be added to plans at locations where existing sidewalk meets proposed (driveways, egress locations, pedestrian ramps, accessible crossings, sidewalks and steps)*

Response: Spot grades have been added to all relevant locations including driveways, egress locations, pedestrian ramps, accessible crossing, sidewalks, steps, and curb ramps.

Parking

- *The applicant should provide on-site handicap parking spaces or provide documentation that those types of spaces are not required according to ADA requirements.*

Response: As previously discussed, accessible parking spaces are provided on site to accommodate 5 spaces including 1 van space. Additionally, the proposed hotel will also include an accessible passenger loading zone in one of the proposed valet parking spaces.

- *The site plan shall include dimensions for parking spaces and aisle widths.*

Response: Dimensions have been added to C-3.1 of the resubmitted plans.

- *The site plan shall be revised to note Hotel Parking signs and not Valet Parking. Rather than have the Hotel Parking be in the middle of Pay to Park spaces, it is suggested the Hotel spaces be shifted toward India Street.*

Response: The note has been revised accordingly to note Hotel Parking signs rather than valet parking. The valet parking spaces have also been shifted towards India Street to maintain the Pay to Park spaces in the same row. The addition of the hotel spaces will remove approximately 2 Pay to Park spaces along Fore Street.

Transportation Demand Management (TDM)



- *The applicant will need to address how many off-site parking spaces are anticipated to be used during peak times at 194 Fore Street and 100 Middle Street.*

Response: As presented in the TDM Plan, the Applicant has contracted with UPP as the Hotel parking valet operator. UPP has contracts with various entities across the City to park cars. The lots identified in the TDM Plan have been identified by the UPP management as the lots most likely to be utilized to execute the valet parking contract with the Hotel. Parking conditions within these lots will vary and, as such, UPP has identified multiple parking lots to ensure sufficient parking supply. It is anticipated that the closest parking lots will be prioritized for parking first while the furthest away will be used only when needed. Peak times for the Hotel are anticipated to be on the weekends, with Friday afternoon being the busiest. The weekdays are less active. The 194 Fore street parking lot would be anticipated to be used on a regular basis during weekdays and weekends. On weekends, as the demand for valet parking grows, it is anticipated the 100 Middle Street garage would be utilized.

Environmental Quality Standards (Sec. 14.6.2)

- *COMMENTS TO FOLLOW*

Public Infrastructure and Community Safety Standards (Sec. 14.6.3)

Public Utilities

- *The applicant should confirm the sizing of the proposed external grease trap system and clarify if multiple retail spaces intend on utilizing it. It currently appears to be associated with retail space "C" only.*

Response: The grease trap has been sized as a 2,000 Gallon tank. Both Retail B and C are envisioned as potential Class 3¹ restaurant spaces, therefore, we have conservatively sized the tank to accommodate both spaces (1,000 Gallon capacity each).

- *SMH-1 should be relocated out of the public right-of-way and onto adjacent private property.*

Response: The sewer manhole has been relocated back within the project. C-5.0 has been updated accordingly.

- *Additional grading and drainage plan information and details are needed before DPW can complete its review of the site's drainage system and proposed street connection.*

Response: C-4.0 has been updated to provide additional grading and drainage details.

¹ See City Fats, Oils, and Grease Program requirements



- *A portion of the site's existing storm drain system is connected directly into a city catch basin in Fore Street. The applicant appears to be proposing to re-utilize this existing connection, however it does not meet current technical manual standards. DPW is requesting that a new connection be made into the Fore Street drainage system in alignment with current Tech Manual Standards (section 2).*

Response: The proposed drainage design has been updated to provide a new connection directly into the City drainage system per Section 2.9.7 of the Technical Manual Standards. Accordingly, the existing storm drain connection will be retired per City standards.

- *Both of the proposed sewer connections should be equipped with backflow preventers in accordance with Tech Manual Standard 2.6.10.*

Response: C-5.0 has been updated to reflect this requirement.

- *The proposed 6" private sewer lateral should be connected directly into the 12" municipal sewer line as opposed to the City's manhole structure as currently shown.*

Response: C-5.0 has been updated to reflect this requirement.

Staff Review Comments received via email September 6th, 2024:

Stormwater Management/Utilities

- *The project is required to comply with MaineDEP Chapter 500 and City of Portland Technical Manual Section 5 Standards for stormwater management.*
 - a. *Basic Standards: The plans include erosion and sedimentation control details, notes, and locations in conformance with the Basic Standards.*

Response: No further action necessary.

- b. *General Standards: The project proposes to utilize a FocalPoint system with associated R-Tank subsurface storage to meet the General Standard.*
 - i. *The Applicant should clarify how the General Standard is being met. Tables are provided with sizing information relative to the proposed system, but it is unclear how the areas in those tables related to the overall treatment areas and the requirements of the standard.*
 - ii. *Details, and design information is required on the plans for the proposed stormwater management system.*
 - iii. *The FocalPoint location and the associated design should also be coordinated with the proposed landscaping to ensure there is not conflict with proposed plantings.*

Response: The stormwater management report has been revised to include a redevelopment calculation due to take advantage of the site's existing impervious areas. We find the required treatment percentage based on the redevelopment



analysis is 50%. Still, the stormwater management design remains the same with treatment of the roof for thermal and channel protection in the R-tank chamber system and the majority of the surface parking receiving treatment and storage in a Focalpoint and the R-tank system. The previous analysis included areas between the Hampton Inn and proposed hotel which currently drain to existing catch basins and into the City storm drain which do not receive water quality treatment. The treatment percentage offered by the project is now 60.1%.

Additional detailing on Sheet C-4.0 is provided to show the proposed surface grading to the Focalpoint, the location of the stormwater BMP's and drainage system. Details for the Focalpoint and R-tank chambers have been included on Sheets C-4.1 and C-4.2 along with a 10' scale plan showing the system components in greater detail.

- c. Flooding Standards: The project's HydroCAD model indicates that the project will meet the Flooding Standard by not increasing stormwater flow from the site.*
 - i. As noted for the General Standard as well, details, and design information is required on the plans for the proposed stormwater management system.*

Response: As explained above, additional details and plan sheets have been added on C-4.1 and C-4.2 to show the R-tank storage system in greater detail. The HydroCAD model has been revised accordingly within the stormwater report based on the revisions described above. We conclude the Flooding Standard will continue to be met.

- *They will need their final utility ability to serve confirmations.*

Response: Final ability to serve letters will be provided to the Planning Department as soon as they are received.

- *The details include a Snowmelt Paver, with a note that the locations are to be determined. The Applicant should clarify what impact this would have on site drainage.*

Response: A potential snowmelt paver system has not been identified yet, however, we do not anticipate a snowmelt system would have any impact on the site drainage and stormwater management system as currently designed.



With this letter we are providing the neighborhood meeting certification materials for the meeting that was held on September 12th, 2024. Additionally, a narrative has been prepared by ProCon which addresses the building form code comments. These files are being transmitted via email and uploaded separately to EPlan.

We look forward to your review of these materials and trust that this information satisfactorily meets the resubmission requirements. If you have any questions regarding the information being submitted, please contact our office.

Sincerely,

GORRILL PALMER

Kaleb Bourassa, PE

Project Manager

Phone: 207-772-2515 x297

kbourassa@gorrillpalmer.com

Attachments: Neighborhood Meeting Certification Materials
Architectural Response Letter
Revised Stormwater Management Report
Revised Civil & Architectural Plans

c: Kent Beirne – Procon
Dennis Craven – Chatham Lodging Trust

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Design Review
Planning and Urban Development Department



Subject: 203 Fore Street – Major Site Plan Review
Zone: India Street Form Based Code (IS-FBC)
Date of Review: August 16, 2024
Reviewer(s): Eric Freeman (Planner), Matt Grooms (Development Review Services Manager), Sean King (Urban Designer)
Project ID: PL-002892-2024

I. INTRODUCTION

The project at 203 Fore Street for the proposed hotel project consisting of 132 keyed rooms is subject for review according to the India Street Form Based Code (IS-FBC) design standards from the City of Portland *Design Manual* as defined in the ***Land Use Code Section 14.6.4.I Design standards***.

The built context of the surrounding area contains a variety of building types, architectural styles and mix of uses that vary in height and close proximity to the street typically found throughout Portland's India Street neighborhood.

II. DESIGN REVIEW COMMENTS: red text denotes standards not met and require resubmission.

IS-FBC: Building Design Standards (BDS)					
	Complies	More Info	Does Not Comply	N/A	Comments
1. Neighborhood Context					
Intent	☒	☐	☐	☐	Staff finds that the proposed building is oriented towards Fore, India and Middle Street and responds to the neighborhood with a high degree of architectural variation.
Guidelines	☒	☐	☐	☐	Staff finds that the proposed building respects the surrounding context to allow for the architectural expression of building partitions, relationship to the street with

					building entries, fenestration patterns and material selection.
2. Massing & Proportion					
Intent	☒	☐	☐	☐	Staff finds the proposed massing is scaled for pedestrians throughout all street-facing facades.
Guidelines	☒	☐	☐	☐	Staff finds the proposed building exhibits appropriate variation along the street frontage that mitigates floor elevation changes and provides clear proportions with the building's base, middle and termination at the roof line.
Standard 2.1	☒	☐	☐	☐	Staff finds the ground floor partitions along India Street are architecturally scaled, articulated and clearly defined to promote pedestrian use and building entries directly from the street.
3. Articulation & Composition					
Intent	☒	☐	☐	☐	Staff finds a varied façade composition that complements the surrounding context through ground-level articulation, retail bays and canopies that relate to each building partition.
Guidelines	☒	☐	☐	☐	Staff finds the proposed building is architecturally scale to reduce the appearance of a large structure through a organized window fenestration pattern that corresponds to the floor elevation, horizontal delineation of floors and architectural detailing to express the character of facades facing the street.
Standard 3.1: 3 required	☒	☐	☐	☐	Staff finds the proposed building includes expression of the floors with large storefront windows at the ground that is delineated from the upper floors with a belt course and projected canopies and awnings that create a pedestrian-scaled frontage. The building is proportioned to express modules facing the street with changes in materials and projections that staff finds appropriate.
Standard 3.2	☒	☐	☐	☐	Staff finds that changes in façade materials include sufficient wall plane variation

Standard 3.3: Blank Wall	☒	☐	☐	☐	Staff finds no blank facades that exceed the maximum length allowed within the subdistricts
4. Fenestration					
Intent	☒	☐	☐	☐	Staff finds the proposed building design, arrangement of storefront windows, and detailing provide high visibility along each street that promote an active use
Guidelines	☒	☐	☐	☐	Staff finds the fenestration pattern of windows and curtain wall detailing are arranged to promote an active pedestrian environment
Standard 4.1 (UA only)	☒	☐	☐	☐	Staff finds this standard is met along the UA subdistrict for ground floor fenestrations
Standard 4.2	☒	☐	☐	☐	Staff finds this standard is met at the upper floor facades and arranged in a consistent pattern
Standard 4.3	☐	☒	☐	☐	Staff is requesting that the Applicant provide additional information to meet the VT of at least .61
Standard 4.4	☒	☐	☐	☐	Staff finds this standard is met with no exemptions required
5. Building Materials					
Intent	☒	☐	☐	☐	Staff finds that the building design and articulation of modules is complementary to the surrounding building context
Guidelines	☒	☐	☒	☐	Staff finds the selection and arrangement of façade material to be appropriate to the surrounding context and reinforces the lower floors with a masonry veneer and brick at the building's base that enhance the pedestrian environment. Staff recommends a replacement of the Nichiha wood-look façade material for brick as a cohesive arrangement of materials for the overall building.
6. Building Entries					
Intent	☒	☐	☐	☐	Staff finds that the proposed arrangement of street-facing entries reinforce the pedestrian activity and circulation along each street.

Guidelines	☐	☐	☒	☐	Staff is concerned about the retaining wall to mitigate the grade change along India Street to propose a building entry that Staff does not support. Staff recommends the Applicant remove the retaining wall along the property line adjacent to the India Street public sidewalk to create an expansion of the sidewalk at the location closest to the street corner, and suggest a low planter wall at the building edge to retain the grade for the hotel outdoor patio. Staff suggest to eliminate the door entry at Building module 1 facing India, and finds the main double-door entry into the hotel at the corner is appropriate to meet this design guideline. Staff request that the Applicant consider a single-door facing Fore Street to allow for a secondary entry.
Standard 6.1	☒	☐	☐	☐	All principal entries for the hotel lobby and retail use are oriented directly to the public streets
Standard 6.2 (UA only)	☒	☐	☐	☐	All principal entries for each building module directly face the UA streets along Middle Street and India Street.
Standard 6.3	☒	☐	☐	☐	All street-oriented building entries propose direct access to a public sidewalk
Standard 6.4	☒	☐	☐	☐	Each active use, proposed as retail and hotel lobby entries provide direct pedestrian access from the street
Standard 6.5	☒	☐	☐	☐	Staff finds the only recessed entry is at the corner
Standard 6.6	☐	☐	☐	☒	No garage door proposed
Standard 6.7: Frequency	☒	☐	☐	☐	All principal entries are street-facing and meet the frequency for the UA and UT streets. Staff finds corner entry to be acceptable to meet the entry frequency along India Street.
7. Roof Lines					
Intent	☒	☐	☒	☐	Staff finds the roof line and building top termination is successful at the brick façade modules that include a pronounced cornice, however recommends that the Applicant incorporate a roofline detail above the

					facades with the ACM material. In addition, Staff recommends the building design create a consistent roofline datum and pronounced cornice at the corner, see figure 1 + 2 for Staff diagram.
Guidelines	☒	☐	☒	☐	Staff finds the roof line variation is unique to the surrounding context and recommends a consistent roofline datum and a termination detail that relates to the façade material (e.g. brick façade with pronounced cornice, ACM façade with rake detail).
Standard 7.1	☐	☒	☐	☐	The Applicant is requested to submit a roof plan to indicate the proposed mechanical equipment that is required to be screened from surrounding streets and structures.
Standard 7.2	☒	☐	☒	☐	Staff finds the majority of roof form is simple flat roof, however recommends that the building corner maintain a similar flat roof form that is more consistent with the surround context.
8. Structured Parking					
Intent	☒	☐	☐	☐	Staff finds the proposed development does not include structured parking, rather a parking deck covered by a pedestrian amenity outdoor space to minimize the visual and noise impact of the parking area below grade from Middle Street.
Guidelines	☐	☐	☐	☒	
Standard 8.1	☐	☐	☐	☒	
Standard 8.2	☐	☐	☐	☒	
Standard 8.3	☐	☐	☐	☒	
Standard 8.4	☐	☐	☐	☒	



Figure 1 – Staff diagram onto proposed east elevation

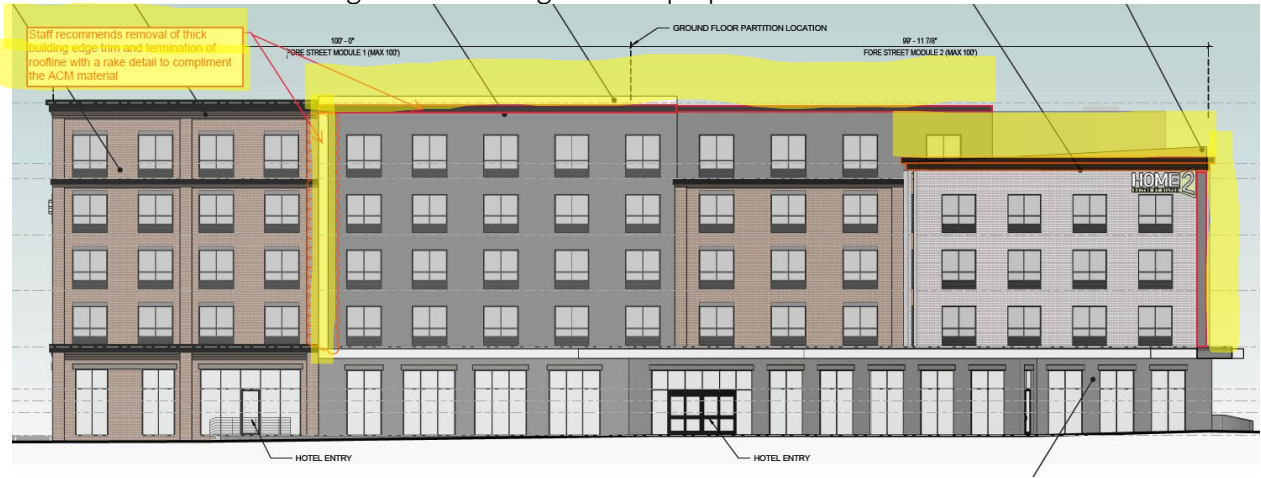
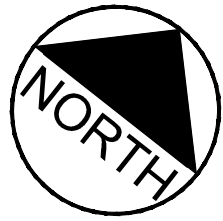
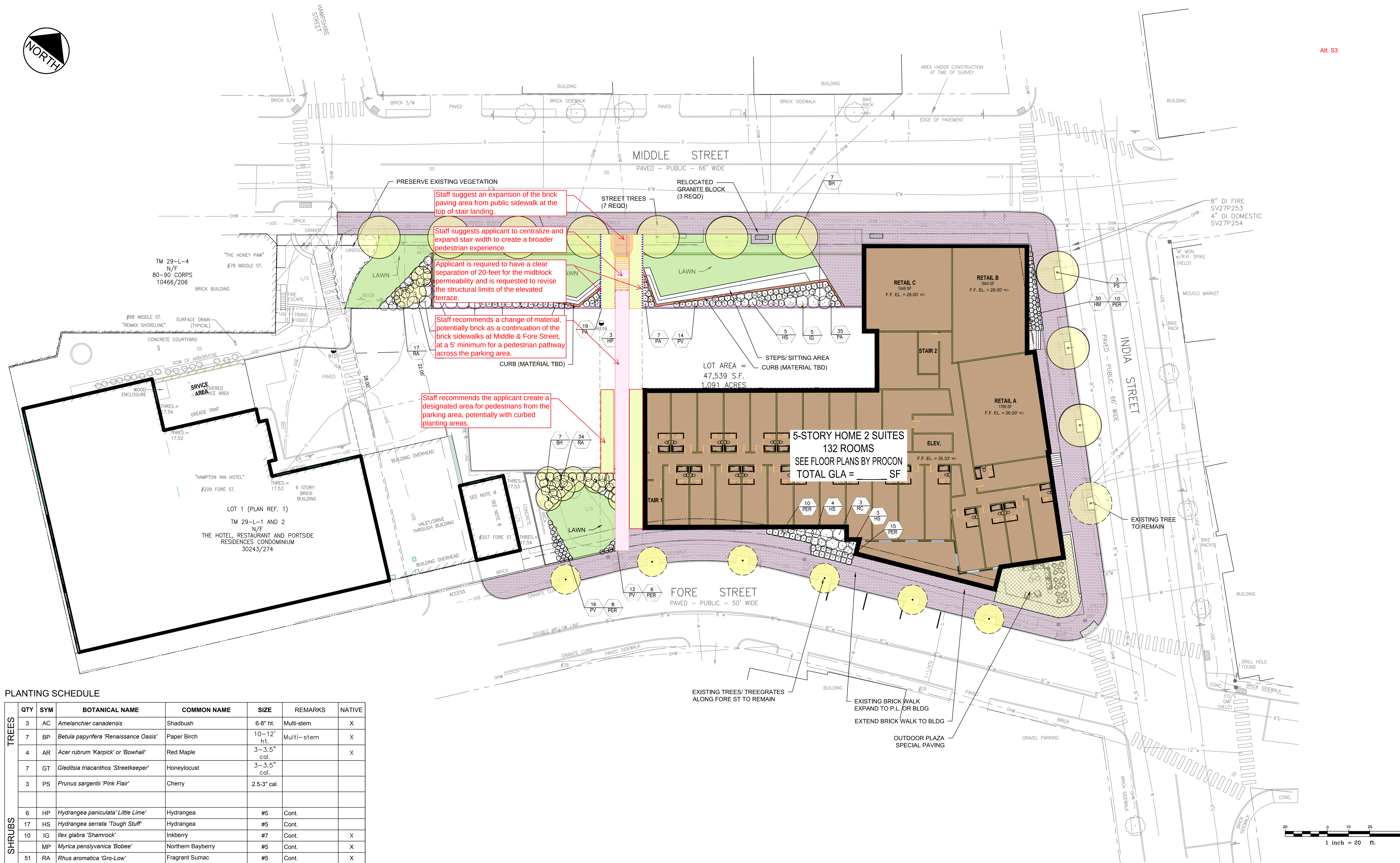


Figure 2 – Staff diagram onto proposed south elevation



Alt. S3



PLANTING SCHEDULE

	QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	NATIVE
TREES	3	AC	<i>Amelanchier canadensis</i>	Shadbush	6-8" ht.	Multi-stem	X
	7	BP	<i>Betula papyrifera</i> 'Renaissance Oasis'	Paper Birch	10-12" ht.	Multi-stem	X
	4	AR	<i>Acer rubrum</i> 'Karpick' or 'Bowhall'	Red Maple	3-3.5" cal.		X
	7	GT	<i>Gleditsia triacanthos</i> 'Streetkeeper'	Honeylocust	3-3.5" cal.		
	3	PS	<i>Prunus sargentii</i> 'Pink Flair'	Cherry	2.5-3" cal.		
SHRUBS	6	HP	<i>Hydrangea paniculata</i> 'Little Lime'	Hydrangea	#5	Cont.	
	17	HS	<i>Hydrangea serrata</i> 'Tough Stuff'	Hydrangea	#5	Cont.	
	10	IG	<i>Ilex glabra</i> 'Shamrock'	Inkberry	#7	Cont.	X
		MP	<i>Myrica pensylvanica</i> 'Bobee'	Northern Bayberry	#5	Cont.	X
	51	RA	<i>Rhus aromatica</i> 'Gro-Low'	Fragrant Sumac	#5	Cont.	X
PERENNIALS	3	RC	<i>Rhododendron</i> c. 'Cunningham White'	Rhododendron	3' ht.	B+B	
	30	HM	<i>Hakoneclao macra</i> 'Beni kazi'	Japanese Forest Grass	#2	Cont., full	
	78	PA	<i>Pennistum a.</i> 'Hamlin'	Dwarf Fountain Grass	#2	Cont., full	
	40	PV	<i>Panicum virgatum</i> 'Cheyenne Sky'	Switchgrass	#2	Cont., full	
	49	PER	MIXED PERENNIALS	Species TBD	#1	Cont., full	

Phase: PERMITTING	Drawn By: MB	Approved By: PC	Date: JULY, 2024
	Revisions	Date	Description



OWNER/ DEVELOPER:

Chatham Portland, LLC
c/o Chatham Lodging Trust
222 LAKEVIEW AVE, SUITE 200
PORTLAND, MAINE 04101
207.772.1552 V. F. 207.772.0712

Project: HOME 2 SUITES
203 FORE STREET
PORTLAND, ME

Sheet Title: LANDSCAPE PLAN

Sheet No:

L-1.0

Subject: 203 Fore Street – Major Site Plan Review
Zone: India Street Form Based Code (IS-FBC)
Date of Review: October 25, 2024
Reviewer(s): Eric Freeman (Planner), Matt Grooms (Development Review Services Manager), Sean King (Urban Designer)
Project ID: PL-002892-2024

Att. S4

I. INTRODUCTION

The project at 203 Fore Street for the proposed hotel project consisting of 132 keyed rooms is subject for review according to the India Street Form Based Code (IS-FBC) design standards from the City of Portland *Design Manual* as defined in the ***Land Use Code Section 14.6.4.I Design standards***.

The built context of the surrounding area contains a variety of building types, architectural styles and mix of uses that vary in height and close proximity to the street typically found throughout Portland’s India Street neighborhood.

II. DESIGN REVIEW COMMENTS: red text denotes standards not met and require resubmission.

IS-FBC: Building Design Standards (BDS)					
	Complies	More Info	Does Not Comply	N/A	Comments
1. Neighborhood Context					
Intent	☒	☒	☐	☐	Staff finds that the proposed building is oriented towards Fore, India and Middle Street and responds to the neighborhood context with a high degree of architectural variation. A public art project entitled Portland Bricks #8 and #11 are located within the public right-of-way in two locations at India and Middle Street, see Figure 1 below. Staff requests the applicant add to the

					plans a requirement to preserve, storage throughout construction by Staff managing the public art program and reinstall in place to the satisfaction of the City the public artwork within the brick sidewalks.
Guidelines	☒	☐	☐	☐	Staff finds that the proposed building respects the surrounding context to allow for the architectural expression of building modules, relationship to the street with building entries, fenestration patterns and high-quality exterior material selection.
2. Massing & Proportion					
Intent	☒	☐	☐	☐	Staff finds the proposed massing is scaled for pedestrians throughout all street-facing facades.
Guidelines	☒	☐	☐	☐	Staff finds the proposed building exhibits appropriate variation along the street frontage that mitigates floor elevation changes and provides clear proportions with the building's base, middle and termination at the roof line.
Standard 2.1	☒	☐	☐	☐	Staff finds the ground floor building modules along India Street are architecturally scaled, articulated and clearly defined to promote pedestrian activation and clearly defined building entries directly accessed from the public sidewalk and street.
3. Articulation & Composition					
Intent	☒	☐	☐	☐	Staff finds a varied façade composition complements the surrounding context through ground-level articulation, retail bays and canopies that relate to each building module.
Guidelines	☒	☐	☐	☐	Staff finds the proposed building is architecturally scale to reduce the appearance of a large structure through an organized window fenestration pattern for each building module, horizontal delineation of floors and architectural detailing that express the character of facades facing the street.

Standard 3.1: required	☒	☐	☐	☐	Staff finds the proposed building includes ground-floor articulation with large storefront windows that are delineated from the upper floors with a belt course and projected canopies or awnings to create a pedestrian-scaled frontage. The building is proportioned to express scaled building modules that face the street with distinct exterior facade materials and projections that staff finds appropriate.
Standard 3.2	☒	☐	☐	☐	Staff finds that changes in façade exterior materials are sufficient wall plane variation
Standard 3.3: Blank Wall	☒	☐	☐	☐	Staff finds no blank facades that exceed the maximum length allowed within the subdistricts
4. Fenestration					
Intent	☒	☐	☐	☐	Staff finds the proposed building design, arrangement of storefront windows, and detailing provide high visibility along each street to promote an active uses
Guidelines	☒	☐	☐	☐	Staff finds the fenestration pattern of windows and curtain wall detailing are arranged to promote an active pedestrian environment
Standard 4.1 (UA only)	☒	☐	☐	☐	Staff finds this standard is met along the UA subdistrict for ground floor fenestrations
Standard 4.2	☒	☐	☐	☐	Staff finds this standard is met at the upper floor facades and arranged in an organized pattern
Standard 4.3	☐	☒	☐	☐	The Applicant has stated that the window VT is .7, Staff requests that the Applicant submit a specification sheet for review.
Standard 4.4	☒	☐	☐	☐	Staff finds this standard is met with no exemptions required
5. Building Materials					
Intent	☒	☐	☐	☐	Staff finds that the building design and articulation of modules is complementary to the surrounding building context
Guidelines	☒	☐	☐	☐	Staff finds the selection and arrangement of exterior façade material is appropriate to the

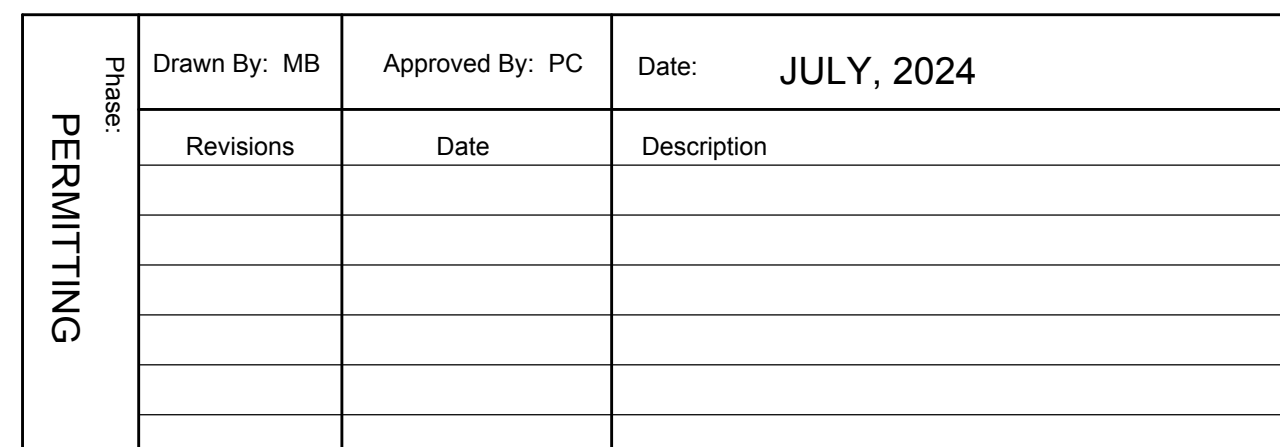
					surrounding context and reinforces the lower floors to include brick and masonry veneer that enhance the pedestrian environment.
6. Building Entries					
Intent	☒	☐	☐	☐	Staff finds that the proposed arrangement of street-facing entries reinforce pedestrian activation and circulation is maintained along each public sidewalk and street.
Guidelines	☒	☒	☐	☐	The Applicant has resubmitted plans to minimize the elevation grade changes along India and Fore Street that Staff finds sufficient with the addition of a new planter along India Street to mitigate the grade change at the corner. In addition, stairs and ramps adjacent to the public sidewalk are appropriate as a transition space between the public sidewalk and building entries. Staff requests that the applicant modify the floor plans appropriately to not show encroachments into the public right-of-way along India Street.
Standard 6.1	☒	☐	☐	☐	All principal entries for the hotel lobby and retail use are oriented directly and accessible to the public sidewalk and streets
Standard 6.2 (UA only)	☒	☐	☐	☐	All principal entries for each building module directly face the UA streets along Middle Street and India Street.
Standard 6.3	☒	☐	☒	☐	All street-oriented building entries propose direct access to a public sidewalk. However, Staff is concerned about the stair transition down into the primary corner entry plaza at India and Fore Street and strongly recommends an at-grade sidewalk access along the length of Fore Street to allow for greater accessibility from the public sidewalk.
Standard 6.4	☒	☐	☐	☐	Each active use, proposed as retail and hotel lobby entries provide direct pedestrian access from the street
Standard 6.5	☒	☐	☐	☐	Staff finds the only recessed entry is at the corner

Standard 6.6	☐	☐	☐	☒	No garage door proposed
Standard 6.7: Frequency	☒	☐	☐	☐	Principal entries along the UA streets are all oriented towards the street at the sidewalk grade with a corner entry at India & Fore Street which is allowed. The principle entry along the UT street is oriented towards the street at the sidewalk grade which is allowed. The Applicant has resubmitted plans that include additional elevated stoop entries along India Street to access the building module floor elevations as non-principal entries which is allowed along a UA street. An elevated stoop non-principal entry is proposed along the UT street which is allowed. Entry frequency of 40 feet is generally met with the exception along India Street (UA street). The resubmitted plans have eliminated the subterranean non-principal entry for the hotel lobby at India Street with a replacement of a storefront window and planter that Staff finds appropriate. Staff supports a partial waiver under LUC 9.1.3.B for 4. Building entry frequency and finds the proposed zoning alternative better achieves the zone and subdistrict intent due to the existing topographic change along the India Street.
7. Roof Lines					
Intent	☒	☐	☐	☐	Staff finds the roof line and building top termination with pronounced cornice is appropriate throughout the building modules.
Guidelines	☒	☐	☐	☐	The Applicant has resubmitted plans to adjust the roofline with articulation of a pronounced cornice detail that Staff finds appropriate to the surrounding context.
Standard 7.1	☐	☒	☒	☐	The Applicant has resubmitted plans to indicate mechanical equipment at the roof level. Rooftop appurtenance may include the housing of elevators, stairways, tanks, fans, or other building operating equipment not intended for human occupancy to require screening. Staff

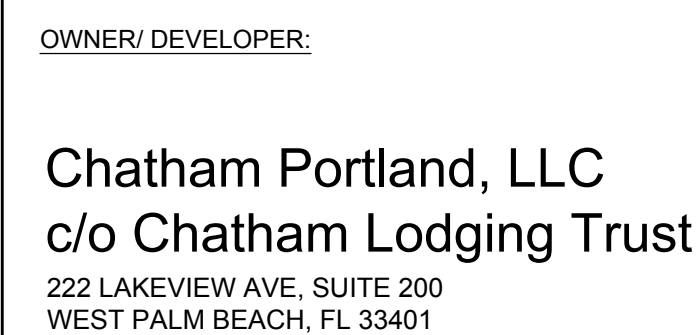
					requests that the applicant provide screening around all proposed rooftop appurtenances and submit screening material specification or rendered axonometric view for review.
Standard 7.2	☒	☐	☐	☐	The Applicant has resubmitted plans with a simple flat roof form with cornice articulation that Staff finds appropriate to each building module.
8. Structured Parking					
Intent	☒	☐	☐	☐	Staff finds the proposed development does not include structured parking, rather a parking deck covered by a pedestrian amenity outdoor space to minimize the visual and noise impact of the parking area below grade from Middle Street.
Guidelines	☐	☐	☐	☒	
Standard 8.1	☐	☐	☐	☒	
Standard 8.2	☐	☐	☐	☒	
Standard 8.3	☐	☐	☐	☒	
Standard 8.4	☐	☐	☐	☒	



Figure 1 – Portland Brick #8, #11 locations

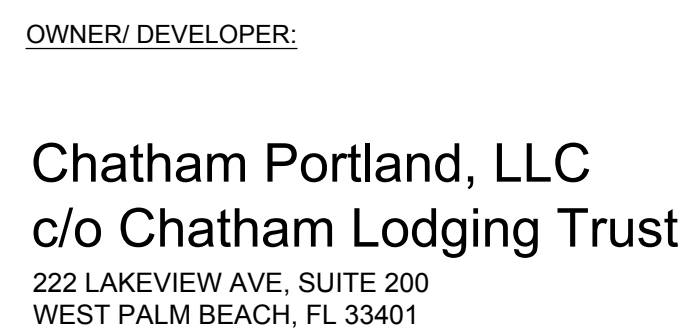
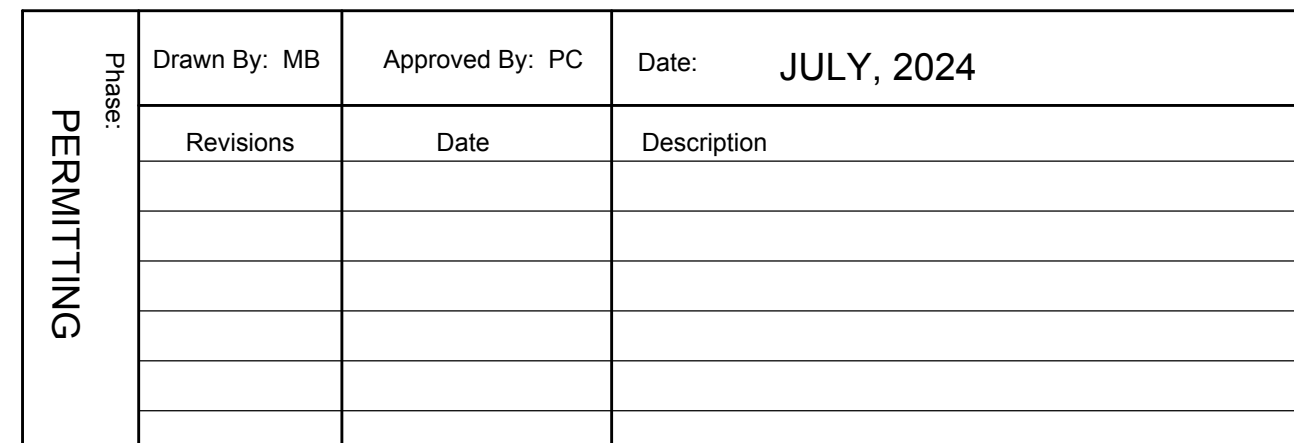


	QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	NATIVE
TREES	3	AC	<i>Amelanchier canadensis</i>	Shadbush	6-8" ht.	Multi-stem	X
	7	BP	<i>Betula papyrifera</i> 'Renaissance Oasis'	Paper Birch	10-12' ht.	Multi-stem	X
	4	AR	<i>Acer rubrum</i> 'Karpick' or 'Bowhall'	Red Maple	3-3.5" cal.		X
	7	GT	<i>Gleditsia triacanthos</i> 'Streetkeeper'	Honeylocust	3-3.5" cal.		
	3	PS	<i>Prunus sargentii</i> 'Pink Flair'	Cherry	2.5-3" cal.		
SHRUBS	6	HP	<i>Hydrangea paniculata</i> 'Little Lime'	Hydrangea	#5	Cont.	
	17	HS	<i>Hydrangea serrata</i> 'Tough Stuff'	Hydrangea	#5	Cont.	
	10	IG	<i>Ilex glabra</i> 'Shamrock'	Inkberry	#7	Cont.	X
		MP	<i>Myrica pensylvanica</i> 'Bobee'	Northern Bayberry	#5	Cont.	X
	51	RA	<i>Rhus aromatica</i> 'Gro-Low'	Fragrant Sumac	#5	Cont.	X
	3	RC	<i>Rhododendron</i> c. 'Cunningham White'	Rhododendron	3' ht.	B+B	
PERENNIALS	30	HM	<i>Hakonecloa macra</i> 'Beni kazi'	Japanese Forest Grass	#2	Cont., full	
	78	PA	<i>Pennistum a.</i> 'Hamlin'	Dwarf Fountain Grass	#2	Cont., full	
	40	PV	<i>Panicum virgatum</i> 'Cheyenne Sky'	Switchgrass	#2	Cont., full	
	49	PER	MIXED PERENNIALS	Species TBD	#1	Cont., full	



Sheet No:

-1.0



Sheet No:

-1.0



300 Southborough Drive, Suite 200, South Portland, ME 04106
(207) 772-2515 | GorrillPalmer.com

August 2, 2024

Mr. Matt Grooms,
Planning & Urban Development Department
389 Congress Street
Portland, Maine 04101

Subject: Project ID – PL-002892-2024
203 Fore Street
Proposed Home 2 Suites
Chatham Lodging Trust (dba Chatham Portland DT LLC), Applicant
Supplemental Submission for Completeness

Dear Matt:

On behalf of **Chatham Lodging Trust (Applicant)**, our office is pleased to provide the following supplemental materials in response to your June 4, 2024 email to Ransom Consulting. As you're aware, Gorrill Palmer has been retained to assist with the design and permitting of the proposed Home 2 Suites development at the former Jordon Foods site bordered by Middle, India and Fore Street. We have completed an updated plan set in support of the application submission and we have uploaded these plans and related supporting information as discussed below. We look forward to your review and finding of completeness so the application processing can proceed.

The following list of items were noted in your June 4th email:

- 1. Boundary Plan – Owen Haskell has completed a boundary and topographic survey in accordance with the City's Technical survey standards. A copy of the survey is now made part of the Gorrill Palmer plan set.**
- 2. Existing Conditions Plan – Gorrill Palmer has assembled an existing conditions and removals plan that includes the existing tree descriptions.**
- 3. Landscaping Plan – Carroll Associates has been retained to complete the landscape design and detailing for the development. Their initial Landscape Plans are included in the latest plan documents uploaded to Eplan.**
- 4. Site/Street Lighting plan – Swaney Lighting has completed the accompanying site lighting and photometric plan. A lighting file containing light catalog cuts and related information has been uploaded to Eplan.**



STRUCTURAL



FALL PROTECTION
SAFETY



TRANSPORTATION



SITE DESIGN
Page 40



SURVEY



WATER
RESOURCES



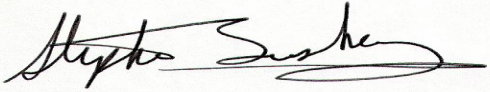
TECHNOLOGY
& INNOVATION

5. **Stormwater Management Plan – A brief Stormwater management plan/report has been completed and uploaded to Eplan.**
6. **Transportation Demand Management Plan – A TDM draft has been prepared and accompanies this current submission.**
7. **Construction Management Plan – Procon has completed a CMP which is now included in the EPlan submission materials.**

We trust that this information will satisfy your informational needs to allow a finding of completeness. We look forward to working with City staff and presenting to the Planning Board in the upcoming months.

Sincerely,

GORRILL-PALMER



Stephen Bushey, PE

Senior Associate

Phone: 207-772-2515 x286

sbushey@gorrillpalmer.com

Attachments:

c: Kent Beirne - Procon
Dennis Craven – Chatham Lodging Trust

U:\3904.01_Home 2 Suites Portland Chatham Lodging\IP Applications\Local\Site plan application Cover Letter – Supplemental Submission 2024.08.02

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		
☒	NA	Project Description Cover letter with detailed project description
☒	NA	Completed Checklist (this document)
☒	NA	Evidence of Right, Title, and Interest Deeds, leases, or purchase and sales agreements
Yes	☒	Evidence of State or Federal Approvals Permits or letters of non-jurisdiction, if applicable
☒	NA	Zoning Assessment (see Zoning Assessment Table) Summary of compliance with use and dimensional standards of the land use code
☒	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
☒	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	☒	Waiver Requests (see Waiver Table) Written request for waiver describing request and compliance with applicable waiver standards
☒	NA	Financial Capability Letter or evidence from a financial institution or third party verifying financial capacity to undertake project
☒	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



112 Corporate Drive
Portsmouth, NH 03801
603.436.1490

April 15, 2024

Project 212.06073

Kevin Kraft, Director
Planning and Urban Development
389 Congress Street, 4th Floor
Portland, Maine 04101

Re: Proposed Home 2 Suites Hotel
203 Fore Street
Portland, Maine

Dear Kevin:

Ransom Consulting, LLC (Ransom) is pleased to submit this Major Site Plan application, along with supporting materials, on behalf of Chatham Lodging Trust (dba Chatham Portland DT LLC). The project is located at 203 Fore Street and is identified as Chart and Block 029 L003. The property is located in the India Street Form Based Code District and is currently being used for parking for the Hampton Inn hotel and associated condo units on the adjacent parcel. The parcel has a history of petroleum contamination and is currently part of Maine's Voluntary Response Action Program (VRAP), which encourages the cleanup and redevelopment of contaminated properties.

The redevelopment proposed for this site includes a mixed use building with 5,519 square feet (sf) of retail space on the ground floor and 79,946 sf of hotel space throughout 5 floors – with a building footprint of approximately 16,612 sf. The parcel is bounded on the north by India Street, on the west by Middle Street, on the east by Fore Street, and on the south by the existing Hampton Inn. Topographic relief across the site from Middle Street to Fore Street is 7 feet to 8 feet and presents challenges for building entrances and uses.

The proposed 5 story structure will have multiple entrance points for different uses. The hotel entrance is proposed at the intersection of Fore Street and India Street with entrances for the 3 proposed retail units along Middle Street and India Street. Parking is expected to continue to be accessed through the existing curb cut for Hampton Inn valet driveway along Fore Street and is incorporated into the design to include a structural canopy with upper hotel floors above. A retaining wall is proposed adjacent to Middle Street to facilitate the change in grade, but will also include a structural landscaped deck above with parking at grade.

We look forward to continuing to work with you and Planning Staff on this project. Please feel free to reach out with any questions or comments you may have.

Sincerely,

RANSOM CONSULTING, LLC

A handwritten signature in black ink, appearing to read "Maureen P. McGlone", written over a light blue horizontal line.

Maureen P. McGlone, P.E.
Senior Project Manager

Innovating Resilient Solutions

Portland, ME ~ North Andover, MA ~ Portsmouth, NH ~ Hamilton, NJ ~ Glassboro, NJ ~ Providence, RI
www.ransomenv.com

QUITCLAIM DEED WITH COVENANT
(Maine Statutory Short Form)

FORE INDIA MIDDLE, LLC, a Maine limited liability company, whose mailing address is 11 Corporate Drive, Belmont, New Hampshire 03220, for consideration paid, grants to CHATHAM PORTLAND DT LLC, a Delaware limited liability company, whose mailing address is c/o Chatham Lodging Trust, 50 Cocoanut Row, Suite 211, Palm Beach, Florida 33480, with Quitclaim Covenant, a certain lot or parcel of land, with any buildings and improvements thereon, located on Fore Street, India Street and Middle Street in the City of Portland, County of Cumberland, and State of Maine, being more particularly bounded and described as follows:

Lot 2 as shown on a subdivision plan entitled "Subdivision Plan of Hotel, Restaurant & Portside Residences, 207 & 209 Fore Street, Portland, Maine" dated February 8, 2010, as most recently revised on April 23, 2010, approved by the City of Portland Planning Board on April 13, 2010, and recorded in the Cumberland County Registry of Deeds in Plan Book 210, Page 194 (the "Subdivision Plan").

Lot 2 is hereby conveyed together with and subject to the rights and easements granted by Old Port Hospitality, LLC to Fore India Middle, LLC and by Fore India Middle, LLC to Old Port Hospitality, LLC as set forth in an Amendment of Deed, Termination of Rights and Easements and Grant of Rights and Easements by and between Old Port Hospitality, LLC and Fore India Middle, LLC dated August 23, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28022, Page 181, subject to the terms and conditions with respect to said rights and easements as set forth therein.

Old Port Hospitality, LLC created a condominium on Lot 1 shown on the Subdivision Plan known as the Hotel, Restaurant and Portside Residences Condominium (the "Condominium") pursuant to a Declaration of Condominium dated August 23, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28022, Page 188, as amended by Amendment Number One thereto dated June 3, 2011, and recorded in the Cumberland County Registry of Deeds in Book 28833, Page 126 (the "Declaration") that includes a unit in which is operated as a restaurant facility, which unit is referred to in the Declaration as the "Restaurant Unit". Lot 2 is hereby further conveyed subject to the restriction that for so long as a full-service restaurant is being operated in the Restaurant Unit, no full-service restaurant containing three thousand five hundred (3,500) square feet or more of public space may be operated on Lot 2, provided, however, that this restriction shall, in any event, expire and be of no further force and effect on the fifteenth (15th) anniversary of the date of Old Port Hospitality, LLC's initial conveyance of the Restaurant Unit to a third party. This restriction shall be enforceable by Old Port Hospitality, LLC, its successors and assigns, and the owner of the Restaurant Unit, and not by the owner of any other units in the Condominium. The Restaurant Unit was conveyed by Old Port Hospitality, LLC to Bass Ackwards Realty, LLC by Deed dated January 25, 2011, and recorded in the Cumberland County Registry of Deeds in Book 28563, Page 264, together with the benefit of said restriction.

Lot 2 is further conveyed together with and subject to all rights, easements, terms, covenants, conditions, obligations and agreements set forth in a certain Revised and Restated Parking Agreement by and between Old Port Hospitality, LLC and Fore India Middle, LLC dated August 23, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28022, Page 242 (the "Parking Agreement"), relating to the access and use of a Parking Lot comprised of ninety (90) parking spaces

MAINE REAL ESTATE TAX PAID

located on Lot 2, including, without limitation, the perpetual, exclusive and appurtenant right and easement to access and use all of the parking spaces covered by such Parking Agreement with the exception of the twelve (12) parking spaces granted as appurtenant to the Residences Unit of the Condominium, as set forth in a Deed of the Residence Unit from Old Port Hospitality, LLC to Portside Residences, LLC dated August 23, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28022, Page 251.

Chatham Portland DT LLC, by its acceptance of this Deed, hereby assumes all obligations of Fore India Middle, LLC under the Parking Agreement.

The premises conveyed herein are further subject to the following matters of record:

1. Rights and easements for sewer purposes granted by the Slum Clearance and Redevelopment Authority to the City of Portland in an instrument dated October 8, 1958 and recorded in the Cumberland County Registry of Deeds in Book 2438, Page 258, as relocated pursuant to an Easement Relocation Agreement by and between Old Port Hospitality, LLC and the City of Portland dated April 28, 2010 and recorded in the Cumberland County Registry of Deeds in Book 27742, Page 26, further reference being made to a Letter from David Margolis-Pineo, Deputy City Engineer of the Public Services Department, dated August 25, 2010 and recorded in the Cumberland County Registry of Deeds in Book 28028, Page 257;
2. Terms and conditions of a No Further Action Assurance Letter from the Maine Department of Environmental Protection to Jordan's Meats dated April 17, 2003 and recorded in the Cumberland County Registry of Deeds in Book 19244, Page 271;
3. Restrictions, covenants and conditions set forth in a Deed from Zemco Industries, Inc. to PME I, Limited Partnership dated September 23, 2005 and recorded in the Cumberland County Registry of Deeds in Book 23199, Page 107, and repeated in a Deed from said PME I, Limited Partnership to Old Port Hospitality, LLC dated January 29, 2010 and recorded in the Cumberland County Registry of Deeds in Book 27567, Page 40;
4. Matters and General Notes set forth on subdivision plan entitled "Subdivision Plan of Hotel, Restaurant & Portside Residences, 207 & 209 Fore Street, Portland, Maine" dated February 8, 2010, as most recently revised on April 23, 2010, approved by the City of Portland Planning Board on April 13, 2010, and recorded in the Cumberland County Registry of Deeds in Plan Book 210, Page 194;
5. Underground Line Easement granted by Old Port Hospitality, LLC to Central Maine Power Company dated July 21, 2010 and recorded in the Cumberland County Registry of Deeds in Book 28094, Page 298;
6. Maine Department of Environmental Protection Commissioner's Certification dated June 27, 2011 and recorded in the Cumberland County Registry of Deeds in Book 28791, Page 132, as affected by a Commissioner's Certification Amended to Reflect Re-Development Plans Dated August 20, 2012, dated October 26, 2012 and recorded in the Cumberland County Registry of Deeds in Book 30111, Page 193;

7. Declaration of Environmental Covenant by and between Fore India Middle, LLC and the Maine Department of Environmental Protection dated May 24, 2011 and recorded in the Cumberland County Registry of Deeds in Book 28791, Page 136;

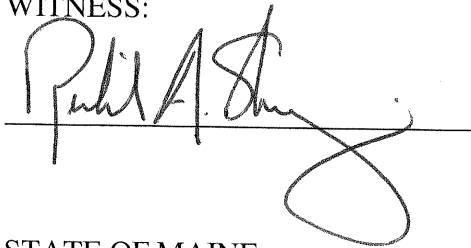
8. Agreement Regarding Wall and Window With Respect to Unit One in Portside Condominium, 207 Fore Street, Portland, Maine, by and between Fore India Middle, LLC and Paula Foley-Stelmack and Mark Stelmack dated September 29, 2011 and recorded in the Cumberland County Registry of Deeds in Book 29001, Page 234; and

9. Certificate of Subdivision Waiver Approval by the City of Portland in favor of Fore India Middle, LLC dated October 18, 2012 and recorded in the Cumberland County Registry of Deeds in Book 30102, Page 285.

Reference is made to a Quitclaim Deed With Covenant from Old Port Hospitality, LLC to Fore India Middle, LLC dated June 11, 2010, and recorded in the Cumberland County Registry of Deeds in Book 27850, Page 63, as amended by said Amendment of Deed, Termination of Rights and Easements and Grant of Rights and Easements by and between Old Port Hospitality, LLC and Fore India Middle, LLC dated August 23, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28022, Page 181, for Fore India Middle, LLC's source of title to the premises conveyed herein.

IN WITNESS WHEREOF, FORE INDIA MIDDLE, LLC has caused this instrument to be executed by Gregory R. Kirsch, its Manager, hereunto duly authorized, this 21st day of December, 2012.

WITNESS:



FORE INDIA MIDDLE, LLC

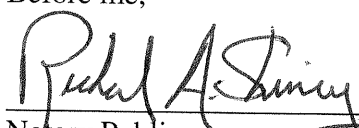
By: 
Gregory R. Kirsch
Its Manager

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

December 21, 2012

Personally appeared the above named Gregory R. Kirsch, Manager of FORE INDIA MIDDLE, LLC, and acknowledged the foregoing instrument to be his free act deed in his said capacity and the free act and deed of said FORE INDIA MIDDLE, LLC.

Before me,


Notary Public
Attorney At Law
Richard A. Shinay
Print name

Received
Recorded Register of Deeds
Dec 28, 2012 09:30:33A
Cumberland County
Pamela E. Lovley

My commission expires _____

Portland, Maine



Yes. Life's good here.

Planning & Urban Development Department

ZONING ANALYSIS Relevant Zone(s) ISFBC

All Projects:

	Required	Proposed
Lot Size	N/A	1.1+/- Acres
Area Per Dwelling Unit	N/A	
Minimum Street Frontage	N/A	
Front Yard Minimum	N/A	
Front Yard Maximum	5'(UA); 10'(UT)	
Rear Yard	5'(UA);10' (UT)	>10'
Yard Right	5' (Fore St)	
Yard Left	10' (Middle St)	
Side Street Setback	35' parking	35'
Step Back	15' bonus fl	15'
Maximum Lot Coverage	90%	<90%
Minimum Lot Coverage	NA	
Maximum Height	50' (UA); 65' (UT)	50'/58'
Open Space	N/A	
Maximum Impervious Area	N/A	
Pavement Setback	N/A	
Floor Area Ratio	N/A	
Off Street Parking Spaces	N/A	
Loading Bays	N/A	
Other 1		
Other 2		
Other 3		

Planned Residential Unit Developments (PRUD) Requirements

	Required	Proposed
Minimum Lot Size		
Minimum Lot Area per Dwelling		
Maximum # Units per Building		
Maximum Building Length		
Maximum Accessory Building Length		
Minimum Setbacks		
Minimum Building Separation		
Minimum Open Space		

Affordable Housing Density Bonuses (if applicable)

	Bonus Increase or Decrease	Maximum Allowable With Bonus	Proposed
Density			
Height			
Setback Reduction			
Recreation Space			
Maximum Accessory Building Length			
Minimum Setbacks			
Minimum Building Separation			
Minimum Open Space			
Explanatory Text 1 (optional):			
Explanatory Text 2 (optional):			
Explanatory Text 3 (optional):			

Site Plan Review Standards (Section 14.6)

14.6.1 Transportation Standards

The project proposes to utilize 3 parking spaces along Fore Street frontage as transitory valet drop off for the proposed hotel. Valet will then park cars in the private lot within the site through the existing curb cut on Fore Street. Valet employees would be the only ones utilizing the lot for the proposed Home 2 Suites hotel. Condominium owners (top floor of Hampton Inn) would have dedicated spaces behind Hampton Inn.

Valet drop off is proposed to be adjacent to the hotel entrance and would allow hotel guests to access the lobby right from the existing 8' wide sidewalk. Access to retail spaces would also be along sidewalks. Sidewalks along Middle, India, and Fore Streets are currently brick with granite curbing and are in good condition. All sidewalks disturbed during construction will be repaired to City Standards.

Although the project is proposed along a minor arterial (India Street and Franklin Arterial), it is not anticipated that the hotel would generate public transit usage as the majority of guests would be from out of town. The retail spaces would be approximately 5,500 sf and therefore would not appear to require a public transit shelter.

The existing Hampton Inn hotel has 125 guest rooms and 12 residential units. The Home 2 Suites is proposing 132 guest rooms. One parking space per residential unit, 12 spaces, are required. With a total of 257 guest rooms at 1 space per 4 guest rooms, 65 spaces are required for a total of 77 spaces required. 108 spaces are being provided: 12 residential spaces at 9'x18'; 24 valet spaces at 8'x15'; and 72 valet spaces at 8'x18'. A bicycle rack with storage for 20 bicycles is currently available along Fore Street adjacent to the Hampton Inn. A rack with storage for an additional 20 bicycles is proposed for the landscaped area along Middle Street.

A snow management plan has not been developed at this time. It is anticipated that a snow removal contract will be utilized in lieu of on-site snow storage.

A Transportation Demand Management plan has not been developed at this time.

14.6.2 Environmental Quality Standards

The project site is a 1.1 acre parcel that is currently developed with a parking area. There are no natural features such as wetlands, waterfowl and wading bird habitat, threatened or endangered species to be preserved. There are currently trees just off of the sidewalk along India and Middle Streets being counted as street trees for the development. These trees will not be preserved but rather are anticipated to be replaced. Five street trees are proposed along India Street and seven street trees proposed along Middle Street. Existing street trees within the right-of-way along Fore Street are slated to be preserved. A landscaping area/pocket park is proposed along Middle Street as part of the structural parking canopy. A smaller landscaped area is also proposed along Fore Street between the two hotel buildings.

Stormwater structures are proposed to treat the 1-inch storm event for at least 90% of impervious surfaces as well as at least 80% of all developed area within the project/parcel boundary. It is currently anticipated that a combination of tree box filters (existing, bioretention filter systems, and modular wetland systems will be employed to provide that treatment. Conceptual stormwater

structure locations are provided on the Grading, Drainage, and Erosion Control Plan. The existing capacity of the separated stormwater system will be discussed with the Public Works Department to determine what, if any, the requirements will be for on-site detention. As this has been identified as a VRAP site, infiltration of stormwater is not proposed at this time. A stormwater management report has not yet been developed but will be provided as a stand alone document as the project progresses forward.

14.6.3 Public Infrastructure and Community Safety

As the project design moves forward, discussions will be had with planning staff to confirm that the development of the property complies with the City's master plans and provides connection to off-site infrastructure as necessary. Additionally, throughout the design process the development team will be discussing public safety and fire prevention with the appropriate departments.

Connections to public utilities will be discussed with the agencies responsible for those utilities including sanitary and storm sewers, water, electric, communications, and gas. Service letters and recommendations will be provided as a separate document as the project moves forward. The following utilities are being contacted:

Storm drains:	Department of Public Works Water Resources Division
Sanitary sewer:	Department of Public Works Water Resources Division Bradley Roland, P.E.
Water:	Portland Water District Contact MEANS dept.
Electric:	Central Maine Power
Communications:	Spectrum
Natural Gas:	Until

14.6.4 Site Design Standards

Refer to the Architectural Drawings. Massing, ventilation, and wind is not anticipated to impact adjacent properties. It is anticipated that mechanical units are proposed to be roof top units and will not have an impact on adjacent properties. The flat roof design will minimize snow and ice from falling on to adjacent properties. The proposed development is not within a designated historic district.

Exterior lighting on the building façade has not yet been incorporated. Full cut off fixtures are expected. As the design progresses, a photometrics plan can be provided.

Building signage is shown on the architectural perspective drawings for conceptual purposes. Signage for individual spaces is expected to be mixed mediums including illuminated hotel signage consistent with hotel chains design standards, awning signs, window signage, etc. As the design progresses, a signage plan will be provided.

DECLARATION OF ENVIRONMENTAL COVENANT

This ENVIRONMENTAL COVENANT is hereby declared and granted as of this 24th day of May, 2011, by Fore India Middle, LLC, a Maine limited liability company ("Declarant"), whose mailing address is c/o Richard A. Shinay, Esq., 84 Marginal Way, Suite 600, Portland, Maine 04101-2480, to the Maine Department of Environmental Protection ("DEP") on property located in Portland, Maine, which is more fully described below.

WHEREAS, Declarant is the owner of that certain parcel of land located in the City of Portland, Cumberland County, Maine, shown as Lot 2 on a plan entitled Subdivision Plan of Hotel, Restaurant and Portside Residences prepared by Sebago Technics dated February 8, 2010 and recorded in the Cumberland County Registry of Deeds in Plan Book 210 Page 194 (the "Subdivision Plan"), said parcel of land being approximately 1.09 acres in size and more particularly described in Exhibit A attached hereto (said property to be referred to as "Protected Parcel");

WHEREAS, Declarant acquired title to the Protected Parcel by deed of Old Port Hospitality, LLC ("Old Port") executed on June 11, 2010, and recorded in the Cumberland County Registry of Deeds at Book 27850, Page 63;

WHEREAS, the DEP's Bureau of Remediation and Waste Management issued to Old Port and Declarant a Voluntary Response Action Program ("VRAP") No Action Assurance Letter dated July 22, 2010, with respect to the Protected Parcel (the "July 22, 2010 VRAP NAA"), attached hereto as Exhibit B, which was revised and clarified in a second No Action Assurance Letter dated November 19, 2010 (the "November 19, 2010 VRAP NAA"), attached hereto as Exhibit C, (collectively the "VRAP NAA Letters"), both of which require the preparation and recordation of a Declaration of Environmental Covenant consistent with the VRAP NAA and the Maine Uniform Environmental Covenants Act ("UECA"), 38 M.R.S.A. § 3001 et seq.;

WHEREAS, the Declarant has completed the development of the Protected Parcel as a surface parking lot, but may in the future engage in the further development of the Protected Parcel with a parking structure, as set forth in the November 19, 2010 VRAP NAA;

WHEREAS, the DEP has determined in accordance with 38 M.R.S.A. § 1301 et seq. and the UECA that the environmental covenants in this Declaration are necessary (i) to prevent the installation of groundwater extraction wells on the Protected Parcel, (ii) to ensure that the contaminated soils on the Protected Parcel remain covered with impervious surfaces or twelve inches of vegetative cover; (iii) to ensure that future development or excavation on areas of the Protected Parcel where residual petroleum may exist conforms

Lot 2, Subdivision Plan of Hotel, Restaurant and Portside Residences
203 Fore Street and 66 Middle Street, Portland, Maine
Declaration of Environmental Covenant

Page 1 of 10

to the Plans approved by the DEP as referenced in the VRAP NAA Letters or otherwise receives prior DEP approval, and (iv) to protect the public health, safety, and the environment, which covenants shall run with the land; and

WHEREAS, Declarant intends to create and grant an Environmental Covenant pursuant to the UECA;

NOW, THEREFORE, the Declarant for and in consideration of the facts above recited and the covenants herein contained, and intending to create and be legally bound by a perpetual covenant running with the land, subject to the terms hereof, hereby declares, covenants and agrees as follows:

1. Declaration of Covenant. This instrument is an Environmental Covenant executed pursuant to the UECA.
2. Groundwater Extraction Prohibited. The installation of groundwater extraction wells on the Protected Parcel is prohibited without the written approval of the Department.
3. Contaminated Soils to be Covered. The petroleum contaminated soils on the Protected Parcel as identified in the Soil Management Plan referenced in the July 22, 2010 VRAP NAA are to remain covered with either impervious surfaces or twelve (12) inches of vegetative cover, except during future construction activities for development of the parking structure as contemplated in the November 19, 2010 VRAP NAA.
4. Parking Structure to Provide Enhanced Ventilation. Design, construction, and ongoing operation of the proposed parking structure shall provide enhanced ventilation of potential vapors as set forth in the November 19, 2010 VRAP NAA and the Plan referenced therein.
5. Changes to Site Use or Certain Improvements Require DEP Approval. If use of the Protected Parcel is proposed to change significantly from that which is described in the VRAP NAA Letters, the DEP must be notified at least thirty (30) days in advance. Additional investigation and/or remedial activities may be required by the DEP depending on the nature and extent of the proposed changes to the Protected Parcel.
6. Development or Excavation in Petroleum Contaminated Areas Prohibited. Any future development and/or excavation plans on the Protected Parcel on or in the areas of petroleum contaminated soil removal areas (below the clean backfill layer) where residual petroleum may exist, as identified in the Soil

Lot 2, Subdivision Plan of Hotel, Restaurant and Portside Residences
203 Fore Street and 66 Middle Street, Portland, Maine
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Management Plan referenced in the July 22, 2010 VRAP NAA, must either conform to the Plan referenced in the November 19, 2010 VRAP NAA or otherwise receive prior written approval from the DEP. Such plans must consider provisions for worker health and safety, and for identifying, managing and remediating any petroleum contaminated soils that are encountered, and such work must be overseen by an environmental professional knowledgeable and trained in compliance with OSHA 29 CFR 1910.120.

7. Agency and Holder. DEP is the environmental agency with enforcement authority pursuant to the UECA, and is also the only Holder of the Environmental Covenant granted by Declarant in this Declaration.
8. Notice to Tenants and Others. The Declarant (or future owners of any portion of the Protected Parcel not controlled by the Declarant) shall provide notice of this Environmental Covenant to any tenants or lessees, or to any person conducting any activities on the Protected Parcel that could result in disturbance of soil or groundwater, or any activity that would be otherwise prohibited by this Environmental Covenant.
9. Perpetuity of Covenant. This Environmental Covenant and each and every covenant herein shall be a covenant running with the land in perpetuity, and shall bind the Protected Parcel, all persons or entities having any right, title, or interest in and to the Protected Parcel or any portion thereof, and their respective heirs, personal representatives, successors, and assigns, and all those acting by, through or under any of them forever. Any present or future owner of the Protected Parcel or any interest therein, by the acceptance of a deed of conveyance of all or any part of the Protected Parcel or any interest therein, whether or not the deed shall so express, shall be deemed to have accepted the Protected Parcel subject to the restrictions contained herein and shall be deemed bound by, obligated to comply with, and otherwise subject to the restrictions herein and this Covenant.
10. Representation of Authority, Ownership and Encumbrances. By its execution hereof, Declarant warrants that it is the sole owner of the Protected Parcel and that there are no mortgages, easements, or other encumbrances on the Protected Parcel that would materially adversely affect the effectiveness or enforceability of this Environmental Covenant (other than mortgages that have been subordinated of record with respect to this Environmental Covenant).

Lot 2, Subdivision Plan of Hotel, Restaurant and Portside Residences
203 Fore Street and 66 Middle Street, Portland, Maine
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Page 3 of 10

11. Access. The Declarant, its successors and assigns, and all future owners and land users shall provide, without cost, access to the Protected Parcel to the DEP, including its authorized employees, agents, representatives, and independent contractors, upon presentation of credentials, for purposes of monitoring and enforcing this Environmental Covenant.
12. Notice of Noncompliance. The Declarant and all future owners shall provide written notice to the DEP within ten (10) working days of discovery of any noncompliance with the terms of this Environmental Covenant.
13. Enforcement. This Environmental Covenant shall be enforceable as authorized by the UECA. Any forbearance as to the enforcement of any of the terms hereof shall not be deemed a waiver of the right to seek and obtain enforcement at any time thereafter as to the same violation or as to any other violations.
14. Amendment or Termination by Consent. The terms and conditions herein may not be amended or terminated except by a written instrument duly executed by the Declarant and/or any successor owner's association that controls commonly owned property on the Protected Property, any owner of any portion of the Protected Property that is not commonly owned and controlled by such an owners' association, at the time of the amendment or termination, and DEP, or its successor in legal function, which instrument is duly recorded in the Cumberland County Registry of Deeds, pursuant to the UECA.
15. Notice Pursuant to Covenant. Any notice or other communication required pursuant to this Environmental Covenant shall be in writing and shall be sent by certified mail, return receipt requested and shall be sent to the following addresses, or such other addresses as the Declarant and the DEP may designate from time to time in a written notice to other entities: (a) if to the Declarant, to the attention of Richard A. Shinay, Esq., 84 Marginal Way, Suite 600, Portland, Maine 04101-2480; if to DEP, 17 State House Station, Augusta, Maine 04333-0017, to the attention of Director, Bureau of Remediation & Waste Management (or successor in position).
16. Recording. Declarant shall cause this Declaration to be duly recorded in the Cumberland County Registry of Deeds within twenty (20) days of the execution of this Declaration by the last signatory, and shall, within thirty (30) days of the recording of the Declaration, notify the DEP of the book and page at which it is recorded, and submit to DEP a copy of the signed Declaration date-stamped by the Register of Deeds.

Lot 2, Subdivision Plan of Hotel, Restaurant and Portside Residences
203 Fore Street and 66 Middle Street, Portland, Maine
Declaration of Environmental Covenant

Page 4 of 10

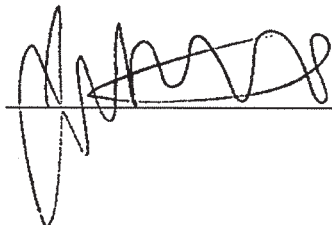
17. Administrative Record. The administrative record relating to the Protected Parcel is located at the main office of DEP, whose mailing address is 17 State House Station, Augusta, ME 04333-0017, with a street address of Ray Building, 28 Tyson Drive, Augusta, Maine.
18. Governing Law. This Environmental Covenant shall be governed and interpreted in accordance with the laws of the State of Maine.
19. Liberal Construction. It is intended that this Environmental Covenant be construed liberally to protect the health and welfare of the public and the quality of the environment from the risk of adverse effects of exposure to hazardous substances.
20. Invalidity. If any part of this Environmental Covenant shall be decreed to be invalid by any court of competent jurisdiction, all of the other provisions hereof shall not be affected thereby and shall remain in full force and effect.

IN WITNESS WHEREOF, Fore India Middle, LLC, has caused this Declaration of Environmental Covenant to be executed by its duly authorized representative as of the date first set forth above.

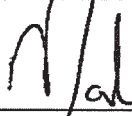
[End of page. Execution pages follow.]

IN WITNESS WHEREOF, Fore India Middle, LLC, has caused this Declaration of Environmental Covenant to be executed by its duly authorized representative as of the date first set forth above.

WITNESS:



FORE INDIA MIDDLE, LLC

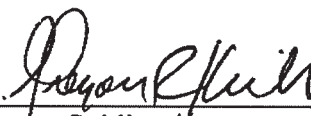
By: 
Mark G. V. Woglom
Its Manager

STATE OF NEW HAMPSHIRE
COUNTY OF BELKNAP, ss.

May 24, 2011

Personally appeared the above named Mark G. V. Woglom, Manager of Fore India Middle, LLC, and acknowledged the foregoing instrument to be his free act deed in his said capacity and the free act and deed of said Fore India Middle, LLC.

Before me,


~~Notary Public~~ Justice of the Peace

GREGORY R. KIRSCH
Print name

My commission expires: 10/22/2013



ACKNOWLEDGED AND AGREED TO BY:

MAINE DEPARTMENT OF ENVIRONMENTAL
PROTECTION

By: R E Dyer

Ronald E. Dyer
Name

Director, Bureau
Title

STATE OF MAINE
COUNTY OF Kennebec, ss.

6/20, 2011

Personally appeared the above named Ronald E Dyer
Bureau Director of the Maine Department of Environmental Protection, and
acknowledged the foregoing instrument to be his/her free act deed in his/her said capacity
and the free act and deed of said Maine Department of Environmental Protection.

Before me,

Laura L Gay
Notary Public

Laura L. Gay
Print name

My commission expires: 9/24/2015

SEAL

Lot 2, Subdivision Plan of Hotel, Restaurant and Portside Residences
203 Fore Street and 66 Middle Street, Portland, Maine
Declaration of Environmental Covenant
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MORTGAGEES' JOINDER
TO
DECLARATION OF ENVIRONMENTAL COVENANT

The undersigned, BANK OF NEW ENGLAND, holder of, among other recorded security documents, (a) an Open End Mortgage, Security Agreement Financing Statement and Assignment of Rents and Leases from Fore India Middle, LLC, dated August 27, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28031, Page 252, and (b) a Second Open End Mortgage, Security Agreement Financing Statement and Assignment of Rents and Leases from Fore India Middle, LLC, dated August 27, 2010, and recorded in said Registry of Deeds in Book 28031, Page 286, and GRANITE STATE ECONOMIC DEVELOPMENT CORPORATION, d/b/a NEW ENGLAND BUSINESS FINANCE, holder of, among other recorded security documents, (a) a Mortgage from Fore India Middle, LLC, dated August 27, 2010, and recorded in said Registry of Deeds in Book 28031, Page 319, for themselves and their successors and assigns, hereby join in this Declaration of Environmental Covenant for the purpose of acknowledging and agreeing that in the exercise of their rights under said Mortgages and other security documents, they will recognize and agree to be bounds by the terms and conditions of said Declaration.

IN WITNESS WHEREOF, BANK OF NEW ENGLAND and GRANITE STATE ECONOMIC DEVELOPMENT CORPORATION, d/b/a NEW ENGLAND BUSINESS FINANCE, have caused this instrument to be executed by their representatives, thereunto duly authorized, as of the date of said Declaration of Environmental Covenant first set forth above.

[End of page. Execution pages follow.]

WITNESS:

[Signature]

BANK OF NEW ENGLAND

By: [Signature]

Its Senior Vice President

Keith P. Landry
Print name

STATE OF NEW HAMPSHIRE
COUNTY OF Rockingham ss.

June 9, 2011

Personally appeared the above named Keith P. Landry
SVP of Bank of New England, and acknowledged the foregoing
instrument to be his/her free act deed in his/her said capacity and the free act and deed of
said Bank of New England.

Before me,

[Signature]
Notary Public

Print name

My commission expires: _____



Lot 2, Subdivision Plan of Hotel, Restaurant and Portside Residences
203 Fore Street and 66 Middle Street, Portland, Maine
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WITNESS:

GRANITE STATE ECONOMIC
DEVELOPMENT CORPORATION, d/b/a
NEW ENGLAND BUSINESS FINANCE

Robin J. Lapointe

By: [Signature]

Its V.P.

Scott Gardiner
Print name

STATE OF NEW HAMPSHIRE
COUNTY OF Rockingham, ss.

5/27, 2011

Personally appeared the above named Scott Gardiner,
Vice President, Granite State Economic Development Corporation, d/b/a New
England Business Finance, and acknowledged the foregoing instrument to be his/her free
act deed in his/her said capacity and the free act and deed of said Granite State Economic
Development Corporation, d/b/a New England Business Finance.

Before me,

Robin J. Lapointe
Notary Public

Robin J. Lapointe
Print name

My commission expires: _____



Lot 2, Subdivision Plan of Hotel, Restaurant and Portside Residences
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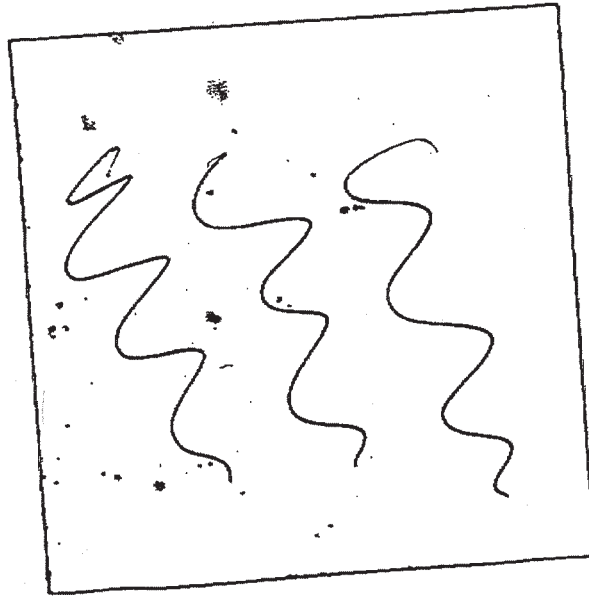
Exhibit A

A certain lot or parcel of land, with any buildings and improvements thereon, located on Fore Street, India Street and Middle Street in the City of Portland, County of Cumberland, and State of Maine, being more particularly bounded and described as follows:

Lot 2 as shown on a subdivision plan entitled "Subdivision Plan of Hotel, Restaurant & Portside Residences, 207 & 209 Fore Street, Portland, Maine" dated February 8, 2010, as most recently revised on April 23, 2010, approved by the City of Portland Planning Board on April 13, 2010, and recorded in the Cumberland County Registry of Deeds in Plan Book 210, Page 194 (the "Subdivision Plan").

Exhibit B
To
Declaration of Environmental Covenant

(following page)





JOHN ELIAS BALDACCI
GOVERNOR

Doc#: 31769 Bk:28791 Pg: 148
STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DAVID P. LITFELL
COMMISSIONER

July 22, 2010

Old Port Hospitality, LLC
Attn: Mark Woglom
11 Corporate Dr.
Belmont, NH 03220

Re: Lot 2, Former Jordan's Meats Property, 201 Fore Street, Portland, Maine
Voluntary Response Action Program No Action Assurance Letter

Dear Mr. Woglom:

The Maine Department of Environmental Protection ("Department") has received and reviewed your application dated June 17, 2010, along with an explanatory cover letter and a Soil Management Plan, both dated June 21, 2010, and prepared by Sebago Technics, Inc., all of which were submitted to the Department's Voluntary Response Action Program ("VRAP") for the above-referenced property on Fore Street in Portland, Maine (the "Property"). The application was submitted to the Department with the request that you, as an applicant to the VRAP, receive the liability protections provided by the VRAP Law, M.R.S.A. 38 §343-E.

Based on the information presented in the Soil Management Plan, and in the Summary Report, the Department agrees with the conclusions and recommendations for remedial actions at the Property set forth in those documents, specifically, the covering of contaminated soils with impervious surfaces or 12 inches of vegetative cover. The Department's concurrence with the proposed actions is conditioned on the prohibition of installation of groundwater extraction wells on the Property. This letter confirms the Department's approval of the Soil Management Plan and constitutes a written determination to take no action in accordance with M.R.S.A. 38 §343-E(9).

The Department has been advised that Old Port Hospitality, LLC transferred the Property to an affiliated entity, Fore India Middle, LLC, by deed recorded at Book 27850, Page 63 at the Cumberland County Registry of Deeds on June 17, 2010. The Department's determination to take no action as set forth in this letter shall extend to Fore India Middle, LLC as the successor in title to Old Port Hospitality, LLC, and shall also extend to the successors and assigns of Fore India Middle, LLC, all of whom shall be bound by the conditions set forth herein as provided in M.R.S.A. 38 §343-E(9)(B).

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7526
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
112 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1245 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 760-3143

web site: www.maine.gov/dep

printed on recycled paper

Old Port Hospitality, LLC

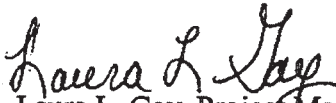
Page 2

Provided that the recommended remedial measures are completed in accordance with the Soil Management Plan, and to the satisfaction of the Department, Old Port Hospitality, LLC, Fore India Middle, LLC, their successors and/or assigns, and additional persons who qualify under 38 M.R.S.A. §343-E (6) will be granted the liability protection provided by 38 M.R.S.A. §343-E (1) for the Property located on Fore Street that is shown as Lot 2 (1.09 acres) on the Subdivision Plan of the Hotel, Restaurant, and Portside Residences approved by the City of Portland Planning Board on April 13, 2010, and recorded at Plan Book 210, Page 194 in the Cumberland County Registry of Deeds.

Once the recommended remedial measures to be implemented at the Property are completed in accordance with the Soil Management Plan, a report documenting such completion should be forwarded to the VRAP. Upon determining that the remedial measures have been properly completed, the Department will issue a Commissioner's Certificate of Completion to Fore India Middle, LLC, in accordance with M.R.S.A. 38 §343-E(5).

If you have any questions regarding this letter, please feel free to call me at 207-287-7746.

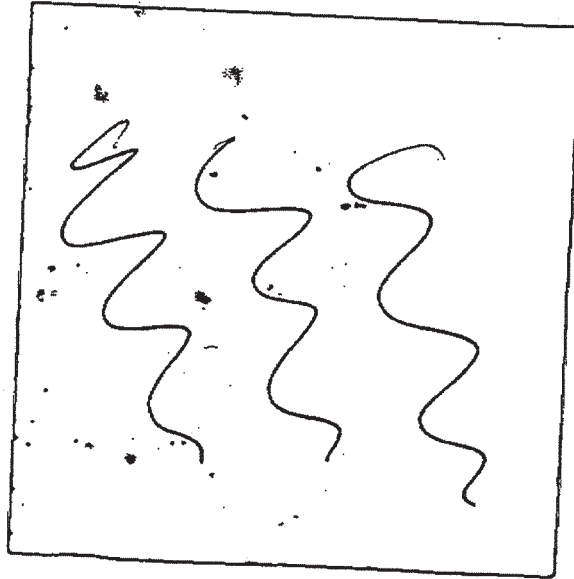
Sincerely,



Laura L. Gay, Project Manager
Division of Remediation
Bureau of Remediation & Waste Management

Pc: Grant Austin, Sebago Technics, Inc.

Exhibit C
To
Declaration of Environmental Covenant
(following page)





STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOV 23 2010

SEBAGO

JOHN ELIAS BALDACCIO

GOVERNOR

DAVID P. LITTELL

COMMISSIONER

November 19, 2010

Fore India Middle, LLC
Attn: Mark Woglom
11 Corporate Drive
Belmont, New Hampshire 03220

Re: Lot 2, Former Jordan's Meats Property, 201 Fore Street, Portland, Maine
Voluntary Response Action Program No Action Assurance Letter

Dear Mr. Woglom:

The Maine Department of Environmental Protection ("Department") has received and reviewed the letter dated October 25, 2010, and entitled Lot 2 of the Former Jordan's Meats Property, 203 Fore Street and 66 Middle Street, Portland, Maine, Phase II Redevelopment Plans-Structured Parking, submitted by your consultant for the project, Sebago Technics, Inc. ("STP"). The revised redevelopment plans (the "Plan") were submitted to the Department pursuant to the project's continuing participation in the Voluntary Response Action Program ("VRAP"). Fore India Middle, LLC (the "Applicant"), as an affiliate of and successor in title to Old Port Hospitality, LLC (the original applicant to VRAP), is the current owner of the property and is seeking the liability protections provided by the VRAP law, 38 M.R.S.A. §343-E.

Based on the information presented in the Plan, the Department agrees with the conclusions and recommendations for remedial actions on Lot 2 of the Former Jordan's Meats Property, which includes the covering of soils with impervious surfaces and enhanced ventilation of any potential vapors within the proposed parking garage. The Department's concurrence with the proposed actions is consistent with our previous "No Action Assurance Letter" for the property dated July 22, 2010, which is conditioned on the prohibition of installation of groundwater extraction wells on the property. This letter confirms the Department's approval of the revised Plan and constitutes a written determination to take no action in accordance with 38 M.R.S.A. §343-E(9).

The Department recognizes that the Plan for a structured parking lot is an alternative to the previously submitted plan to develop a surface (i.e., non-structured) parking lot on

AUGUSTA

17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR

106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND

312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE

1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 760-3143

Lot 2, which was the subject of the No Action Assurance Letter dated July 22, 2010 (the "Existing NAA Letter"). The Department has been advised that the Applicant may opt to develop Lot 2 in accordance with the Existing NAA Letter, which the Department hereby confirms is still valid and in force and not negated by the issuance of this letter.

Furthermore, the Applicant may proceed to first develop the surface parking lot on Lot 2 in accordance with the Existing NAA Letter, and then proceed to construct the structured parking lot in accordance with this letter.

Provided that the recommended remedial measures are completed in accordance with the Plan, and to the satisfaction of the Department, Fore India Middle, LLC, and their successors and/or assigns, and additional persons who qualify under 38 M.R.S.A. §343-E(6) will be granted the liability protection provided by 38 M.R. S.A. §343-E(1) for the property located on 203 Fore Street and 66 Middle Street that is shown as Lot 2 (1.09 acres) on the Subdivision Plan of the Hotel, Restaurant, and Portside Residences approved by the City of Portland Planning Board on April 13, 2010, and recorded in Plan Book 201, Page 194 in the Cumberland County Registry of Deeds.

Once the recommended remedial measures to be implemented at the property are completed in accordance with the Plan, a report documenting such completion should be forwarded to the VRAP. Upon determining that the remedial measures have been properly completed, the Department will issue a Commissioner's Certificate of Completion to Fore India Middle, LLC, in accordance with 38 M.R.S.A. §343-E(5).

If you have any questions regarding this letter, please feel free to contact me at 207-287-4854.

Sincerely,



Nicholas J. Hodgkins
Division of Remediation
Bureau of Remediation & Waste Management

Pc: Grant Austin, STI
Laura Gay, Maine DEP

Received
Recorded Register of Deeds
Jun 29, 2011 03:49:38P
Cumberland County
Pamela E. Lovley

DEP Maine A branch of natural
resources & environment
C/O DEP, 1000 State St., 1st Fl.
Portland, ME 04101



For Immediate Release

Contact: Chris Daly
Daly Gray Public Relations
(Media)
chris@dalygray.com
(703) 435-6293

Dennis Craven
Chatham Lodging Trust
(Company)
dcraven@cl-trust.com
(561) 227-1386

Chatham Lodging Trust Increases Credit Facility with RBC Commitment

WEST PALM BEACH, Fla., December 20, 2022 —Chatham Lodging Trust (NYSE: CLDT), a hotel real estate investment trust (REIT) focused on investing in upscale extended-stay hotels and premium branded, select-service hotels, today announced that it has increased commitments under its senior unsecured revolving credit facility by \$45 million with the addition of Royal Bank of Canada as a top tier lender.

With this incremental commitment, Chatham’s unsecured revolving credit facility increases to \$260 million. Combined with its new \$90 million term loan, Chatham received commitments of \$350 million that replace Chatham’s previous \$250 million senior unsecured credit facility that was scheduled to mature in 2023. Inclusive of extension options, the revolving credit facility and term loan mature in October 2027. Chatham has up to six months to borrow funds under the unsecured term loan and intends to fully draw the \$90 million within that time frame to repay maturing secured debt. There are currently no borrowings outstanding on either facility.

“We are excited to add another great financial institution to our outstanding group of participating lenders, further solidifying our financial position for the next five years and

providing even more flexibility to manage our maturing debt over the next couple of years and capacity to acquire hotels,” highlighted Jeremy Wegner, Chatham’s chief financial officer.

About Chatham Lodging Trust

Chatham Lodging Trust is a self-advised, publicly traded real estate investment trust focused primarily on investing in upscale extended-stay hotels and premium-branded, select-service hotels. The company owns 39 hotels totaling 5,914 rooms/suites in 16 states and the District of Columbia. Additional information about Chatham may be found at chathamlodgingtrust.com.

This press release may contain “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995 about Chatham Lodging Trust, including those statements regarding acquisitions, capital expenditures, future operating results and the timing and composition of revenues, among others, and statements containing words such as “expects,” “believes” or “will,” which indicate that those statements are forward-looking. Except for historical information, the matters discussed in this press release are forward-looking statements that are subject to certain risks and uncertainties that could cause the actual results or performance to differ materially from those discussed in such statements. Additional risks are discussed in the company’s filings with the Securities and Exchange Commission.

TECHNICAL ABILITY

The project team assembled for this development combines the expertise of civil and geotechnical engineering, design-build architecture and construction, and hotel management firms. The assembled project team is highly qualified with extensive experience in developing, permitting, managing, and operating large scale developments projects, including hotel construction.

Applicant's Experience

Chatham Lodging Trust (Chatham) is a publicly traded hotel real estate investment trust (REIT) with hotel investments of approximately \$1.7 billion as of December 31, 2023. Chatham currently own 38 hotels around the United States.

Within Portland, Chatham owns the Hampton Inn hotel that is adjacent to the proposed Home2 development and have owned that hotel since 2012. In the upper northeastern U.S., their properties also include the Hilton Garden Inn in Portsmouth, New Hampshire and the Hampton Inn and Suites in Exeter, New Hampshire; as well as two hotels in the greater Boston area.

This development will be Chatham's second developed Home2 Suites by Hilton hotel. The first was opened in Woodland Hills, California in January 2022 and won the Development of the Year Award from Hilton.

Project Team:

Chatham has retained the New Hampshire based **Procon**, which is an architecture and construction firm and will utilize their integrated approach to design-build. Procon was founded in 1935 and has a very diverse portfolio which includes hospitality and mixed-use projects throughout New England. A listing of similar projects performed by Procon is attached and includes projects in the greater Portland area such as:

- Custom House Square
- Inn at Diamond Cove
- Portland Harbor Hotel

Chatham has also retained **Ransom Consulting, LLC**, in Portland Maine to be the lead consultant in preparing permit applications and civil engineering plans, calculations, and reports for the project. Ransom's staff includes professionals in civil, transportation, utility, stormwater, environmental, geotechnical, and coastal engineering, and have been serving municipalities throughout New England for over 35 years. Specifically, Ransom will provide civil/site engineering, stormwater management analysis & design and permitting services for this project. Ransom has provided these same services on similar projects throughout Portland, including just down the hill at the AC Hotel, 20 Thames Street, and 5 India Street development – also a VRAP site.

Company resumes detailing the experience and qualifications of key personnel are available upon request, if necessary.

Relevant Projects

Project Name	City	State/Prov
West Street Hotel	Bar Harbor	ME
Residence Inn by Marriott	Bangor	ME
Residence Inn by Marriott	Bath	ME
Residence Inn by Marriott	Auburn	ME
Homewood Suites by Hilton	Augusta	ME
Custom House Square	Portland	ME
Inn at Diamond Cove	Portland	ME
Portland Harbor Hotel	Portland	ME
AC Hotel by Marriott - Cleveland Circle	Boston	MA
AC Hotel by Marriott	Medford	MA
AC Hotel by Marriott - Ink Block	Boston	MA
Alloy Condominiums at Assembly Row	Somerville	MA
The Row Hotel - Assembly Row	Somerville	MA
Courtyard by Marriott - Boston Logan	East Boston	MA
Fairfield Inn & Suites	Cambridge	MA
Station Landing 2: Towneplace Suites/Fairfield by Marriott	Medford	MA
Renaissance Hotel at Patriot Place	Foxborough	MA
Hilton Garden Inn at Patriot Place	Foxborough	MA
AC Hotel by Marriott - Portsmouth	Portsmouth	NH
Aria Apartments at Portwalk	Portsmouth	NH
Hampton Inn & Suites - Portwalk	Portsmouth	NH
Harbor Hill Condominiums	Portsmouth	NH
Hilton Garden Inn	Portsmouth	NH
Homewood Suites by Hilton	Portsmouth	NH
Portsmouth Harbor Events & Conference Center	Portsmouth	NH
Residence Inn by Marriott - Pease International	Portsmouth	NH
Residence Inn by Marriott at Portwalk	Portsmouth	NH
145 Maplewood Avenue	Portsmouth	NH
Tuscan Village – Building 2000	Salem	NH

203 Fore Street – Home 2 Suites Transportation Demand Management Plan

In accordance with Section 17.3 of the Technical Manual the following information is provided,

Project Description: Chatham Lodging Trust (dba Chatham Portland DT LLC) proposes a 132 room Home 2 Suites ([Home2 Suites by Hilton - Extended Stay Hotel Suites](#)) extended stay hotel and associated ground level commercial space that is expected to be an assortment of retail and restaurant tenants. The project is located at 203 Fore Street and is identified as Chart and Block 029 L003. The property is located in the India Street Form Based Code District and the building area is currently being used for parking for the Hampton Inn hotel and associated condo units which are under common ownership of the applicant, on the adjacent parcel. The parcel is identified as Lot 2 (47,473 SF) of the Subdivision plan recorded in CCRD Plan book 210, page 144.

The project proposal includes a mixed-use building with 5,519 square feet (sf) of commercial retail/restaurant space on the ground floor and 79,946 sf of hotel space throughout 5 floors – with a building footprint of approximately 16,612 sf. Upon completion of the Home 2 Suites, there will be 105 valet-controlled parking spaces provided on the site and 3 short term valet spaces on Fore Street, if approved. The parcel is bounded on the north by India Street, on the west by Middle Street, on the east by Fore Street, and on the south by the existing Hampton Inn.

The proposed 5 story structure will have multiple entrance points for different uses. The hotel entrance is proposed at the intersection of Fore Street and India Street with entrances for the 3 proposed retail units along Middle Street and India Street. Onsite valet parking is expected to continue to be accessed through the existing curb cut for the Hampton Inn valet driveway along Fore Street and the parking is incorporated into the design to include a structural canopy with upper hotel floors above. A retaining wall is proposed adjacent to Middle Street to facilitate the change in grade, but will also include a structural landscaped deck above at-grade valet parking below.

Part 17.3.1 Transportation Narrative

In May 20204, the applicant contracted with Unified Parking Partners (UPP) [UPP Global](#) as their parking valet operator. Until construction commences, the applicant does not expect to require any off-site parking for the operations of the existing Hampton Inn hotel. The existing parking lot accommodates the Hampton Inn's parking needs.

During construction, the applicant estimates that off-site parking needs for the existing Hampton hotel will max out at approximately 85 cars per day during the peak summer months. This parking will be offered through various nearby parking garages.

After the Home 2 Suites opens, the applicant currently estimates that the off-site parking needs will max out at approximately 35-40 cars per day during the peak summer months. The applicant does not expect to need any off-site parking for five of the 12 months of the year (November to March).

UPP intends to primarily use four available lots within one block of the Hampton/Home2 site for off-site parking as laid out on the images below:

- 280 Fore Street – 20 available spaces
- 194 Fore Street – 20 available spaces
- 1 India Street – 44 available spaces
- 100 Middle Street – 245 available spaces, will only be used for heavy weekend and overnight stays.
- UPP also has parking available at 175 Fore Street and the Ocean Gateway Garage





The proposed development benefits from proximity to nearby transit services including the Portland METRO Route 1 Congress Street and Route 8 Peninsula Loop that traverses along India Street and is adjacent the site. The site is also within 1/2-mile walking distance of Monument Square and the METRO transfer center hub at that location. On-street parking is commonly available along Middle, India and Fore Street for the commercial guests and nearby parking garages include the nearby Gateway Garage and Shipyard Garage. Surface parking is also available in the neighborhood.

As is customary for Hotel use, arrivals and departure times at the hotels are staggered, reducing the amount of people coming at one time. The Hampton Inn Valet service allows guests to enter off Fore Street into a short queuing zone. The proposed Home 2 Suites valet zone is off Fore Street adjacent the ground level hotel entry.

Hotel guests will have access to shuttle service not only to nearby transportation centers including the Jetport, and Portland Transportation Center (bus and Train) but also to shuttle service to destinations on and off peninsula. Concierge service is available to arrange for taxi and Uber transportation for hotel guests.

Hotel Staff and guests will also have access to various pedestrian and bicycle routes in the project vicinity including the Bayside trail that extends to the Portland Transportation Center as well as the East End Trail that connects to Back Cove and points beyond. METRO Transit service also links to the METRO Breez service at Congress Street and that offers service to Yarmouth, Freeport, and Brunswick. The hotel is reviewing opportunities for staff incentive programs for rideshare and other multi-modal transportation and financial assistance.



METRO Route 8

17.3.2 Identify a TDM Coordinator

Given the small size of the development a designated TDM coordinator is not proposed although the hotel concierge and hotel management will oversee guest accommodations, transportation issues and questions and overall arrival/departure management to assure smooth operations and minimal impact to the surrounding street system. The applicant and their management team will be responsible for building maintenance as well as to assure that site features including the valet parking and bike racks are maintained and available. The applicant has managed numerous similar properties for many years, and is therefore very familiar with the requirements for maintenance, working with City officials, and related hotel operations.

Parts 17.3.3 thru 17.3.6

The project's future trip generation is expected to be less than 100 vehicles per peak hour for the Home 2 Suites project based on 132 rooms. Due to the small impact of traffic associated with the development, targets for TDM traffic reductions and related TDM objectives are quite minor. It's simply expected that this infill development will blend harmoniously within the surrounding Peninsula/downtown activities and land use and will benefit from the general proximity of transit, parking, and multi-modal transportation options available on the Portland Peninsula.



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STORMWATER MANAGEMENT REPORT

HOME 2 SUITES

203 FORE STREET, PORTLAND, MAINE

Prepared for

Chatham Portland DT, LLC c/o Chatham Lodging Trust

West Palm Beach, FL 33401

Prepared by

Gorrill Palmer

300 Southborough Drive – Suite 200

South Portland, Maine 04106

207.772.2515

~~JULY 2024~~

REVISED OCTOBER 2024

Stormwater Management Report

1.1 Overview

The project is located at 203 Fore Street and is approximately 1.1 acres. The existing site is located to the east of the existing Hampton Inn Hotel, bordered by Fore Street to the south, India Street to the east, and Middle Street to the north. The existing area is used as a parking area for the existing hotel, and is envisioned to be a developed to hold a new, five story hotel containing 128 rooms and associated retail/commercial space. This new development will include parking, streetscape and sidewalk improvements, pedestrian plazas, a pocket park, and general landscaping improvements and site furnishings.

Under the City of Portland's Technical Manual, a new development project that warrants major site plan shall submit a stormwater management plan pursuant to the regulations of Maine Department of Environmental Protection (Maine DEP) Chapter 500 Stormwater Management Rules, including General and Flooding Standards. As the proposed development will warrant major site plan, it is required to meet these Basic, General, and Flooding standards, along with water quality standards set forth in Section 4.C.2(a) of Chapter 500. The site's existing impervious area is approximately 21,457 square feet and the proposed impervious area will be 41,552 square feet, for an increase of 20,095 square feet.

1.2 Stormwater Management Control

Based on the Stormwater Management Rules, Chapter 500, the proposed development is required to meet the Basic Standard, General Standard, and Flooding Standard. The Basic Standard is presented in the Erosion Control Report, while the General Standard and Flooding Standard are presented as follows.

The development will also be required to meet the MDEP's water quality and quantity standards. To meet the water quality standard, the project will utilize a subsurface storage system. The facilities will be utilized to control the post development runoff for the larger 2, 10, 25-year storm events where applicable.

The Maine Department of Environmental Protection rules and regulations regarding stormwater concentrate on four stormwater management objectives:

- Effective Pollutant Removal
- Cooling
- Channel Protection
- Flood Control

These objectives may be met either directly by providing BMP's that manage and treat the runoff after it has been created, or indirectly by incorporating low impact development site planning concepts to minimize production and contamination of runoff by maximizing infiltration and evapotranspiration.

1.3 Approach and Analysis for Water Quality

The following narrative discusses the Basic Standard and General Standard of the MaineDEP Stormwater Law. The proposed development will be required to meet the Basic Standard, BMP Standard under the General Standard, and Flooding Standard for a MaineDEP Chapter 500 Stormwater Management Rules. Based upon review of the five recommended and approved methods for mitigating the increased frequency and duration of channel erosive flows, as required by the BMP Standards, the applicant is proposing to construct a subsurface storage system and proprietary treatment filter system.

Water quality calculations for this portion of the site are presented in Section 1.3.2 below.

#

1.3.1 Redevelopment Treatment Calculations

Under the Treatment Requirements for the MaineDEP General Standards, the proposed development may qualify for a lower treatment percentage based on the redevelopment Pollutant Impact Rankings [MaineDEP Chapter 500 Section 4.C.2(d)]. The following table summarizes the pollutant rankings for the existing and redevelopment.

TABLE 1 – REDEVELOPMENT TREATMENT SUMMARY			
Type	Pollutant Ranking 3 (Ac)	Pollutant Ranking 2 (Ac)	Impact Rating
Existing Development	0.494	0.598	2.452
Redevelopment	0.297	0.794	2.272

Based on Table 1 above, the impact ranking from the existing development to the proposed development will decrease. For this reason, the proposed development treatment percentages are 0% for stormwater projects and 50% for site projects per MaineDEP Chapter 500 Section 4.C.2(d.i) Table 3. However, the City of Portland Technical Manual requires the minimal redevelopment treatment levels to be at least 50%, so this level of treatment is required for the proposed development.

1.3.2 Stormwater Quality Treatment

Attachment A contains the Water Quality maps for this project. The proposed development will be treated by a focal point with subsurface detention for stormwater quality treatment.

#

FocalPoint™ and Subsurface Storage System

FocalPoint's are defined in Volume III Appendix B (Proprietary Systems). Proprietary systems are defined as a system or practice designed for stormwater runoff treatment from a development that has to meet all the stormwater requirements of Maine's Stormwater Law, and the Chapter 500 Stormwater Management Rule to be considered equivalent to any of the suggested structures found in the BMP Manual. A proprietary system must be live-tested for a variety of storm lengths and intensities. The system must remove at least 60% total phosphorus, with at least similar removals metals (zinc and copper), and hydrocarbons; it must provide temperature

reduction and channel protection storage detention either independently or in combination with another measure; and it must also be maintainable.

Filtration systems that store and treat a volume of water must be sized to store and treat 1.0 inch of runoff from the contributing impervious area and 0.4 inches of runoff from contributing landscaped areas. If channel protection storage and cooling are required, they must be provided independently, and the stored volume must be released slowly over a 24 to 48-hour period and cooled. Flow-through or hybrid systems that do not store the water quality volume prior to treatment must be sized so that they treat the entire volume of the 0.95-inch Type III 24-hour storm without bypass.

The FocalPoint™ system received approval by the MDEP in February 2017. The proposed system was designed in accordance with the MDEP approval letter dated February 2, 2017. The FocalPoint's are designed to treat 1 inch times the subcatchments impervious area plus 0.4 inch times the subcatchments landscaped area. The elevation of the bypass overflow such that the water quality volume of a 0.95 inch type III 24 hour storm is treated prior to activation was determined using a HydroCAD model. The filter media has an exfiltration rate of 100 inches/hour. The surface media must be 174 sq. ft./acre of impervious plus 174 sq. ft./acre of vegetated area multiplied by 0.4. The filter media depth shall be 1.5 feet and the ratio of the media to the runoff volume stored above it is no less than 1 to 5. The runoff from the FocalPoint will enter a subsurface chamber storage system. Runoff will enter the subsurface chamber storage system through an Isolator Row. The Isolator Row is required to convey the peak runoff from the 1-year Type III 24-hour storm, without overflowing, while the entire chamber system will provide storage for the water quality volume and release the flow over a 24-48-hour period. The subsurface chambers will be installed within a stone bed assumed to have 40% porosity.

The proposed subsurface system on site was designed in accordance with Maine DEP's Chapter 500 Stormwater Management Rules and the Maine Stormwater Best Management Practices Manual, Volume III. BMP Technical Design Manual, Chapter 6 Infiltration BMPs. Some measures to be highlighted for the system include sizing, site suitability, siting, setbacks, pretreatment, design and construction, erosion control, groundwater monitoring, and maintenance. The Water Quality Maps are included in Attachment A. The stage/storage tables for the subsurface infiltration system are included in Attachment B.

The following table presents information for the FocalPoint™ System in the proposed development.

TABLE 2		
FocalPoint™		
	REQUIRED	PROVIDED
Impervious Area (SF)	-	7,669
Vegetated Developed Area (SF)	-	1,416
Water Quality Treatment Volume (CF)	686.30	691
FocalPoint™ Mulch Bed Elevation (FT)	-	15.84

Rim to Overflow Structure (FT)	-	16.34
Filter Surface Area (SF)	32.89	50

In addition to the area being treated by the FocalPoint™, the subsurface system will store runoff from the proposed flat-roof building. This additional area will be stored via a Ferguson R-Tank™ HD chamber, that has storage capacity of 8.3 CF per design unit. Runoff from storms producing the water quality volume will be conveyed from the subsurface chambers through the underdrain system. A valve will be placed on the underdrain to regulate the outflow through the underdrain. The valve will be field adjusted to maintain the outflow time between 24 and 48 hours. Yearly maintenance of the FocalPoint™ system will include monitoring the outflow after a rainfall event to ensure the outflow time is within the required parameters and inspecting the system for accumulation of sediment within the Isolator Row. Larger storms will be conveyed from the subsurface system through an Outlet Control Structure with a weir set at the water quality elevation. The following table presents information for the Chamber System in the proposed development.

TABLE 3		
Chamber System		
	REQUIRED	PROVIDED
Ferguson R-Tank™ HD Chambers for Water Quality Volume	83	83
Total Ferguson R-Tank™ HD Chambers	-	210
Storage Base Elevation (FT)	-	12.35
Water Quality Elevation (FT)	-	13.46
Top of Ferguson R-Tank™ HD Chambers (FT)	-	15.68
Weir Elevation in Outlet Control Structure (FT)	-	15.68

1.3.3 Conclusion – Water Quality

Table 4 below summarizes the proposed total treatment for the proposed development.

TABLE 4 – OVERALL TREATMENT FOR DEVELOPMENT		
	IMPERVIOUS	DEVELOPED
Subsurface Infiltration System (SF)	27,169	28,586
Total Area Treated (sf)	27,169	28,586
Area Untreated (SF)	15,384	18,954
Total Area of Project (sf)	42,553	47,539
Percent Treated	--	60.1%
Percent Required	--	50%

1.4 Stormwater Quantity

The stormwater management study provides an analysis of predevelopment and post development stormwater runoff rates.

The SCS TR-20 methodology, using the HydroCAD program, was employed by Gorrill Palmer to analyze pre-development and post-development conditions. A 24-hour, SCS Type III storm distribution for the two-, ten-, and twenty-five-year storm frequencies was used. The corresponding rainfall amounts for these storms are 3.1", 4.6", and 5.8" respectively.

Land use cover, delineations of watershed hydraulic flow paths, and hydrologic soils data were obtained using the following data:

- ALTA/NSPS Land Title Survey from Owen Haskell, Inc.
- Medium Intensity Soil Survey from the USGS Web Soil Survey.
- Aerial photography of the project site, obtained from the Maine Office of GIS.

1.4.1 Pre Development Conditions

The drainage study analyzes the watersheds in the predevelopment condition as depicted on the Predevelopment Watershed Map PRE.

Sub Catchment 1S is made up of the entire parcel, which is approximately 1.1 acres and consists of soil type C. There is runoff from approximately just under half an acre of existing impervious area onsite, while the remainder of the site consists of grass/landscape cover. This runoff is conveyed to POI 1, which is an existing storm drain basin located just southwest of the site.

A watershed map for the predevelopment conditions is attached to this section as drawing number *PRE* in Attachment A.

Table 5 presents the peak flow rates at the point of interest in the predevelopment condition.

TABLE 6 – PREDEVELOPMENT PEAK FLOW RATES (TYPE III 24-HR)			
Point of Interest	Peak Flow (CFS)		
	2 Year	10 Year	25 Year
POI 1	2.22	3.95	5.36

Copies of the calculations for the predevelopment conditions are included in Attachment B.

1.4.2 Post Development Conditions

Analysis for the post development condition consists of determining post development peak flows and limiting the post development flows to predevelopment levels. The post development condition has been modeled as two sub catchments tributary to POI 1.

Sub catchment 1S consists of approximately 0.35 acres of impervious and approximately 3,500 square feet of pervious area.

Sub catchment 2S consists of approximately 0.4 acres of building rooftop. Runoff from this area is tributary to the subsurface chamber system and tributary to POI 1.

Sub catchment 3S consists of approximately 7,669 square feet of impervious surfaces and approximately 1,416 square feet of vegetated area. Runoff from this area is treated by the focal point system prior to the subsurface chamber system and tributary to POI 1.

Given that the subsurface chamber system will be used for thermal treatment and downstream treatment from the focal point, detention of the stormwater runoff will be necessary to meet the requirements for this development.

Pond RT – Ferguson R-Tank™ HD Chambers

Pond RT is a subsurface storage basin that utilizes Ferguson R-Tank™ HD Chambers located beneath the proposed parking area to detain the runoff. The stormwater runoff from sub catchments 2S and 3S will enter the isolator rows through the storm drain system. The outflow has been modeled with a constant velocity of 0.01 cfs for absorption exfiltration. The subsurface basin has been analyzed to determine its performance for the 2-, 10-, and 25-year storms. Storms smaller than a two-year event will generate a runoff volume equal to or less than the channel protection volume provided at 691 cf. Larger storms will be conveyed through an overflow pipe into a drainage manhole with 6.5" and 9" orifices through a weir. The drainage manhole outlets to an existing pipe stub that will release flow to the downstream POI. Table 7 below presents the subsurface basin's performance.

TABLE 7 – SUBSURFACE BASIN			
	Storm Event		
	2-Year	10-Year	25-Year
Peak Inflow (CFS)	1.99	3.01	3.82
Peak Outflow (CFS)	1.13	2.21	3.16
Stage (Max. Elevation)	14.75	15.28	15.69
Detention Storage (CF)	1,594	1,967	2,161
Depth above base (FT)	2.40	2.93	3.33

A watershed map for the post development conditions is attached to this section as drawing number *POST* in Attachment A. Attachment B includes the TR-20 pond calculations. The following table presents a comparison of peak flow with detention.

TABLE 8 – PEAK FLOW COMPARISON WITH DETENTION			
Point of Interest	Peak Flow (CFS)		
	2 Year	10 Year	25 Year
POI 1			
Pre	2.22	3.95	5.36
Post	2.19	3.79	5.35

As can be seen from Table 8 above, the peak post development flow for POI 1 is at or below predevelopment levels.

#

1.4.3 Conclusion – Water Quantity

The peak flow at the Point of Interest has been reduced to be at or below predevelopment peak levels. As such, the project is not likely to have an adverse impact on abutting or downstream properties due to stormwater runoff. Approximately 1,756 square feet of the parcel is expected to drain to the adjacent storm drain system without any treatment. Due to the location of the existing sidewalk along the eastern portion of the site, along with the existing grades, the ability to treat this portion of the site is not feasible. The limited expected runoff from this small portion of untreated impervious area is not expected to have adverse impact on the pipe capacity of the adjacent storm drain system, which has been shown in the attached Pipe Capacity Calculations.

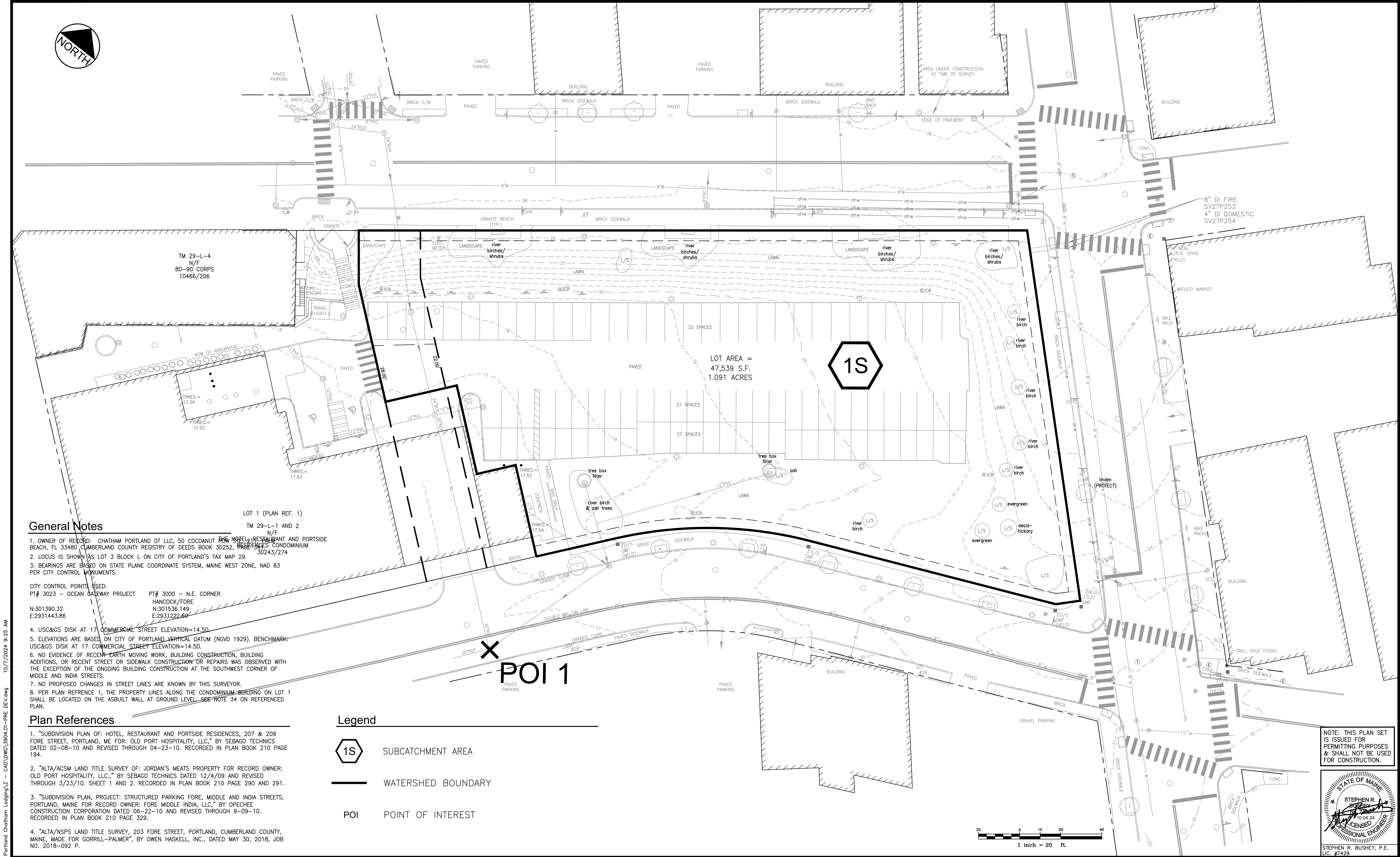
1.5 Conclusion

Gorrill Palmer has been retained by Chatham Portland DT, LLC to prepare plans and permit applications for the development of Home 2 Suites on the proposed parcel in Portland, Maine. Based upon the attached calculations, the proposed project meets or exceeds the water quality and water quantity regulations of the City of Portland and Chapter 500 of the MDEP and will not cause degradation of the receiving waters from the site or likely have an adverse impact on abutting or downstream properties due to the stormwater runoff.

1.6 Attachments

Attached to this section are the following items
Attachment A – Watershed Maps (Pre, Post)
Attachment B – TR-20 Calculations

ATTACHMENT A
WATERSHED MAPS



General Notes

- OWNER OF RECORD: CHATHAM PORTLAND DT LLC, 50 COCOANUT ROW HOTEL, RESTAURANT AND PORTSIDE BEACH, FL 33480 CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 30252, PARADES CONDOMINIUM 30243/274
- LOCUS IS SHOWN AS LOT 3 BLOCK L ON CITY OF PORTLAND'S TAX MAP 29.
- BEARINGS ARE BASED ON STATE PLANE COORDINATE SYSTEM, MAINE WEST ZONE, NAD 83 PER CITY CONTROL MONUMENTS.

CITY CONTROL POINTS USED:

PT# 3023 - OCEAN GATEWAY PROJECT

PT# 3000 - N.E. CORNER

N:301390.32
E:2931443.86

HANCOCK/FORE
N:301536.149
E:2931222.69

- USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50
- ELEVATIONS ARE BASED ON CITY OF PORTLAND VERTICAL DATUM (NGVD 1929). BENCHMARK: USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.
- NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, BUILDING ADDITIONS, OR RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS WAS OBSERVED WITH THE EXCEPTION OF THE ONGOING BUILDING CONSTRUCTION AT THE SOUTHWEST CORNER OF MIDDLE AND INDIA STREETS.
- NO PROPOSED CHANGES IN STREET LINES ARE KNOWN BY THIS SURVEYOR.
- PER PLAN REFERENCE 1, THE PROPERTY LINES ALONG THE CONDOMINIUM BUILDING ON LOT 1 SHALL BE LOCATED ON THE ASBUILT WALL AT GROUND LEVEL SEE NOTE 34 ON REFERENCED PLAN.

Plan References

- "SUBDIVISION PLAN OF: HOTEL, RESTAURANT AND PORTSIDE RESIDENCES, 207 & 209 FORE STREET, PORTLAND, ME FOR: OLD PORT HOSPITALITY, LLC." BY SEBAGO TECHINCS DATED 02-08-10 AND REVISED THROUGH 04-23-10. RECORDED IN PLAN BOOK 210 PAGE 194.
- "ALTA/ACSM LAND TITLE SURVEY OF: JORDAN'S MEATS PROPERTY FOR RECORD OWNER: OLD PORT HOSPITALITY, LLC." BY SEBAGO TECHINCS DATED 12/4/09 AND REVISED THROUGH 3/23/10. SHEET 1 AND 2. RECORDED IN PLAN BOOK 210 PAGE 290 AND 291.
- "SUBDIVISION PLAN, PROJECT: STRUCTURED PARKING FORE, MIDDLE AND INDIA STREETS, PORTLAND, MAINE FOR RECORD OWNER: FORE MIDDLE INDIA, LLC." BY OPECHEE CONSTRUCTION CORPORATION DATED 06-22-10 AND REVISED THROUGH 9-09-10. RECORDED IN PLAN BOOK 210 PAGE 329.
- "ALTA/NSPS LAND TITLE SURVEY, 203 FORE STREET, PORTLAND, CUMBERLAND COUNTY, MAINE, MADE FOR GORRILL-PALMER", BY OWEN HASKELL, INC., DATED MAY 30, 2018, JOB NO. 2018-092 P.

Legend



SUBCATCHMENT AREA

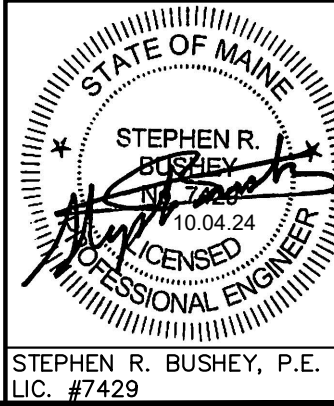


WATERSHED BOUNDARY

POI

POINT OF INTEREST

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.



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Rev.	Date	Revision

Rev.	Date	Revision
2	2024.10.04	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

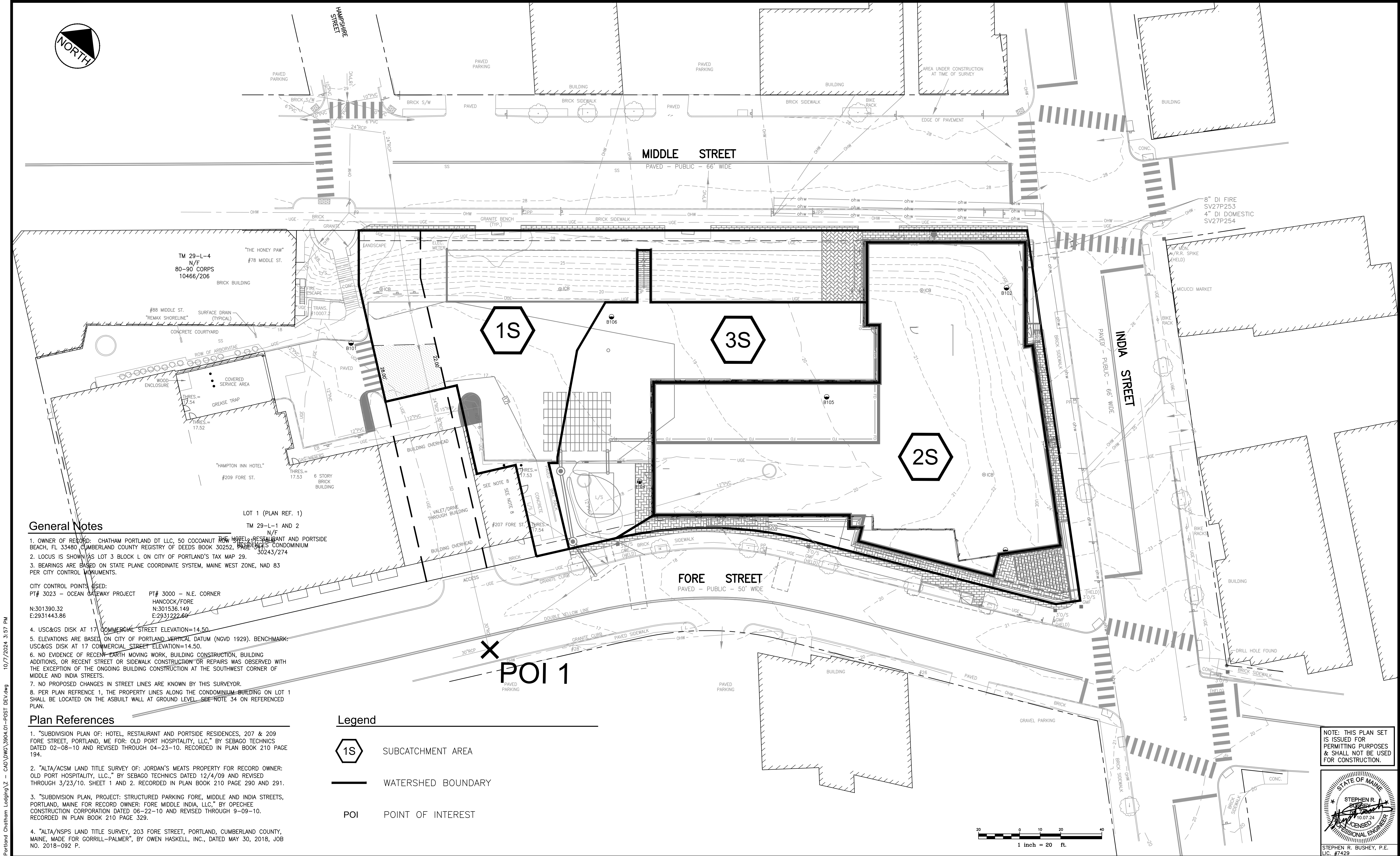
Design: SRB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-PRE DEV.dwg		
This plan shall not be modified without written permission from Gorriil Palmer. Any alterations, authorized or otherwise, shall be at the user's sole risk and without liability to Gorriil Palmer.		



Gorriil Palmer, an LJB Engineering Company
GorriilPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name:	PRE-DEVELOPMENT WATERSHED MAP
Project:	Home 2 Suites - 203 Fore Street Portland, Maine
Client:	Chatham Portland DT, LLC c/o Chatham Lodging Trust 222 Lakeview Avenue- Suite 200, West Palm Beach, FL 33401

Drawing No.
PRE



General Notes

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8. PER PLAN REFERENCE 1, THE PROPERTY LINES ALONG THE CONDOMINIUM BUILDING ON LOT 1 SHALL BE LOCATED ON THE ASBUILT WALL AT GROUND LEVEL SEE NOTE 34 ON REFERENCED PLAN.

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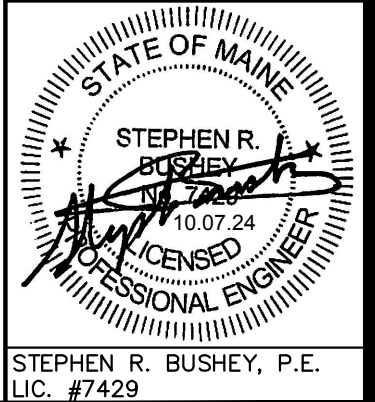
Legend

1S SUBCATCHMENT AREA

WATERSHED BOUNDARY

POI POINT OF INTEREST

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.



Rev.	Date	Revision

Rev.	Date	Revision
2	2024.10.07	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-POST DEV.dwg		
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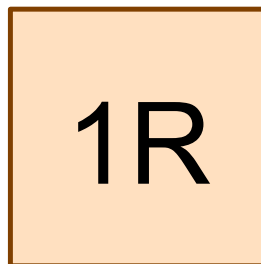
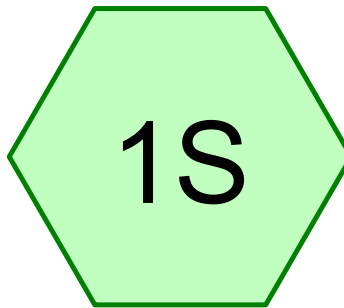
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An LJB Engineering Company

Gorriill Palmer, an LJB Engineering Company
GorriillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

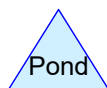
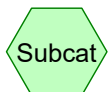
Drawing Name:	POST DEVELOPMENT WATERSHED MAP
Project:	Home 2 Suites - 203 Fore Street Portland, Maine
Client:	Chatham Portland DT, LLC c/o Chatham Lodging Trust 222 Lakeview Avenue- Suite 200, West Palm Beach, FL 33401

Drawing No.
POST

ATTACHMENT B
TR-20 CALCULATIONS



POI 1



Pre Development

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Type III 24-hr 2-YR Rainfall=3.10"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: 1S

Runoff Area=47,539 sf 45.14% Impervious Runoff Depth=1.67"

Tc=5.0 min CN=85 Runoff=2.22 cfs 0.152 af

Reach 1R: POI 1

Inflow=2.22 cfs 0.152 af

Outflow=2.22 cfs 0.152 af

Total Runoff Area = 1.091 ac Runoff Volume = 0.152 af Average Runoff Depth = 1.67"
54.86% Pervious = 0.599 ac 45.14% Impervious = 0.493 ac

Pre Development

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Type III 24-hr 10-YR Rainfall=4.60"

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Page 3

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: 1S

Runoff Area=47,539 sf 45.14% Impervious Runoff Depth=3.00"

Tc=5.0 min CN=85 Runoff=3.95 cfs 0.273 af

Reach 1R: POI 1

Inflow=3.95 cfs 0.273 af

Outflow=3.95 cfs 0.273 af

Total Runoff Area = 1.091 ac Runoff Volume = 0.273 af Average Runoff Depth = 3.00"
54.86% Pervious = 0.599 ac 45.14% Impervious = 0.493 ac

Pre Development

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Type III 24-hr 25-YR Rainfall=5.80"

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Page 1

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: 1S

Runoff Area=47,539 sf 45.14% Impervious Runoff Depth=4.11"

Tc=5.0 min CN=85 Runoff=5.36 cfs 0.374 af

Reach 1R: POI 1

Inflow=5.36 cfs 0.374 af

Outflow=5.36 cfs 0.374 af

Total Runoff Area = 1.091 ac Runoff Volume = 0.374 af Average Runoff Depth = 4.11"
54.86% Pervious = 0.599 ac 45.14% Impervious = 0.493 ac

Pre Development

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Type III 24-hr 25-YR Rainfall=5.80"

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Page 2

Summary for Subcatchment 1S: 1S

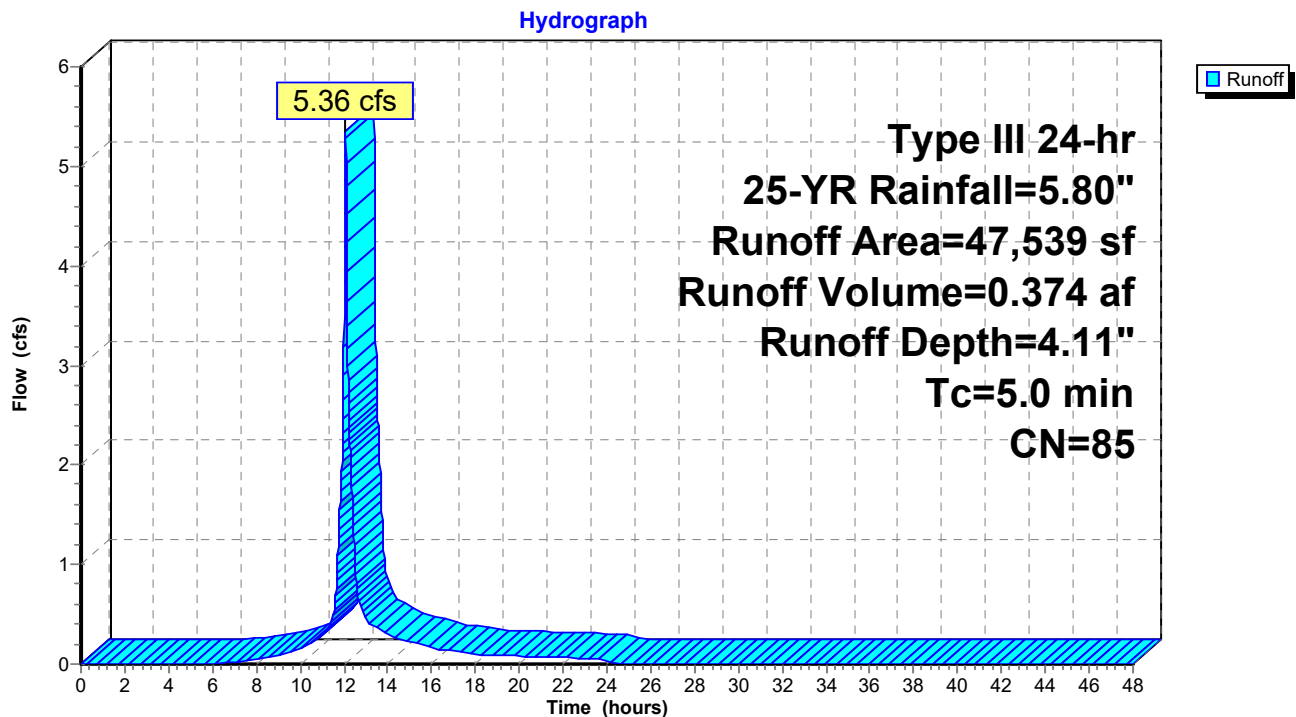
Runoff = 5.36 cfs @ 12.07 hrs, Volume= 0.374 af, Depth= 4.11"
Routed to Reach 1R : POI 1

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

	Area (sf)	CN	Description
*	21,457	98	Impervious
	26,082	74	>75% Grass cover, Good, HSG C
	47,539	85	Weighted Average
	26,082		54.86% Pervious Area
	21,457		45.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, dIRECT eNTRY

Subcatchment 1S: 1S



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Type III 24-hr 25-YR Rainfall=5.80"

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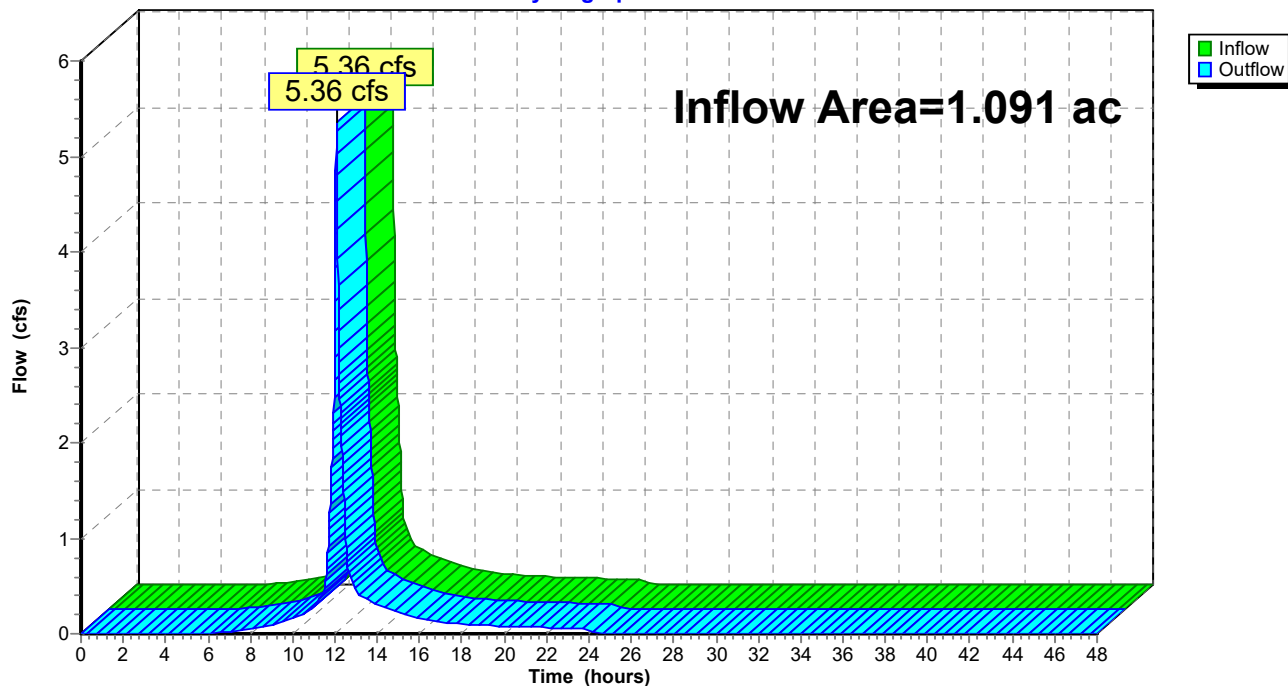
Summary for Reach 1R: POI 1

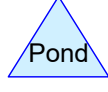
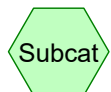
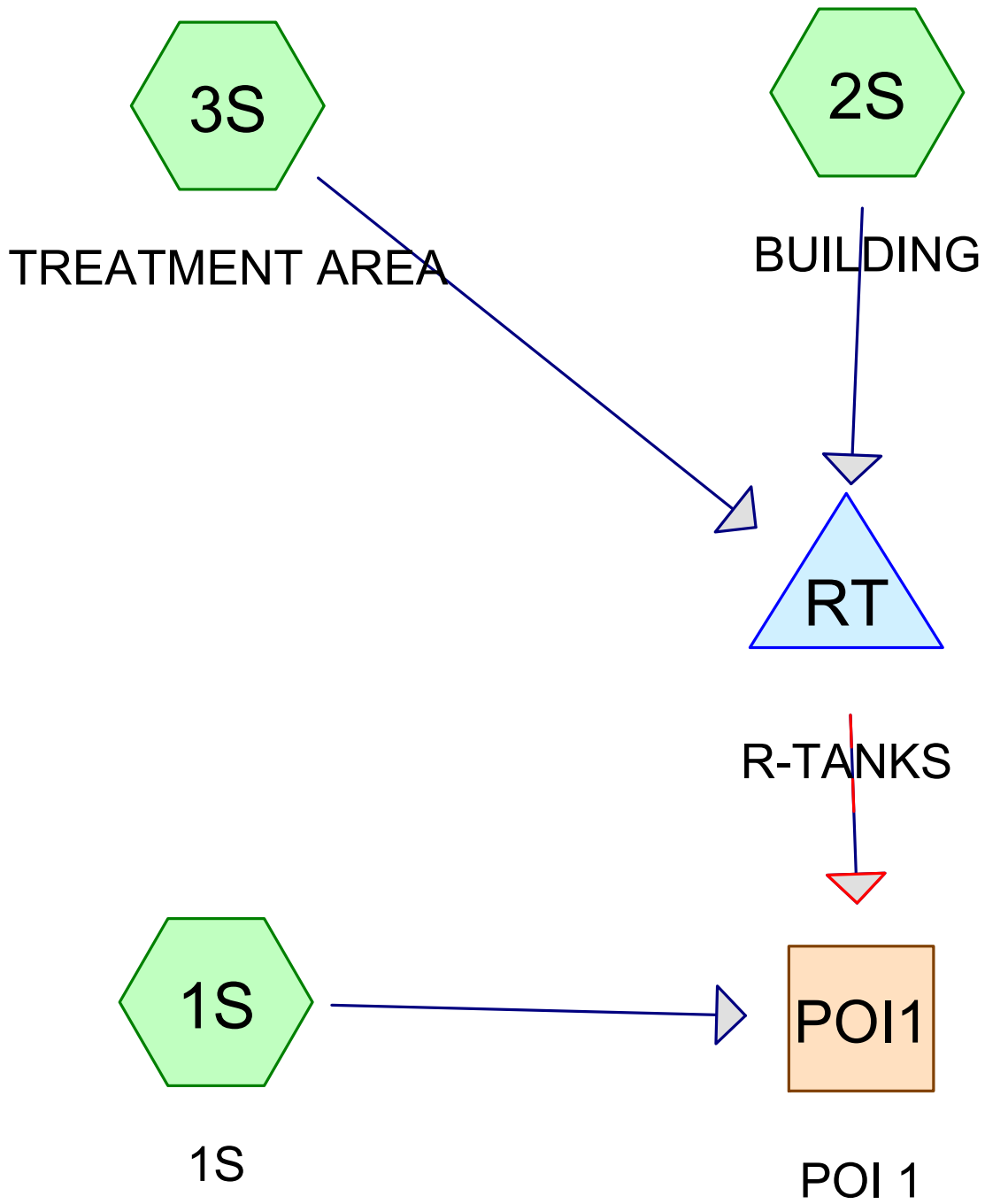
Inflow Area = 1.091 ac, 45.14% Impervious, Inflow Depth = 4.11" for 25-YR event
Inflow = 5.36 cfs @ 12.07 hrs, Volume= 0.374 af
Outflow = 5.36 cfs @ 12.07 hrs, Volume= 0.374 af, Atten= 0%, Lag= 0.0 min

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

Reach 1R: POI 1

Hydrograph





Post Development

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Type III 24-hr 2-YR Rainfall=3.10"

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Page 2

Time span=0.00-100.00 hrs, dt=0.01 hrs, 10001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: 1S

Runoff Area=18,953 sf 81.16% Impervious Runoff Depth=2.35"

Tc=5.0 min CN=93 Runoff=1.21 cfs 0.085 af

Subcatchment2S: BUILDING

Runoff Area=19,500 sf 100.00% Impervious Runoff Depth=2.87"

Tc=5.0 min CN=98 Runoff=1.39 cfs 0.107 af

Subcatchment3S: TREATMENT AREA

Runoff Area=9,085 sf 84.41% Impervious Runoff Depth=2.45"

Tc=5.0 min CN=94 Runoff=0.60 cfs 0.043 af

Reach POI1: POI 1

Inflow=2.19 cfs 0.235 af

Outflow=2.19 cfs 0.235 af

Pond RT: R-TANKS

Peak Elev=14.75' Storage=1,594 cf Inflow=1.99 cfs 0.150 af

Primary=0.01 cfs 0.034 af Secondary=1.12 cfs 0.115 af Outflow=1.13 cfs 0.150 af

Total Runoff Area = 1.091 ac Runoff Volume = 0.235 af Average Runoff Depth = 2.58"
10.49% Pervious = 0.114 ac 89.51% Impervious = 0.977 ac

Post Development

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Type III 24-hr 10-YR Rainfall=4.60"

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Time span=0.00-100.00 hrs, dt=0.01 hrs, 10001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: 1S

Runoff Area=18,953 sf 81.16% Impervious Runoff Depth=3.81"

Tc=5.0 min CN=93 Runoff=1.90 cfs 0.138 af

Subcatchment2S: BUILDING

Runoff Area=19,500 sf 100.00% Impervious Runoff Depth=4.36"

Tc=5.0 min CN=98 Runoff=2.08 cfs 0.163 af

Subcatchment3S: TREATMENT AREA

Runoff Area=9,085 sf 84.41% Impervious Runoff Depth=3.91"

Tc=5.0 min CN=94 Runoff=0.93 cfs 0.068 af

Reach POI1: POI 1

Inflow=3.79 cfs 0.369 af

Outflow=3.79 cfs 0.369 af

Pond RT: R-TANKS

Peak Elev=15.28' Storage=1,967 cf Inflow=3.01 cfs 0.231 af

Primary=0.01 cfs 0.035 af Secondary=2.20 cfs 0.196 af Outflow=2.21 cfs 0.231 af

Total Runoff Area = 1.091 ac Runoff Volume = 0.369 af Average Runoff Depth = 4.06"
10.49% Pervious = 0.114 ac 89.51% Impervious = 0.977 ac

Post Development

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Type III 24-hr 25-YR Rainfall=5.80"

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Time span=0.00-100.00 hrs, dt=0.01 hrs, 10001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: 1S

Runoff Area=18,953 sf 81.16% Impervious Runoff Depth=4.99"

Tc=5.0 min CN=93 Runoff=2.45 cfs 0.181 af

Subcatchment2S: BUILDING

Runoff Area=19,500 sf 100.00% Impervious Runoff Depth=5.56"

Tc=5.0 min CN=98 Runoff=2.64 cfs 0.207 af

Subcatchment3S: TREATMENT AREA

Runoff Area=9,085 sf 84.41% Impervious Runoff Depth=5.10"

Tc=5.0 min CN=94 Runoff=1.19 cfs 0.089 af

Reach POI1: POI 1

Inflow=5.35 cfs 0.477 af

Outflow=5.35 cfs 0.477 af

Pond RT: R-TANKS

Peak Elev=15.69' Storage=2,161 cf Inflow=3.82 cfs 0.296 af

Primary=0.01 cfs 0.036 af Secondary=3.15 cfs 0.260 af Outflow=3.16 cfs 0.296 af

Total Runoff Area = 1.091 ac Runoff Volume = 0.477 af Average Runoff Depth = 5.24"
10.49% Pervious = 0.114 ac 89.51% Impervious = 0.977 ac

Post Development

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Type III 24-hr 25-YR Rainfall=5.80"

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Summary for Subcatchment 1S: 1S

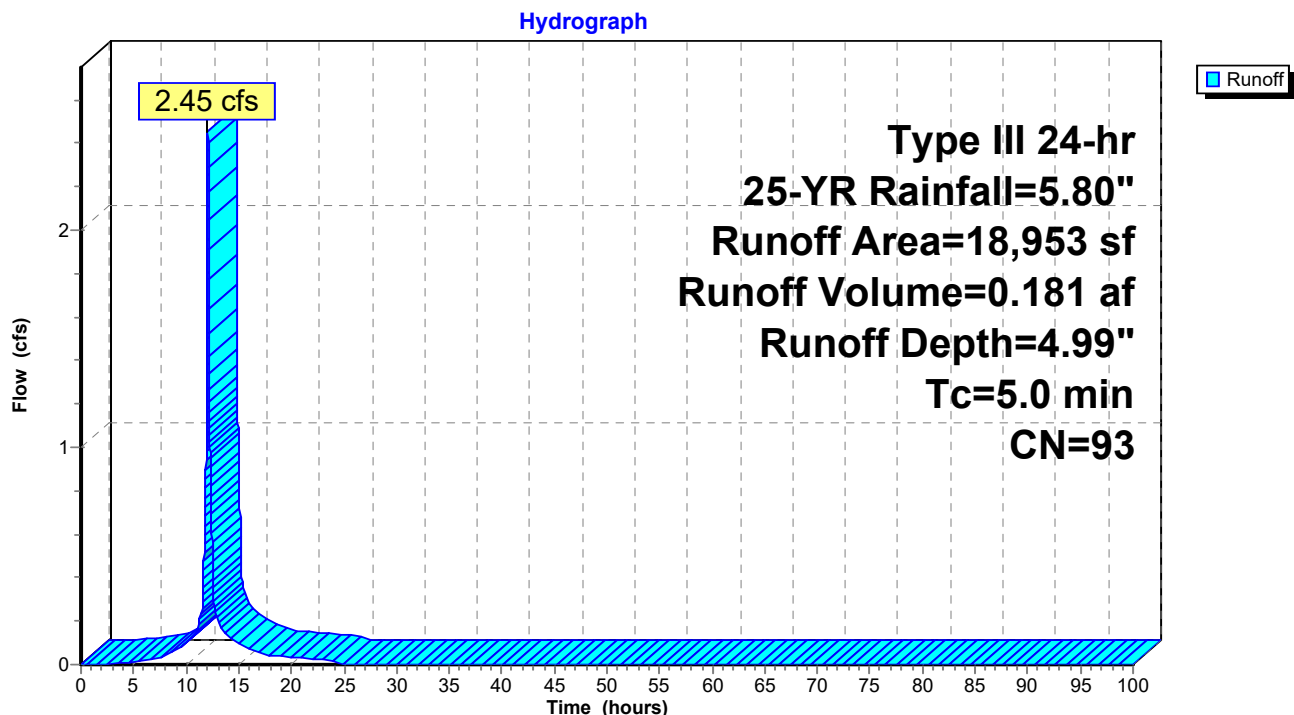
Runoff = 2.45 cfs @ 12.07 hrs, Volume= 0.181 af, Depth= 4.99"
Routed to Reach POI1 : POI 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
10,379	98	Paved parking, HSG C
3,570	74	>75% Grass cover, Good, HSG C
5,004	98	Roofs, HSG C
18,953	93	Weighted Average
3,570		18.84% Pervious Area
15,383		81.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, dIRECT eNTRY

Subcatchment 1S: 1S



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Type III 24-hr 25-YR Rainfall=5.80"

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Summary for Subcatchment 2S: BUILDING

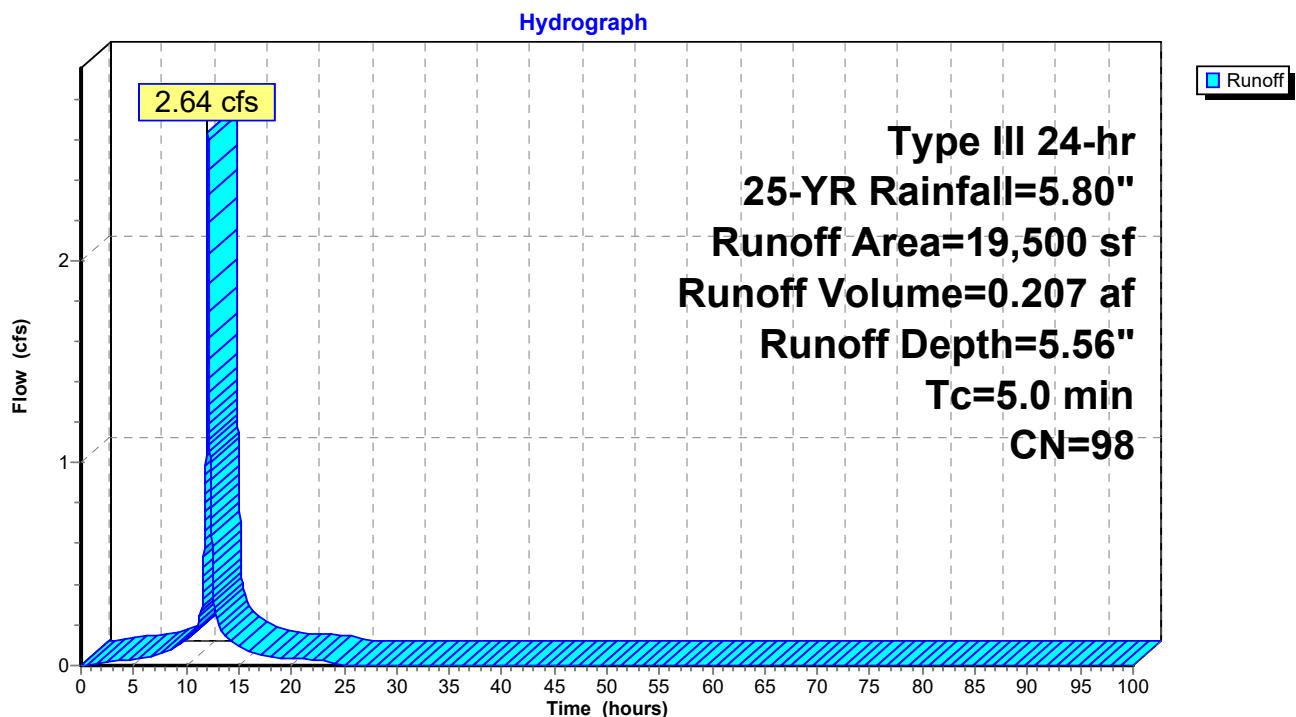
Runoff = 2.64 cfs @ 12.07 hrs, Volume= 0.207 af, Depth= 5.56"
Routed to Pond RT : R-TANKS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
19,500	98	Roofs, HSG C
19,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, dIRECT eNTRY

Subcatchment 2S: BUILDING



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Type III 24-hr 25-YR Rainfall=5.80"

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Summary for Subcatchment 3S: TREATMENT AREA

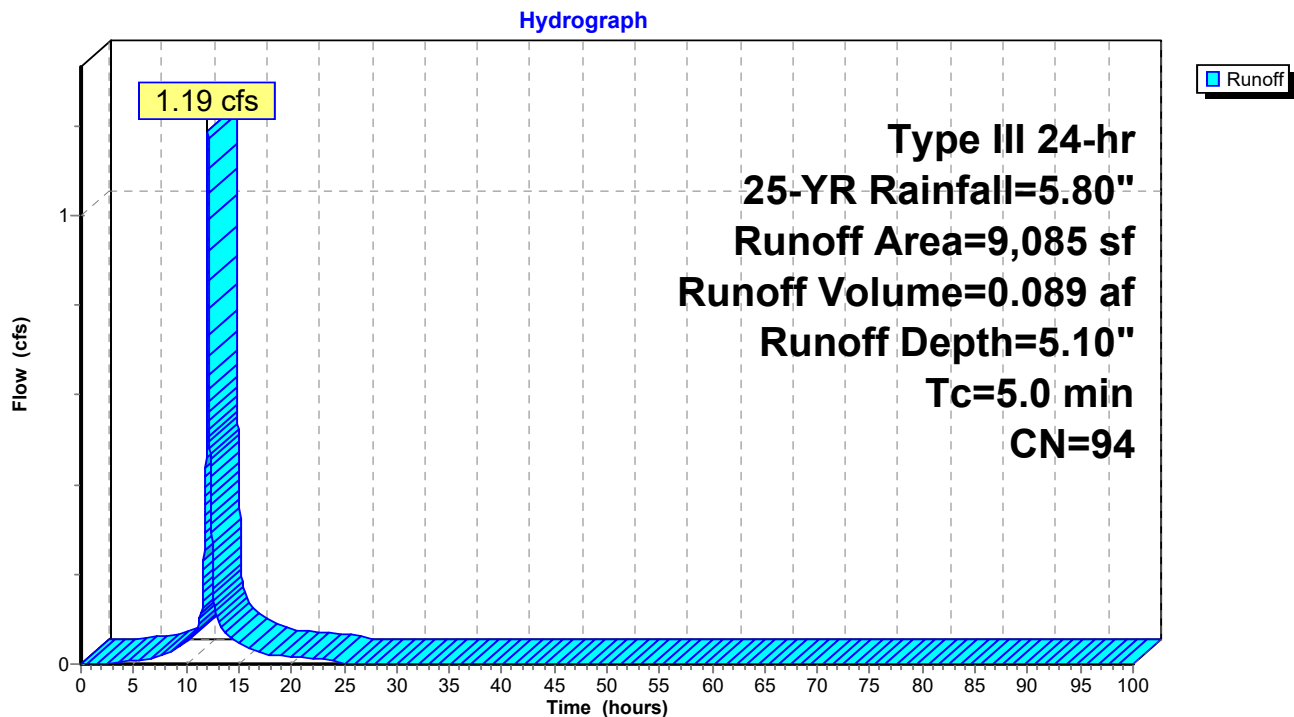
Runoff = 1.19 cfs @ 12.07 hrs, Volume= 0.089 af, Depth= 5.10"
Routed to Pond RT : R-TANKS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
7,669	98	Paved parking, HSG C
1,416	74	>75% Grass cover, Good, HSG C
9,085	94	Weighted Average
1,416		15.59% Pervious Area
7,669		84.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, dIRECT eNTRY

Subcatchment 3S: TREATMENT AREA



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Type III 24-hr 25-YR Rainfall=5.80"

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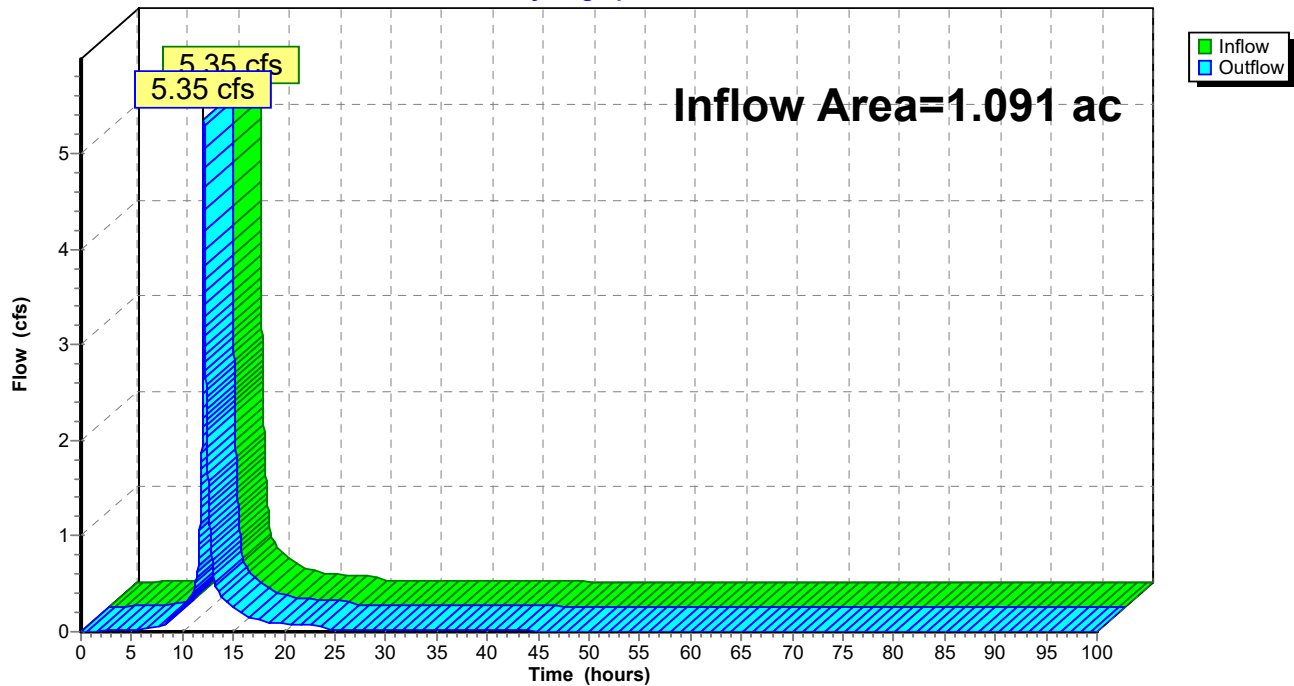
Summary for Reach POI1: POI 1

Inflow Area = 1.091 ac, 89.51% Impervious, Inflow Depth = 5.24" for 25-YR event
Inflow = 5.35 cfs @ 12.10 hrs, Volume= 0.477 af
Outflow = 5.35 cfs @ 12.10 hrs, Volume= 0.477 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

Reach POI1: POI 1

Hydrograph



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Type III 24-hr 25-YR Rainfall=5.80"

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Summary for Pond RT: R-TANKS

Inflow Area = 0.656 ac, 95.05% Impervious, Inflow Depth = 5.41" for 25-YR event
Inflow = 3.82 cfs @ 12.07 hrs, Volume= 0.296 af
Outflow = 3.16 cfs @ 12.12 hrs, Volume= 0.296 af, Atten= 17%, Lag= 3.0 min
Primary = 0.01 cfs @ 2.77 hrs, Volume= 0.036 af
Routed to Reach POI1 : POI 1
Secondary = 3.15 cfs @ 12.12 hrs, Volume= 0.260 af
Routed to Reach POI1 : POI 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Peak Elev= 15.69' @ 12.12 hrs Surf.Area= 1,733 sf Storage= 2,161 cf

Plug-Flow detention time= 105.3 min calculated for 0.296 af (100% of inflow)
Center-of-Mass det. time= 105.4 min (857.2 - 751.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	12.35'	682 cf	31.56'W x 27.46'L x 4.07'H Field A 3,528 cf Overall - 1,824 cf Embedded = 1,704 cf x 40.0% Voids
#2A	12.60'	1,733 cf	Ferguson R-Tank HD 2 x 210 Inside #1 Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf 210 Chambers in 21 Rows
#3	15.68'	116 cf	27.50'W x 31.50'L x 0.67'H Backfill above R-Tanks 580 cf Overall x 20.0% Voids
		2,531 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Device 2	15.68'	6.0' 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
#2	Secondary	12.60'	12.0" Round Culvert L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 12.60' / 12.52' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Primary	12.35'	0.01 cfs Exfiltration at all elevations
#4	Device 2	13.46'	6.5" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Device 2	14.75'	9.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.01 cfs @ 2.77 hrs HW=12.39' TW=0.00' (Dynamic Tailwater)

↑ **3=Exfiltration** (Exfiltration Controls 0.01 cfs)

Secondary OutFlow Max=3.15 cfs @ 12.12 hrs HW=15.69' TW=0.00' (Dynamic Tailwater)

↑ **2=Culvert** (Passes 3.15 cfs of 4.80 cfs potential flow)

↑ **1=Broad-Crested Rectangular Weir** (Weir Controls 0.01 cfs @ 0.21 fps)

↑ **4=Orifice/Grate** (Orifice Controls 1.55 cfs @ 6.73 fps)

↑ **5=Orifice/Grate** (Orifice Controls 1.59 cfs @ 3.60 fps)

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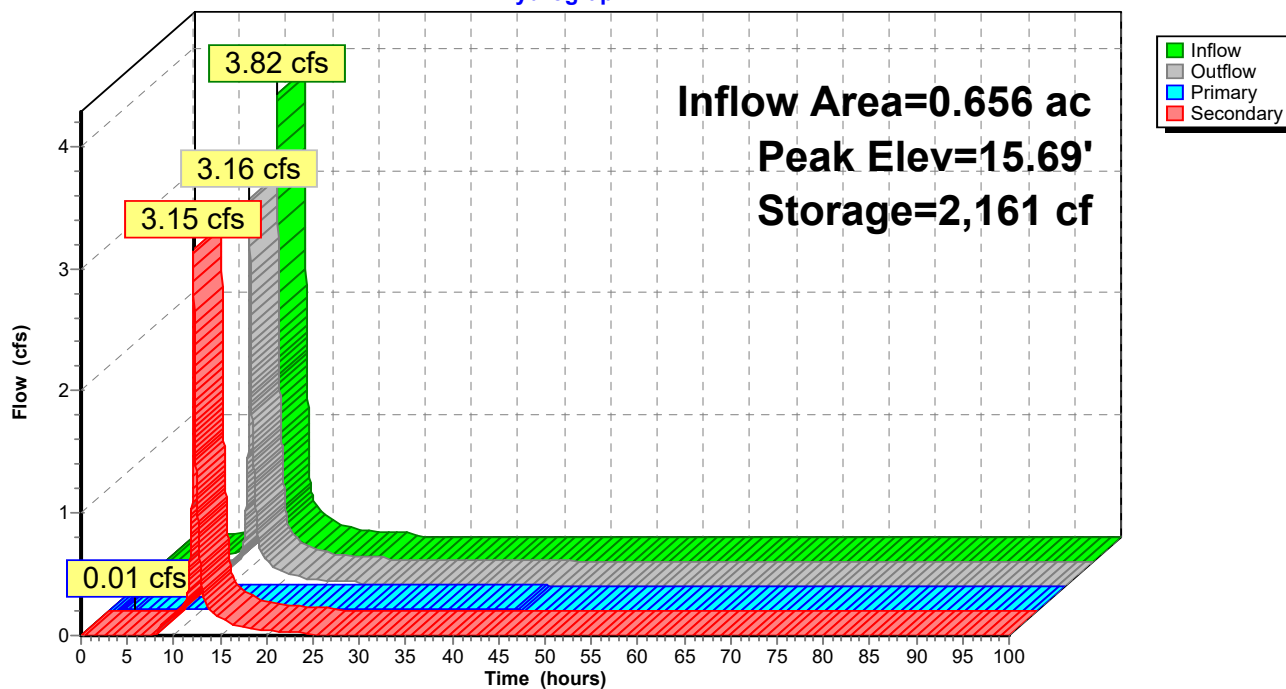
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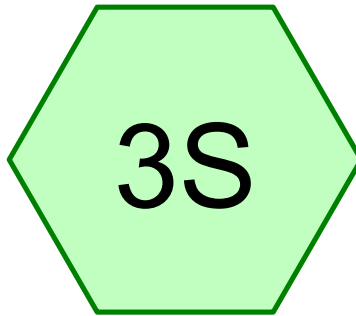
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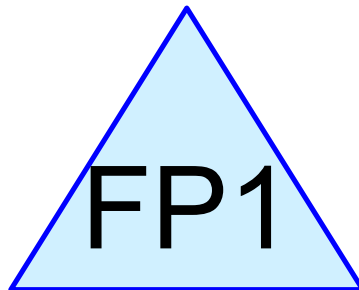
Pond RT: R-TANKS

Hydrograph

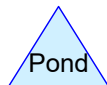
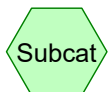




TREATMENT AREA



Focal Point 1



Routing Diagram for Post Development

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Type III 24-hr 2-YR Rainfall=3.10"

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Page 2

Time span=0.00-100.00 hrs, dt=0.01 hrs, 10001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment3S: TREATMENT AREA

Runoff Area=9,085 sf 84.41% Impervious Runoff Depth=2.45"

Tc=5.0 min CN=94 Runoff=0.60 cfs 0.043 af

Pond FP1: Focal Point 1

Peak Elev=16.06' Storage=25 cf Inflow=0.60 cfs 0.043 af

Primary=0.52 cfs 0.043 af Secondary=0.00 cfs 0.000 af Outflow=0.52 cfs 0.043 af

Total Runoff Area = 0.209 ac Runoff Volume = 0.043 af Average Runoff Depth = 2.45"
15.59% Pervious = 0.033 ac 84.41% Impervious = 0.176 ac

Post Development

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Type III 24-hr 2-YR Rainfall=3.10"

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Summary for Subcatchment 3S: TREATMENT AREA

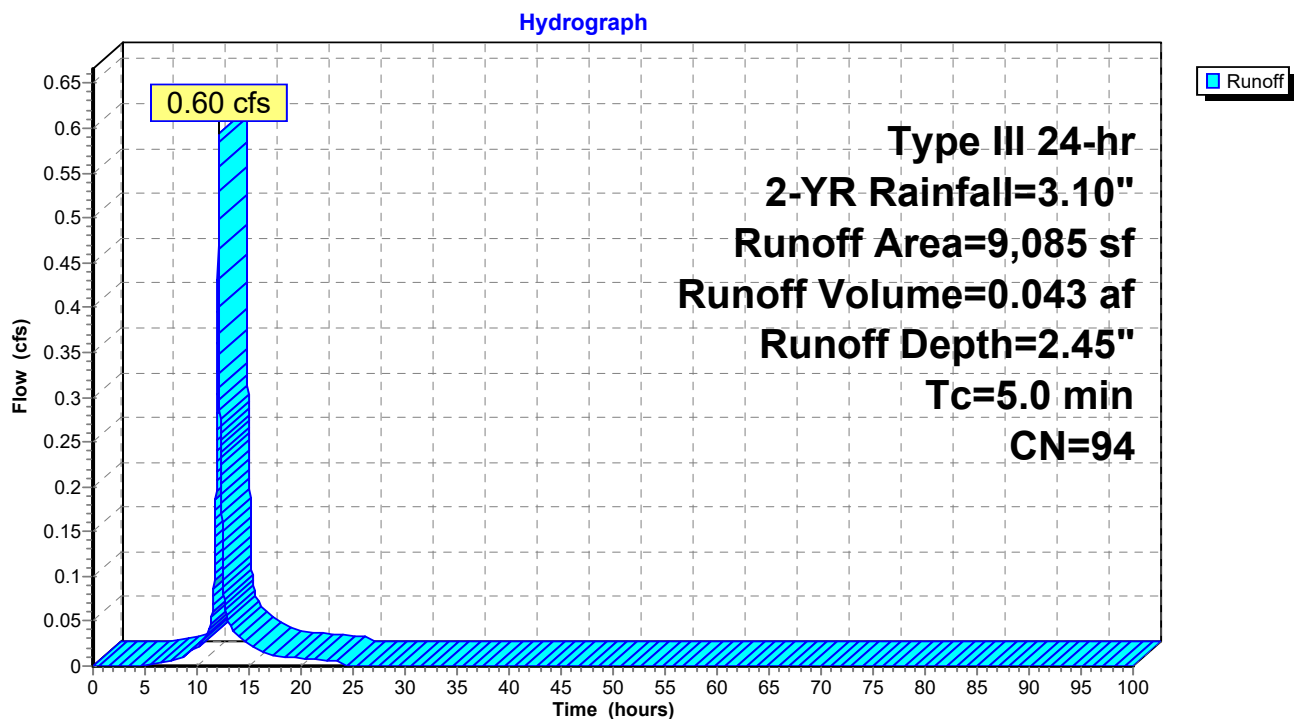
Runoff = 0.60 cfs @ 12.07 hrs, Volume= 0.043 af, Depth= 2.45"
Routed to Pond FP1 : Focal Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
7,669	98	Paved parking, HSG C
1,416	74	>75% Grass cover, Good, HSG C
9,085	94	Weighted Average
1,416		15.59% Pervious Area
7,669		84.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, dIRECT eNTRY

Subcatchment 3S: TREATMENT AREA



Post Development

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Type III 24-hr 2-YR Rainfall=3.10"

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Summary for Pond FP1: Focal Point 1

Inflow Area = 0.209 ac, 84.41% Impervious, Inflow Depth = 2.45" for 2-YR event
Inflow = 0.60 cfs @ 12.07 hrs, Volume= 0.043 af
Outflow = 0.52 cfs @ 12.11 hrs, Volume= 0.043 af, Atten= 13%, Lag= 2.5 min
Primary = 0.52 cfs @ 12.11 hrs, Volume= 0.043 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

Peak Elev= 16.06' @ 12.11 hrs Surf.Area= 225 sf Storage= 25 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 0.2 min (787.4 - 787.2)

Volume	Invert	Avail.Storage	Storage Description
#1	12.80'	0 cf	5.00'W x 19.00'L x 2.25'H Focal Point 214 cf Overall x 0.0% Voids
#2	15.84'	227 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
		227 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
15.84	95	0	0
16.00	119	17	17
16.50	206	81	98
17.00	310	129	227

Device	Routing	Invert	Outlet Devices
#1	Primary	12.80'	100.000 in/hr Exfiltration over Surface area Phase-In= 0.10'
#2	Secondary	16.34'	12.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.52 cfs @ 12.11 hrs HW=16.06' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.52 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=12.80' (Free Discharge)

↑**2=Orifice/Grate** (Controls 0.00 cfs)

Post Development

Prepared by LJB, Inc

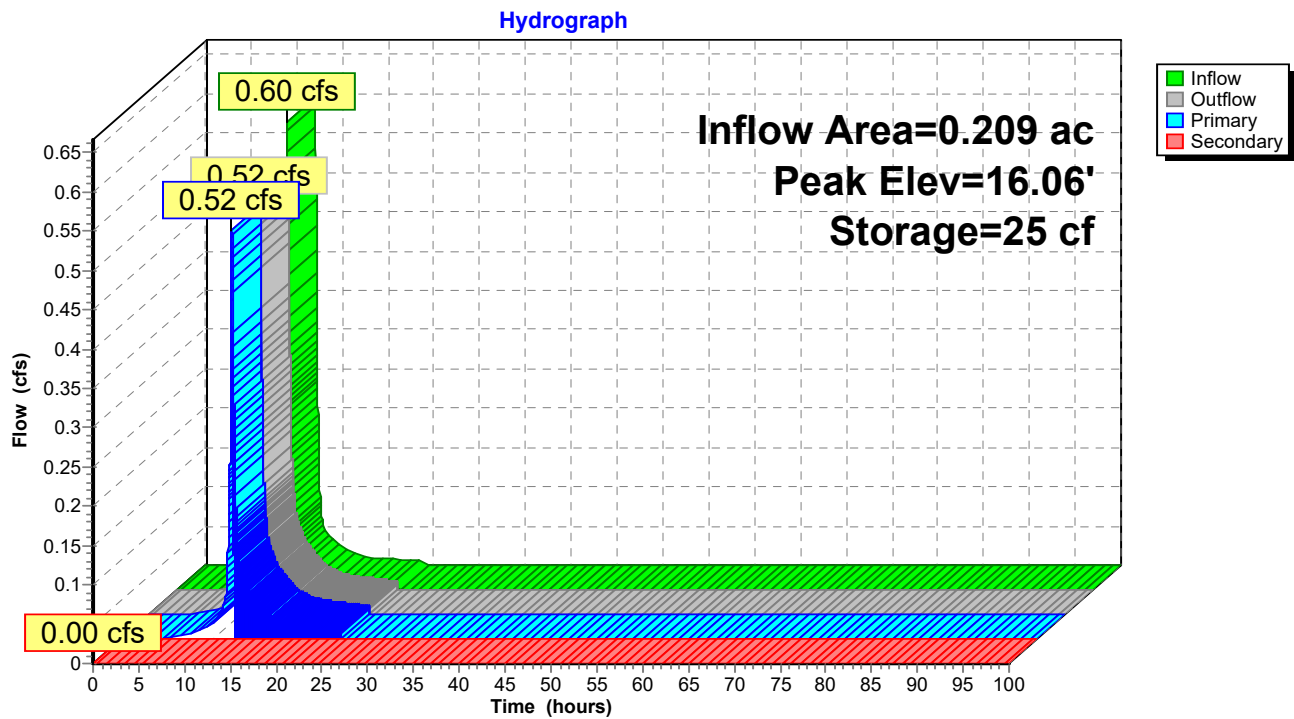
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Type III 24-hr 2-YR Rainfall=3.10"

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Pond FP1: Focal Point 1



Post Development

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Type III 24-hr 10-YR Rainfall=4.60"

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Time span=0.00-100.00 hrs, dt=0.01 hrs, 10001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment3S: TREATMENT AREA

Runoff Area=9,085 sf 84.41% Impervious Runoff Depth=3.91"

Tc=5.0 min CN=94 Runoff=0.93 cfs 0.068 af

Pond FP1: Focal Point 1

Peak Elev=16.42' Storage=82 cf Inflow=0.93 cfs 0.068 af

Primary=0.66 cfs 0.067 af Secondary=0.21 cfs 0.001 af Outflow=0.88 cfs 0.068 af

Total Runoff Area = 0.209 ac Runoff Volume = 0.068 af Average Runoff Depth = 3.91"
15.59% Pervious = 0.033 ac 84.41% Impervious = 0.176 ac

Post Development

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Type III 24-hr 10-YR Rainfall=4.60"

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Summary for Subcatchment 3S: TREATMENT AREA

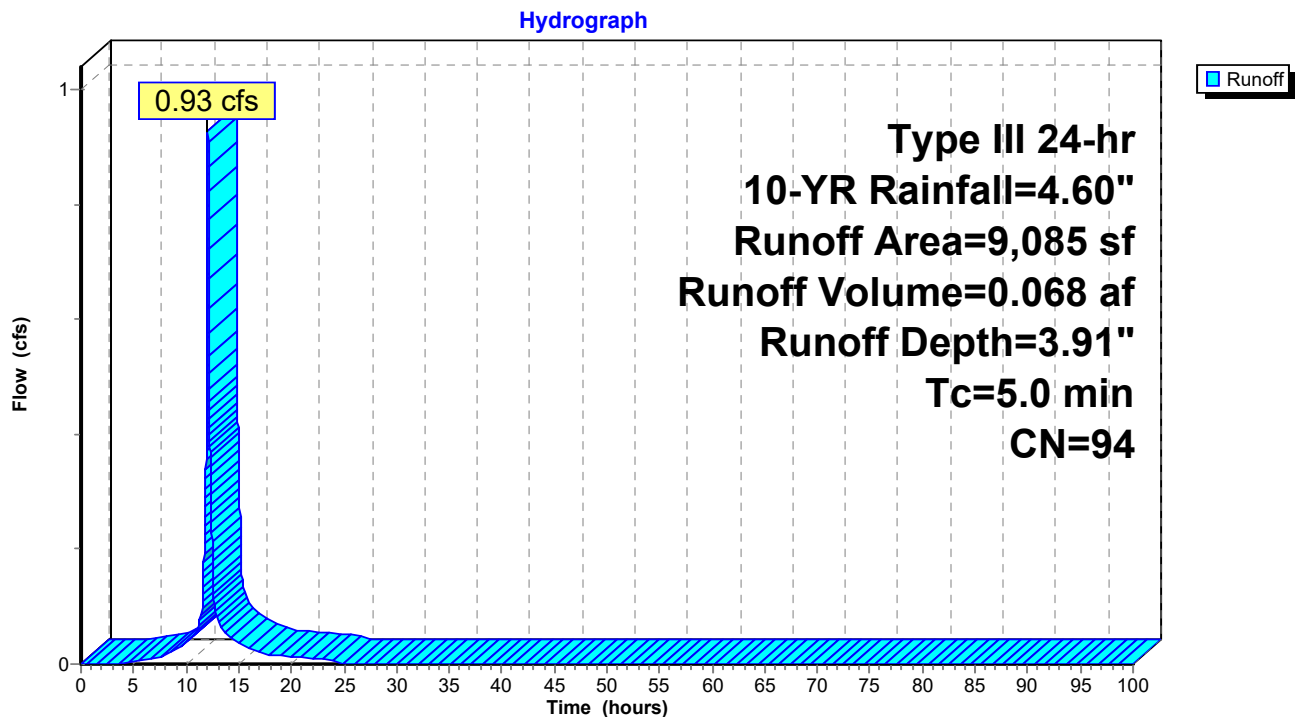
Runoff = 0.93 cfs @ 12.07 hrs, Volume= 0.068 af, Depth= 3.91"
Routed to Pond FP1 : Focal Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
7,669	98	Paved parking, HSG C
1,416	74	>75% Grass cover, Good, HSG C
9,085	94	Weighted Average
1,416		15.59% Pervious Area
7,669		84.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, dIRECT eNTRY

Subcatchment 3S: TREATMENT AREA



Post Development

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Type III 24-hr 10-YR Rainfall=4.60"

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Summary for Pond FP1: Focal Point 1

Inflow Area = 0.209 ac, 84.41% Impervious, Inflow Depth = 3.91" for 10-YR event
Inflow = 0.93 cfs @ 12.07 hrs, Volume= 0.068 af
Outflow = 0.88 cfs @ 12.10 hrs, Volume= 0.068 af, Atten= 5%, Lag= 1.6 min
Primary = 0.66 cfs @ 12.10 hrs, Volume= 0.067 af
Secondary = 0.21 cfs @ 12.10 hrs, Volume= 0.001 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

Peak Elev= 16.42' @ 12.10 hrs Surf.Area= 286 sf Storage= 82 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 0.4 min (775.3 - 774.9)

Volume	Invert	Avail.Storage	Storage Description
#1	12.80'	0 cf	5.00'W x 19.00'L x 2.25'H Focal Point 214 cf Overall x 0.0% Voids
#2	15.84'	227 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
		227 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
15.84	95	0	0
16.00	119	17	17
16.50	206	81	98
17.00	310	129	227

Device	Routing	Invert	Outlet Devices
#1	Primary	12.80'	100.000 in/hr Exfiltration over Surface area Phase-In= 0.10'
#2	Secondary	16.34'	12.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.66 cfs @ 12.10 hrs HW=16.42' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.66 cfs)

Secondary OutFlow Max=0.21 cfs @ 12.10 hrs HW=16.42' (Free Discharge)

↑**2=Orifice/Grate** (Weir Controls 0.21 cfs @ 0.90 fps)

Post Development

Prepared by LJB, Inc

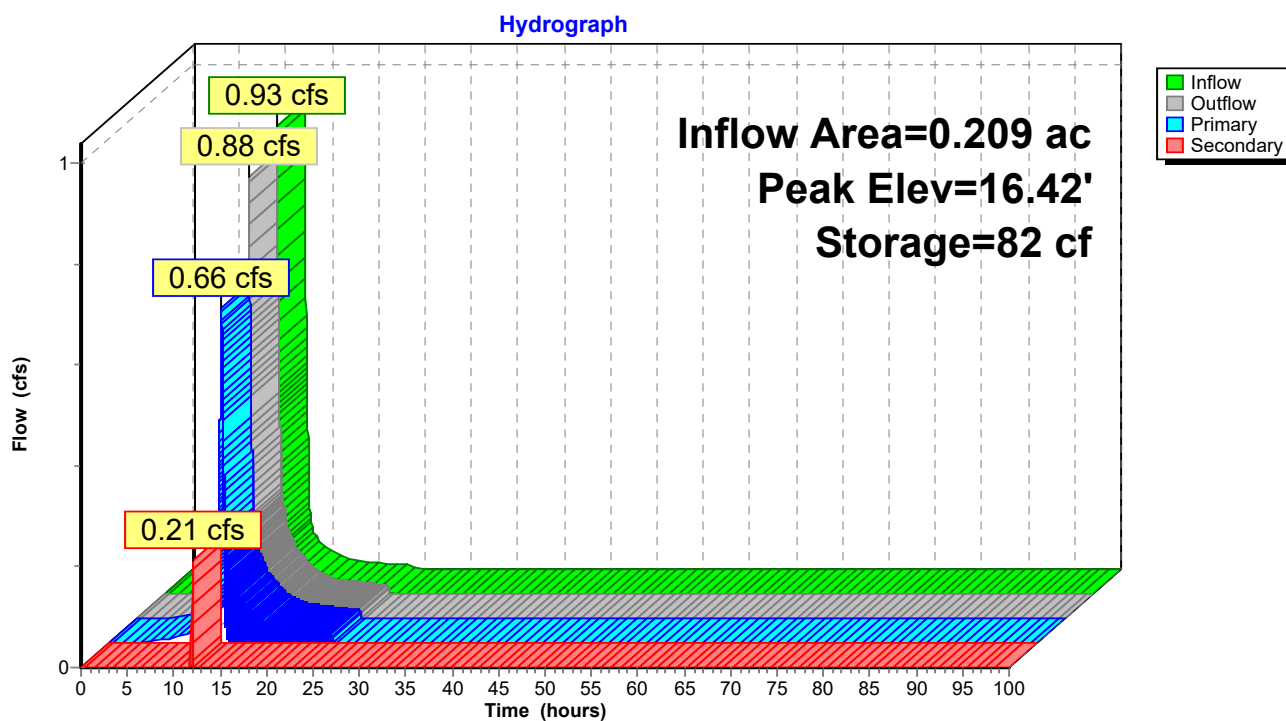
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Type III 24-hr 10-YR Rainfall=4.60"

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Pond FP1: Focal Point 1



Post Development

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Type III 24-hr 25-YR Rainfall=5.80"

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Time span=0.00-100.00 hrs, dt=0.01 hrs, 10001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment3S: TREATMENT AREA

Runoff Area=9,085 sf 84.41% Impervious Runoff Depth=5.10"

Tc=5.0 min CN=94 Runoff=1.19 cfs 0.089 af

Pond FP1: Focal Point 1

Peak Elev=16.47' Storage=93 cf Inflow=1.19 cfs 0.089 af

Primary=0.69 cfs 0.085 af Secondary=0.49 cfs 0.004 af Outflow=1.18 cfs 0.089 af

Total Runoff Area = 0.209 ac Runoff Volume = 0.089 af Average Runoff Depth = 5.10"
15.59% Pervious = 0.033 ac 84.41% Impervious = 0.176 ac

Post Development

Prepared by LJB, Inc

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Type III 24-hr 25-YR Rainfall=5.80"

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Summary for Subcatchment 3S: TREATMENT AREA

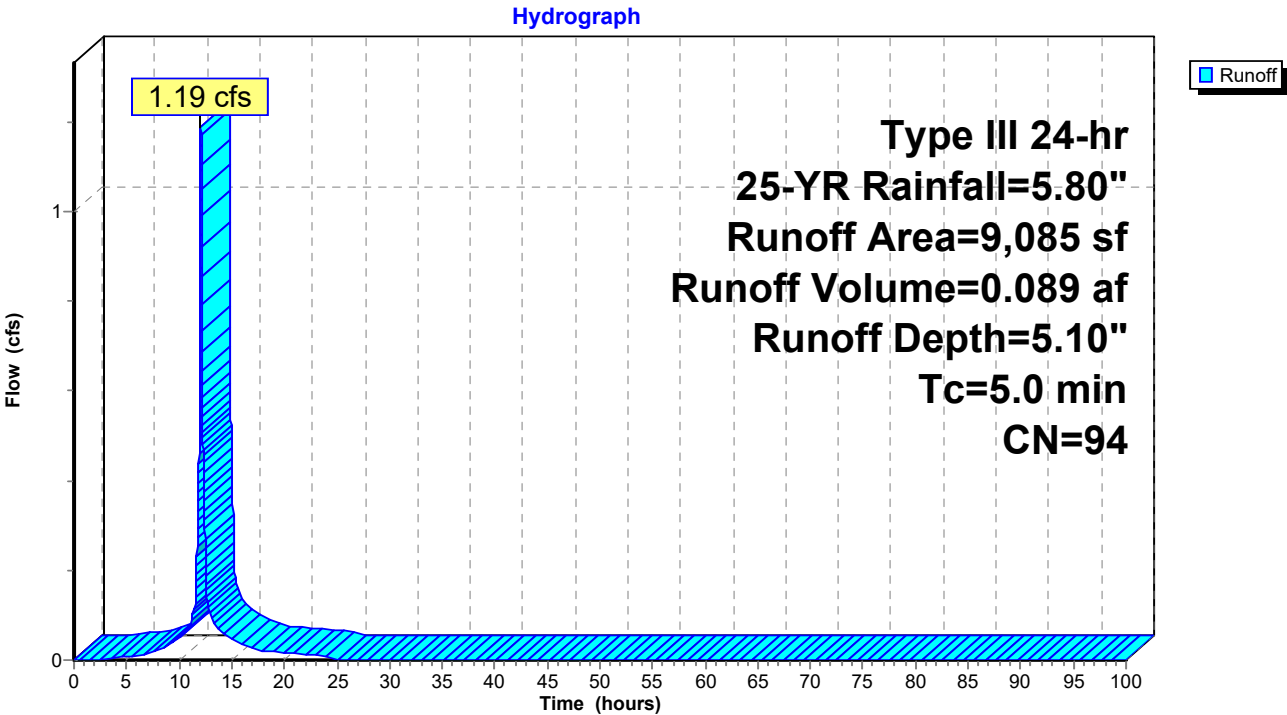
Runoff = 1.19 cfs @ 12.07 hrs, Volume= 0.089 af, Depth= 5.10"
Routed to Pond FP1 : Focal Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
7,669	98	Paved parking, HSG C
1,416	74	>75% Grass cover, Good, HSG C
9,085	94	Weighted Average
1,416		15.59% Pervious Area
7,669		84.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, dIRECT eNTRY

Subcatchment 3S: TREATMENT AREA



Post Development

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Type III 24-hr 25-YR Rainfall=5.80"

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Summary for Pond FP1: Focal Point 1

Inflow Area = 0.209 ac, 84.41% Impervious, Inflow Depth = 5.10" for 25-YR event
Inflow = 1.19 cfs @ 12.07 hrs, Volume= 0.089 af
Outflow = 1.18 cfs @ 12.08 hrs, Volume= 0.089 af, Atten= 1%, Lag= 0.7 min
Primary = 0.69 cfs @ 12.08 hrs, Volume= 0.085 af
Secondary = 0.49 cfs @ 12.08 hrs, Volume= 0.004 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

Peak Elev= 16.47' @ 12.08 hrs Surf.Area= 296 sf Storage= 93 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 0.5 min (768.9 - 768.5)

Volume	Invert	Avail.Storage	Storage Description
#1	12.80'	0 cf	5.00'W x 19.00'L x 2.25'H Focal Point 214 cf Overall x 0.0% Voids
#2	15.84'	227 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
		227 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
15.84	95	0	0
16.00	119	17	17
16.50	206	81	98
17.00	310	129	227

Device	Routing	Invert	Outlet Devices
#1	Primary	12.80'	100.000 in/hr Exfiltration over Surface area Phase-In= 0.10'
#2	Secondary	16.34'	12.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.69 cfs @ 12.08 hrs HW=16.47' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.69 cfs)

Secondary OutFlow Max=0.49 cfs @ 12.08 hrs HW=16.47' (Free Discharge)

↑**2=Orifice/Grate** (Weir Controls 0.49 cfs @ 1.19 fps)

Post Development

Prepared by LJB, Inc

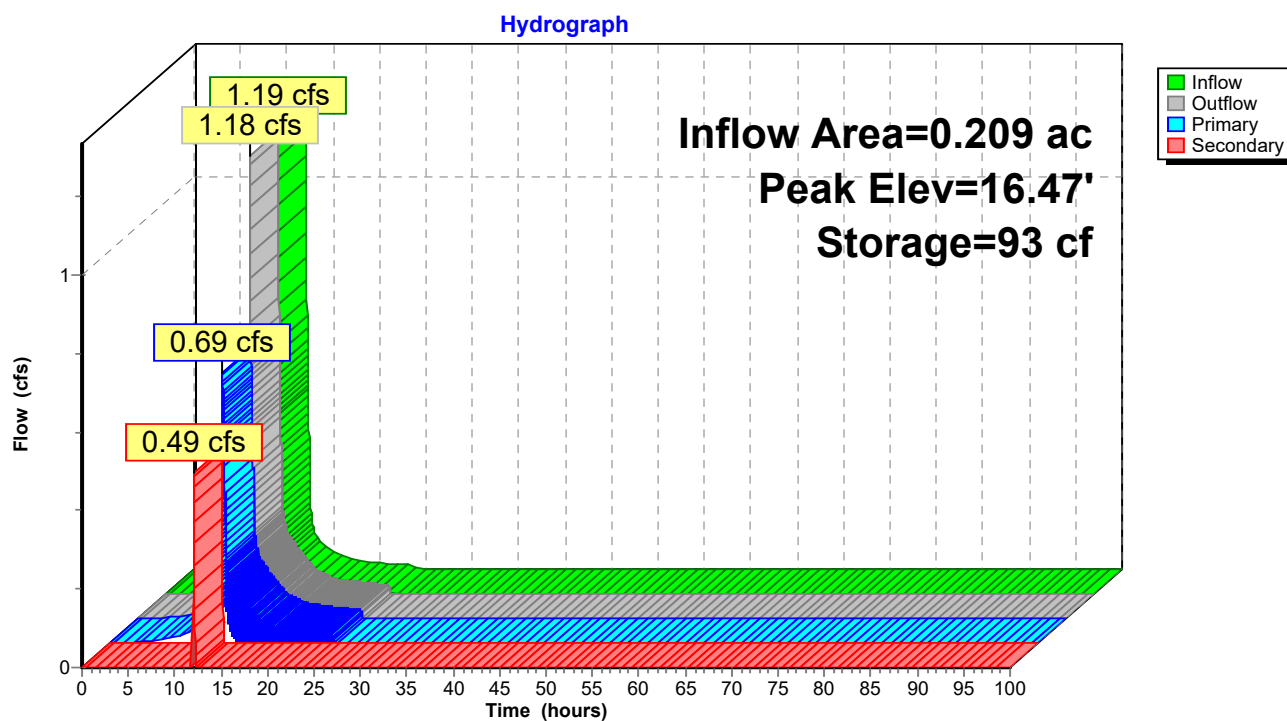
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Type III 24-hr 25-YR Rainfall=5.80"

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Pond FP1: Focal Point 1





300 Southborough Drive, Suite 200, South Portland, ME 04106
(207) 772-2515 | GorrillPalmer.com

I, Kaleb Bourassa, of Gorrill Palmer, hereby certify that a Neighborhood Meeting was held on Thursday, September 12th, 2024, at 5:30pm at the Hampton Inn Conference Room located at 209 Fore Street in Portland, ME for the proposed mixed-use Hotel and Retail development located at 203 Fore Street in Portland, ME.

I also certify that on August 27th, 2024 (at least 10 days prior to the neighborhood meeting), notices were mailed to the following:

1. All addresses on the mailing list provided by the Planning Division which includes property owners within 500 feet of the proposed development or within 1,000 feet of a proposed industrial subdivision or industrial zone change.
2. Residents on the "interested parties" list.

Signed,

Kaleb Bourassa, PE

Project Manager

Phone 207-772-2515 x297

KBourassa@GorrillPalmer.com

Attachment to this certification are:

1. Copy of notice sent
2. Sign-in Sheet
3. Record of Feedback (Meeting Notes)

u:\3904.01_home 2 suites portland chatham lodging\p applications\local\2024.09.12_neighborhood meeting\2024.10.04_neighborhood meeting certification.docx



STRUCTURAL



FALL PROTECTION
SAFETY



TRANSPORTATION



SITE DESIGN



SURVEY



WATER
RESOURCES



TECHNOLOGY
& INNOVATION

August 21, 2024

Dear Neighbor:

Please join us for a Neighborhood Meeting to discuss the proposed Major Site Plan application (PL-002892-2024) by Chatham Lodging Trust for a mixed-use Hotel (Home 2 Suites) and 5,000 SF Retail development project at 203 Fore Street in Portland, ME.

Meeting Location: Hampton Inn Conference Room - look for signs- enter off 209 Fore St.
Portland, ME 04103

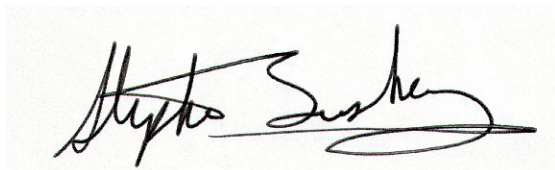
Meeting Date: Thursday September 12, 2024

Meeting Time: 5:30 PM – 6:30 PM

The City Code requires that property owners within 500 feet (except notices must be sent to property owners within 1,000 feet for industrial zoning map amendments and industrial subdivisions) of the proposed development and residents on an “interested parties list”, be invited to participate in a neighborhood meeting. We will take attendance and submit a sign-in sheet to the Planning Board. The meeting will last no more than 60 minutes. If you have any questions, please feel free to contact Stephen Bushey 207.772.2515 x286.

Sincerely,

GORRILL PALMER



Stephen Bushey, PE

Senior Associate

sbushey@gorrillpalmer.com/Sbushey@ljbinc.com

207-772-2515 ext. 286

Note: Under Section 14-32(C) and 14-525 of the City Code of Ordinances, an applicant for a Major Site plan development, subdivision of over five lots/units, or zone change is required to hold a neighborhood meeting within three weeks of submitting a preliminary application or two weeks of submitting a final site plan application, if a preliminary plan was not submitted. The neighborhood meeting must be held at least seven days prior to the Planning Board public hearing on the proposal. Should you wish to offer additional comments on this proposed development, you may contact the Planning Division at 874-8721 or send written correspondence to the Planning and Urban Development Department, Planning Division 4th Floor, 389 Congress Street, Portland, ME 04101.

U:\3904.01_Home 2 Suites Portland Chatham Lodging\G\Butters\neighborhood meeting notice 2024.08.20.docx



STRUCTURAL



FALL PROTECTION
SAFETY



TRANSPORTATION



SITE DESIGN
Page 126



SURVEY



WATER
RESOURCES



TECHNOLOGY
& INNOVATION

Chatham Lodging Trust – Home 2 Suites

Neighborhood Meeting September 12, 2024 – 203 Fore Street

Attendance List

Name	Property Location	Contact information
FOX, B	185 FORE ST	FOX.BARBARA1@GMAIL.COM
RICK JOHNSON	"	RICKJOH@MAE.COM
Kevin Rodel	167 Newbury St.	kprodel@gmail.com
JEAN PRINCIRE	167 NEWBURY	jean.principre@gmail.com
JULIA FLANDERS	22 HANCOCK ST	julia.s.flanders@gmail.com
Judith Katz-Leavy	22 Hancock St Apt 408	jkatzleavy@gmail.com
Sumba Inc	416 Fore St	genmarry@30x.com
Paula Foley Stelmack	207 Fore St Unit 1	MARKANDPAULA2020@gmail.com
Roy P Mae Lane	113 Newbury	mey.lane25@gmail.com
Mark Stelmack	207 Fore St, Unit 1	markandpaula2020@gmail.com
Bill Whitmore	35 Middle St	bwhitmore@portcv.org
Witold FitzSimon	146 NEWBURY ST	WITOLDFs@GMAIL.COM
STEVE KOFF	185 FORE ST	SKOFF@HE.COM
Gordon Carey	113 Newbury	Carey59@hotmail.com
Dan S. Groff	62 India St	Dan S. Groff@gmail.com
Vicki Friedman	113 Newbury	vfriedman@me.com
JACK SWAN	15 MIDDLE S	
HEATHER GLUEA	33 HAMPSHIRE ST	HOSTELHEATHER@GMAIL.COM
JANINE GLEASON	166 FORE ST, #26	J9Gleason@gmail.com
CHRISTINE MURKIN BROWN	207 Fore St #7	mrschris55@gmail.com
Marianne Vortech Oenhorst	62 India Street 205	kabobox@bellsouth.net
Cathy Roach	62 India St #206	cathyRoach1@gmail.com
Serena Powell & Dan Skinner	23 Hampshire St #1	SMPOWELL26@AHOI.COM

MEETING MINUTES

1. ATTENDEES

Presenters

Kaleb Bourassa (KB-GP), Gorrill Palmer
Kent Beirne (KB-PC), ProCon

Neighbors

See Sign-In Sheet for full list of Attendees

2. MINUTES

- Presenter introductions and explanation for purpose of meeting and current application process.
- **Kaleb Bourassa (KB-GP)** provided explanation for purpose of meeting, application process and current status of application. Noting additional comments and questions can be directed to the Planning Department.
- **Kent Beirne (KB-PC)** provided overview of building scope using slideshow presented on screen.
- Various questions and comments were heard and discussed as follows:
 - What does it mean for the project to be deemed complete? **KB-GP** responded that the basic application must contain certain materials as outlined in the Ordinance, application form, and application checklists.
 - When you say City Staff are reviewing, who is reviewing? **KB-GP** responded that the application will be reviewed by City Staff including Planning Staff and Engineering/Public Works Staff as well as other third-party peer reviewers that may be associated with the project. For instance, the City utilizes a third-party peer reviewer for Traffic reviews.
 - What happened to the project 5 years ago? **KB-PC** noted this is not the same project.
 - How does the process work? Where can we see these plans and application materials? **KB-GP** noted that currently, the Applicant has made an application which has been deemed complete and the design team is reviewing and responding to review comments from Staff. Once a response to comments and supplemental materials are provided to Staff and the neighborhood meeting is held, Planning Staff will place the application on a workshop agenda with the Planning Board. Then the project will continue through the Planning Board process.
 - Does the project require any variances? **KB-GP** noted the project does not currently require any variances.
 - Isn't this project located in a historic district? **KB-PC** responded that the project is not located in a historic district and that it is applicable to the India Street form-based code.

- What is being done for noise, lighting, construction management? **KB-PC** noted that a *Construction Management Plan* was submitted with the application. The Plan will include measures for noise and lighting including time of work.
- When will the project take place? **KB-PC** noted the hope is for the permitting process to take place this Fall/Winter 2024 with approvals in the Winter, allowing for construction in 2025.
- How tall is the building? How tall is the Hampton Inn? **KB-PC** noted the Hampton Inn will be taller than the proposed building by approximately 1-story. The proposed building will be 5-stories (54') along Fore Street and 4-stories (46') along Middle Street. The architectural plans noted the heights which were approximately,
- How is building height determined? **KB-PC** noted the building height is determined by the average height at the corners of the building. This has been taken into account in the current building design and will be finalized as the design is completed.
- How close will the building be to the road? **KB-PC** responded that the building needs to be located within 5' of the right-of-way boundary and, so, the building will be approximately at the back of the existing sidewalk and +/-10' from the curb.
- How far apart will the existing Hampton Inn and new hotel be? **KB-PC** noted that the buildings are located approximately 50' away.
- What are dimensions of building along Fore, India, and Middle Streets? **KB-PC** explained the requirements of the form-based code require modules/partitions to be included
- Will you be able to see the water from Middle Street? **KB-PC** stated that the same view will change since the lot is a parking lot currently. However, the form-based code includes a mid-block permeability requirement to provide an open space allowing visibility/connection between public streets. This is provided with the staircase from Middle Street and walkway to Fore Street which will go between the Hampton Inn and the proposed Homes 2 Suites.
- Where are other buildings on Middle Street in relation to this building? Not all buildings easily appeared on the plans presented on screen, however, **KB-GP** noted the Retail C and the edge of the patio area were in line with the Duckfat structure on Middle Street.
- How will parking be handled? There is not enough parking now. **KB-PC** the Applicant has contracted with UPP to handle the valet parking for both the Hampton Inn and the Homes 2 Suites. UPP will be able to provide sufficient parking to meet the needs of both properties. Additionally, 108 parking spaces are provided on site.
- Where will parking for existing condos and existing ADA spaces be located? What about Toast parking? How many parking spaces are there? **KB-PC** noted parking for existing condo owners will be allocated on site.
- Are 3 valet spaces enough? What happens when the hotel is busy and the valet spaces back up? **KB-PC** noted the valet service will be able to handle the demand.
- How will deliveries be handled? Delivery vehicles already park in Fore Street. **KB-PC** noted that the intention will be for delivery vehicles to enter into the parking lot or unload on Fore Street.
- How will trash be handled? Shared dumpsters with Hampton Inn? Is that enough? **KB-PC** noted the Homes 2 Suites will utilize the shared dumpster facilities already located on site. The dumpster facilities or the frequency of collections may need to be reviewed further.
- Will there be any traffic mitigation required? **KB-GP** responded that the design team has held a scoping meeting with City Staff to review the scope of the traffic study and that no mitigation has been identified yet.

- Are all existing green spaces on the property going away? **KB-PC** responded that the existing green areas on site will be removed, however, there are planned open areas and green space along Middle Street and Fore Street.
- Will there be trees planted on the parking structure/deck? **KB-PC** noted the landscaping design has not been completed however the soil depth on the structure will not support trees. Trees in large planters may be an option.
- How will stormwater be handled on site? The city already has flooding issues in large storm events. **KB-GP** noted the current stormwater design will provide flood control for rainwater via underground storage chambers in the parking area which will reduce the amount peak discharge rate emanating from the site.
- What about the contaminated soil? What will you do with it when you dig it up? **KB-PC** noted that an environmental consultant has been enlisted and that plans for the contaminated soil have not yet been finalized.
- What about the water on the parking structure/deck? **KB-GP** responded that there will be a drainage layer incorporated into the design of the parking structure to collect runoff and connect to the chamber system.
- Will the parking structure/deck be designed to allow future development? **KB-PC** stated the parking structure is not being designed to support a building.
- Where will the mechanical equipment be located? The Hampton Inn is noisy. **KB-PC** noted any mechanical equipment will be located on the rooftop.
- Will the mechanical equipment on the roof be screened? **KB-PC** responded yes.
- Will there be any residential units/can there be? **KB-PC** noted the development will not include any residential units.
- What will the retail units be? **KB-PC** noted the prospective tenants for the retail spaces have not been finalized.
- Where will the stair access be/will there be stair access onto Middle Street? **KB-PC** noted there will be no direct staircases from the Hotel onto Middle Street.

Date: 8/1/24

Construction Management and Site Logistic Plan

This document and its subsequent attachment Exhibits comprise the Construction Management Plan being submitted to the Portland Department of Planning & Urban Development Department for the new 5-story, mixed-use extended stay hotel building located at 203 Fore Street. This plan is being submitted by PROCON construction on behalf of the owner, Chatham Lodging Trust.

The purpose of the Construction Management plan is to identify, mitigate and plan for all potential impacts throughout the duration of construction. PROCON construction will ensure that the safety of the public and the surrounding communities are at the top of our priorities.

This CM plan will be continually updated as the project progresses to meet the needs of the project, community, and the City of Portland. PROCON Construction's main objective is to deliver the project to the Owner, Chatham Lodging, and the City of Portland successfully with zero safety accidents or incidents by means of communication and teamwork.

A. Project Description

The project consists of new construction for a five-story, 85,500 SF +/-, 132 guestroom extended stay hotel. The structure consists of a 4-story, type 5A, one-hour protected combustible construction (wood frame) over a 1-story above grade, type 1A, three-hour protected construction (steel frame, three-hour protected) podium building with fully automatic NFPA 13 sprinkler system throughout.

Occupancy groups A-2, A-3, B & R-1 located on first floor having entrance lobby, breakfast/lounge, buffet with supporting food prep kitchen, meeting room, back of house offices, fitness areas, elevator lobby, egress stairs, building storage, mechanical, electrical and water service entrance room with fire separation rated partitions and assemblies as indicated and as required by code.

Occupancy group R-1 use group located on second, third, fourth, and fifth floors with supporting electrical, building storage, common egress corridors, elevators and stairs with fire separation rated partitions and assemblies as indicated and as required by code. A 2-HR rated fire barrier creating a horizontal exit shall be incorporated from the 2nd floor to the underside of roof deck to eliminate the requirements for an accessible means of egress with associated emergency operation, signaling and standby power requirements per 2015 IBC section 1009.2.1 exception 1.

There will be approx. 5,300 SF of retail/restaurant tenant space along Middle and India Streets.

B. Construction Schedule

The project is expected to commence construction sometime in the spring/summer of 2025 and is anticipated to be completed spring/summer of 2027. Construction duration is approximately 24 months.

Construction work hours will be in accordance with City of Portland ordinance requirements.

Work hours will be limited to Monday – Friday 7:00am -7:00pm. Should Saturday work be required, the use of heavy equipment will be kept within the time constraints of 8:00am to 4:00pm.

C. Security & Public Safety

Please refer to Exhibit A for the site fencing/gates, traffic and pedestrian routing plan, which will be utilized for the duration of the project. If required by the city, Knox Box Pad Locks will be installed at each gate for fire department emergency access.

The fire safety program on-site will consist of the following:

1. Fire extinguishers will be placed throughout the construction site for the duration of the project.
2. On-site fuel storage will be limited but will be required throughout construction. A free-standing, 30-minute fire-rated enclosure will be provided for this safe and secure storage.
3. During construction, our Means of Egress will have at least two permanent stairs. Temporary signage will be installed to clearly indicate these egress methods.
4. PROCON construction will provide dumpsters for the removal of debris from the site. All subcontractors are responsible for the daily clean-up of their work areas. Additionally, PROCON construction will have laborers to assist with this daily clean-up. Daily safety walks by the Construction Superintendent will be utilized to ensure that all working floors are equipped with an inspected fire extinguisher and a clear means of egress in the event of an emergency.
5. Any personnel (whether working or visiting the site) will go through our safety orientation that will include our emergency evacuation plan. Hard hats and high visible (Safety Orange or Fluorescent green) shirts and/or vest shall be worn at all times within the construction site.
6. Once the combustible wood superstructure construction starts the project will implement a temporary pre-action fire sprinkler system within the wood structure. A detailed narrative Exhibit will be provided at a future date.

D. Construction Management Principles

The impact of this project during construction will be minimized via the following management practices and principals:

1. As depicted on the attached Site Logistics plan (Exhibit A), the Construction Zone will be secured with a combination of jersey barriers, fencing and gates along Middle Street, India Street and Fore Street as well as the other side of this site adjacent to the existing Hampton Inn Hotel. These barriers will prevent the public from any access into the construction site.
2. All construction activities will be performed within the limits of the site fence to ensure the public is never exposed to any risks caused by construction activities. The sidewalks along Middle Street and India Street adjacent to the building will be closed for a majority of the construction duration of the project until completion. One vehicle entrance will be maintained into and out of the site from Fore Street for deliveries. A minimum of three man gates will also be provided around the construction site as shown on the Site Logistics plan (Exhibit A).
3. All deliveries will be scheduled and coordinated to ensure there is minimal off-site queuing.
4. All construction activities will occur within the sound ordinance times.

E. Development Review of Construction Management Plan

PROCON construction has developed a comprehensive management plan that will be in place for the duration of the construction timeline (or until permanent/final measures are installed and can be utilized).

PROCON Construction utilizes a site-specific safety policy for all workers on-site. Each member will complete a job specific safety orientation prior to starting work activities. At no point will the public have access to the project site within the fenced limits.

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

All fees, building permit fee and guarantees will be paid/issued prior to the commencement of construction. All street opening permits will be applied for by the selected site contractor upon award of the contract and in hand prior to opening the street for work.

There is no blasting anticipated for this project, however due to the soil conditions, it is anticipated that the foundation system may involve the installation of piles to support the building's column loads.

G. Construction Administration and Communication

The PROCON contact person for all construction activities for the project will be:

Project Superintendent: TBD

PROCON Construction Main Office number: (603) 623-8811

Due to the proximity to occupied buildings and the number of anticipated deliveries, community outreach and communication will be required throughout construction to keep the public and neighboring businesses informed of our plan.

Signage will be posted onsite with additional emergency contact information for the selected Superintendent that will be the site contact for the project. An Emergency Call Log will be developed and distributed to the project team including all subcontractors.

Periodic reporting and updating of our Construction Management Plan will be required to update the city and community of the following activities:

1. Construction schedule updates.
2. Material deliveries, including notice of any oversized loads that may impact public traffic.
3. Requests for upcoming off-hours work including weekends and holidays.
4. Notice of any upcoming activities that may produce strong noise, vibration or dust that could adversely affect the neighboring communities.
5. Requests for any street openings or public sidewalk work to be completed as part of the construction contract.

H. Construction Permitting and Traffic Control Plans

The construction will be near pedestrian right of ways and will interact with public traffic throughout the duration of the project. There will be little to no lay down area for materials on-site. Deliveries will be scheduled in advance and planned for accordingly. We will stay in constant communication with the City and the neighboring businesses to keep them informed of our upcoming construction activities / deliveries with the intent to minimize impacts to all surrounding Streets.

This project includes new utilities that will require new taps/tie-ins within the public ROW. All street opening permits will be applied for and approved prior to start of utility work in the street.

I. Site Management and Controls

PROCON construction will adopt the following site management and maintenance activities through the of the project:

1. Trash and debris will be contained within the project fencing and changed out on a regular basis. PROCON will establish a recycling program for construction debris which is recyclable and coordinate these efforts with Waste Management or another local rubbish recycling company.
1. A stabilized construction entrance will be installed at the gate locations and maintained by the selected sitework contractor. Street cleaning will be reviewed daily and cleaned as required to remove dirt/debris caused by the construction efforts.
2. Noise will comply with City Ordinances.
3. If needed, water will be used to control dust during the sitework activities of the project. We do not anticipate any other activities that will require dust control measures.
4. Onsite snow removal will be handled by PROCON construction.

J. Erosion Control and Preservation of Trees

We will comply with the approved erosion and sedimentation control plan.

K. Construction Staging Area

Exhibit A of this document is the site logistics plan for the project. An offsite marshalling area may be needed during the erection of the steel structure, concrete placements, and the exterior wall systems due to the limited area on site. Once all these subcontractors are procured, we will have further review and update this plan accordingly.

L. Parking During Construction

Off-site parking is required. Employee parking will be provided by employers utilizing legal parking methods. It will be discussed in the Subcontract agreements that no street parking will be allowed during work hours and all street parking to be available for local businesses and the public. PROCON and Chatham Lodging will develop a plan for subcontractors to park either with available private parking lots nearby and/or further parking lots with a bussing plan to provide transportation to the construction site.

M. Special Measures as Necessary

This is a 4-story wood frame building over 1-story structural steel building that will be erected utilizing a Crane. Once an erector/crane operator has been selected, we will further review and discuss with the City to update this plan if needed. See attached Exhibit A for proposed crane location.

Should we encounter any groundwater, dewatering will be handled by the sitework contractor. This can be further with the Contractor/s at the Preconstruction meeting for specific details.

This site is participating in a Voluntary Response Action Program (VRAP) along with MDEP as there are the potential for elevated levels of VOCs. PROCON construction and Chatham Lodging Trust will engage an environmental

engineer/scientist to test soil samples prior to and during construction to ensure the safety of the workers and surrounding community. Any areas disturbed during excavation containing contaminated soils will be tested and disposed of in accordance with MDEP.

N. Project truck routing

All truck deliveries will be routed as stated below:

Incoming deliveries: US Highway I-295 exit 7 off I-295 onto Franklin Street heading south then a left onto Fore Street which will lead construction site entrance gate.

Outgoing Traffic: Construction traffic will leave the site and take a right onto Fore street, right onto Franklin Street and back on to US Highway I-295.

U:\3904.01_Home 2 Suites Portland Chatham Lodging_VZ - CAD\DWG\3904.01-SITE.dwg 7/15/2024 4:47 PM

Rev.	Date	Revision

Rev.	Date	Revision
1	TBD	MAJOR SITE PLAN APPLICATION TO CITY

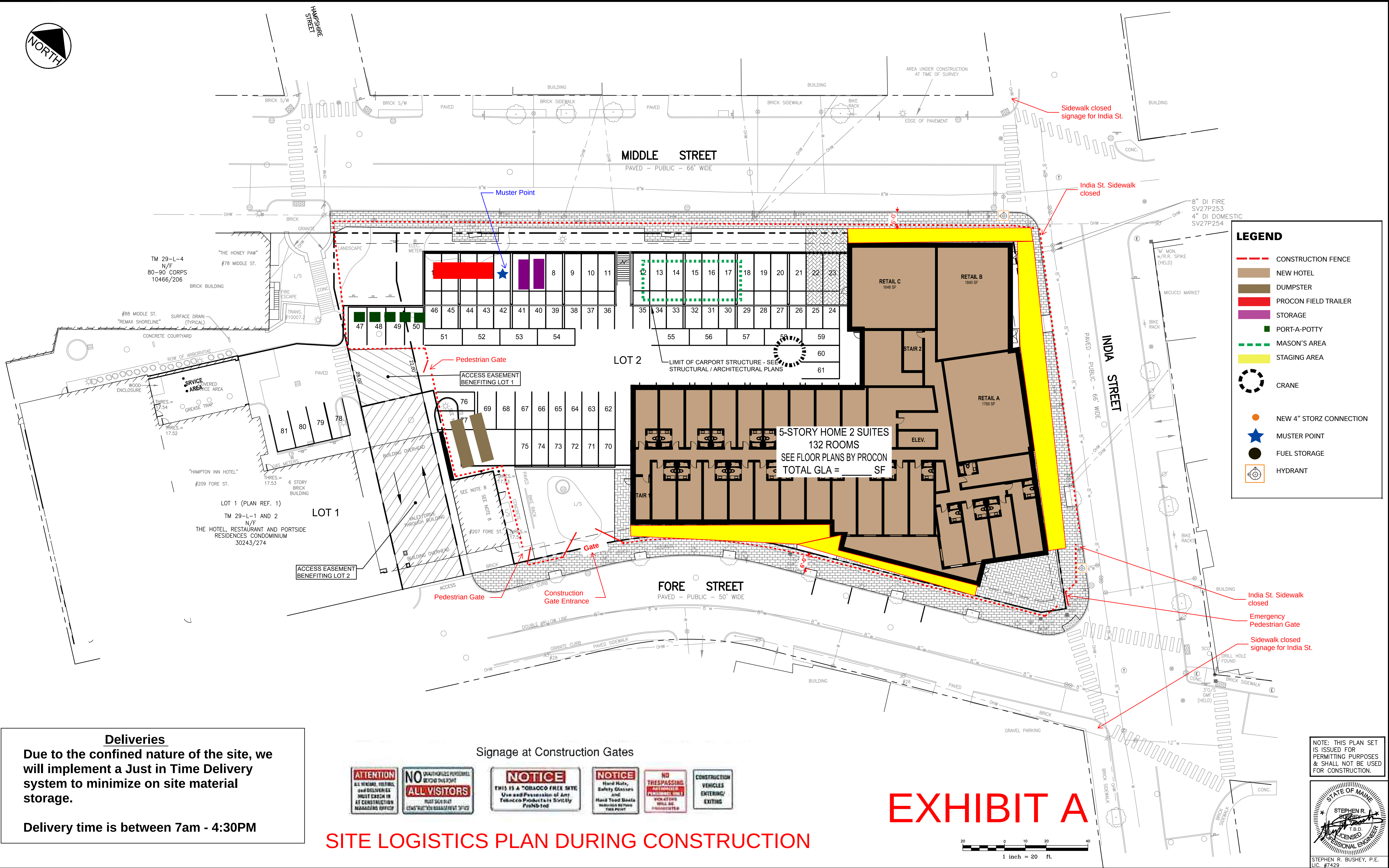
Design: SRB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-SITE.dwg		
This plan shall not be modified without written permission from Gorriil Palmer. Any alterations, authorized or otherwise, shall be at the user's sole risk and without liability to Gorriil Palmer.		



Gorriil Palmer, an LJB Engineering Company
GorriilPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name:	PARKING PLAN
Project:	Home 2 Suites - 203 Fore Street Portland, Maine
Client:	Chatham Portland DT, LLC c/o Chatham Lodging Trust 222 Lakeview Avenue- Suite 200, West Palm Beach, FL 33401

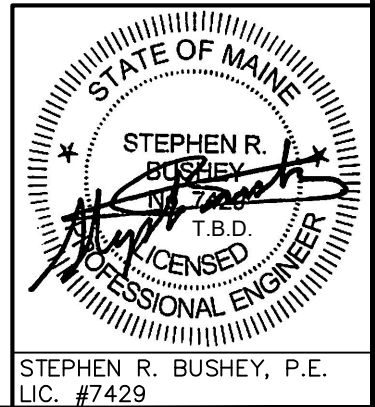
Drawing No.
C-3.1



SITE LOGISTICS PLAN DURING CONSTRUCTION

EXHIBIT A

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.



CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Portland Dept. of Public Works -
Water Resources
212 Canco Road
Portland, Maine 04103



Bradley Roland, P.E.
Water Resources Division
Department of Public Works
212 Canco Road
Portland, ME 04103

Date:

4/17/24

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 203 Fore Street

Chart Block Lot Number: 029- L-003

Proposed Use: hotel

Previous Use: Parking lot

Existing Sanitary Flows: 0 GPD

Existing Process Flows: 0 GPD

Description and location of City sewer that is to
receive the proposed building sewer lateral.

12-inch PVC in Fore St.

Site Category	Commercial (see part 4 below)	☒
	Industrial (complete part 5 below)	☐
	Governmental	☐
	Residential	☐
	Other (specify)	☐

Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: _____ Phone: _____

Owner/Developer Name: Chatham Lodging Trust

Owner/Developer Address: 222 Lakeview Ave, West Palm Beach, FL 33401

Phone: _____ Fax: _____ E-mail: _____

Engineering Consultant Name: Ransom Consulting, LLC

Engineering Consultant Address: 400 Commercial Street

Phone: (207) 772-2891 Fax: _____ E-mail: _____

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: 15,000 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)

Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet.

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values: N/A
Size of External Grease Interceptor: _____
Retention Time: _____
Peaking Factor/ Peak Times: _____

Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet.

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated: N/A GPD
Do you currently hold Federal or State discharge permits? Yes _____ No _____
Is the process wastewater termed categorical under CFR 40? Yes _____ No _____
OSHA Standard Industrial Code (SIC): _____ (<http://www.osha.gov/oshstats/sicser.html>)
Peaking Factor/Peak Process Times: _____

Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps.

Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided, or attached, as a separate sheet.

Basis: State of Maine Subsurface Wastewater Disposal Rules, Table 4C

Hotel (no kitchen or meeting spaces):

Bedrooms:	132 rooms x 100 gpd/bdrm	13,200 gpd
-----------	--------------------------	------------

Employees:	20 employees x 12gpd/emp.	240 gpd
------------	---------------------------	---------

Bar/Cocktail Lounge (in hotel, no food):

Seats:	30 seats x 10 gpd/seat	300 gpd
--------	------------------------	---------

Employees:	5 employees x 12gpd/emp.	60 gpd
------------	--------------------------	--------

Retail (2 available spaces):

Employees with no shower:	5 emp. X 12 gpd/emp. X 2 spaces	120 gpd
---------------------------	---------------------------------	---------

Potential Restaurant/café (assume 2 meals/day):

Seats:	50 seats x 20 gpd/emp.	1,000 gpd
--------	------------------------	-----------

Employees:	7 emp. X 12gpd/emp.	84 gpd
------------	---------------------	--------

Total:		15,004 gpd
--------	--	------------

March 26, 2024

Central Maine Power
 83 Edison Drive
 Augusta, ME 04336
 Attn:

Re: Electrical Demand Calculations

The following is the estimated electrical service sizing for the Home2 Suites by Hilton hotel located in Portland, Maine. The building is a 5-story, 85,000 square foot, 132 unit extended stay hotel. A single electric meter is required with 4 sub-meters.

Service Calculation

Guest Suite Lighting Load:

54,506 SF x 3 VA	= 163,518 VA
(0-3,000 VA) @ 100%	= 3,000 VA
(3,001 to 120,000 VA) @ 35%	= 40,950 VA
(Remainder) @ 25%	= 10,879 VA
Total demand load	= 54,829 VA

Guest Suite Electrical Range Load:

132 units x 2,500 VA	= 330,000 VA
25kva + (0.75KVA * 132units)	
Total demand load	= 124,000 VA

Guest Suite Appliance Load:

132 Refrigerators: 1,800 VA	= 237,600 VA
132 Microwaves: 1,800 VA	= 237,600 VA
132 Dishwasher: 750 VA	= 99,000 VA
132 Garbage Disposal: 480 VA	= 63,360 VA
@75%	
Total demand load	= 478,170 VA

Guest Suite HVAC Load:

132 units x 3,500 VA	= 462,000 VA
@ 100%	
Total demand load	= 462,000 VA

Common Area Lighting Load:

20,250 SF x 2VA	= 40,500 VA	
@ 100%		
Total demand load		= 40,500 VA

Common Area Receptacle Load:

10,870 SF x 1VA	= 10,870 VA	
First 10,000 VA @ 100%		
Remainder @50%	= 870 VA	
Total demand load		= 10,435 VA

Common Area Fitness Load:

3 treadmills: 1,500 VA	= 4,500 VA	
3 elliptical: 1,500 VA	= 4,500 VA	
@50%		
Total demand load		= 4,500 VA

Common Area HVAC Loads:

Energy Recovery Units 2 @ 40,000 VA	= 80,000 VA	
First floor HVAC	= 55,000 VA	
Electric Heating	= 45,000 VA	
@ 100%		
Total demand load		= 180,000 VA

Domestic Water Loads:

Heater Booster	= 20,000 VA	
Water Heater 3 @ 1,320 VA	= 3,960 VA	
Recirculation Pumps 3 @ 1,200 VA	= 3,600 VA	
@ 100%		
Total demand load		= 25,560 VA

Commercial Kitchen Electrical Appliance Loads:

Refrigerator	= 2,400 VA	
Freezer	= 3,600 VA	
Coffee Brewer	= 5,800 VA	
Microwave	= 1,000 VA	
Dishwasher	= 4,500 VA	
Oven	= 18,000 VA	
Induction Burner 2@ 1,800 VA	= 3,600 VA	
Ice Machine	= 1,500 VA	
Waffle Maker	= 1,500 VA	
Toaster 2@ 1,440 VA	= 2,880 VA	
Bar Refrigerators	= 1,980 VA	
@65%		
Total demand load		= 30,394 VA

Guest laundry Loads:

Dryers 2@5,400VA	= 10,800 VA	
Washers 2@1,440 VA	= 2,880 VA	
Total		= 13,680 VA

@65%
Total demand load = 8,892 VA

Elevator Loads:

Elevators 2 @ 19,094VA = 38,188 VA
@100%
Total demand load = 38,188 VA

Retail A:

Total demand load = 166,272 VA

Retail B:

Total demand load = 166,272 VA

Retail C:

Total demand load = 500,000 VA

Totals:

The Project has a total connected load of approximately 2,792,180 VA
The project has a total demand load of approximately 2,292,012 VA.

$2,292,012 \text{ VA} / (208 * 1.732) = 2,757 \text{ Amps}$

We are requesting a new electrical service rated:
3,000 Amps, 208/120v, 3 phase, 4 wire.

If you should have any questions, or require further information, please contact our office.

Sincerely,

Kent M. Beirne, AIA
VP Architecture

March 29, 2024
Until Natural Gas Service
376 Riverside Parkway,
Portland, ME 04103

Attn: James Deane
Re: Gas Load Service Summary
Home 2– Hotel, Portland, ME

The following is the estimated natural gas requirements for the Mixed Use H2 Hotel / Restaurant / Tenant building located at 209 Fore Street, Portland ME. The Hotel is 5 stories above grade and is approx. 83,408 square feet. Two gas meters will be required. (1) Hotel, (1) Restaurant)

<u>Hotel Appliance (Meter #1)</u>	<u>QUAN</u>	<u>CFH</u>	<u>Total</u>
Hotel Rooftop Units (ERU):	2	450	900
Fireplace:	1	100	100
Total Natural Gas Requirements:			1000 CFH

<u>Restaurant Tenant A (Meter #2)</u>	<u>QUAN</u>	<u>CFH</u>	<u>Total</u>
Kitchen Equipment	1	2,000	2,000
Make-up Air Unit	1	400	400
Total Natural Gas Requirements:			2,400 CFH

Tenants B and C no gas required.

The total natural gas load for the building is 3,400 CFH
A minimum gas pressure of 14"W.C. is requested for the project.

If you should have any questions, or require further information, please contact our office.

Sincerely,



Ray Fraser

Sr. Mechanical designer



**Portside Condominium Association
207 Fore Street
Portland, Maine**

To: City of Portland Planning Board

From: Portside Condominium Association

Subject: Review Comments

Proposed Home 2 Suites Hotel Major Site Plan Application
203 Fore Street, Portland

The following comments related to the proposed Home 2 Suites development are being submitted by the Portside Condominium Association. We, the members of the 12-unit Association, have serious concerns with public safety issues likely to be introduced by the completed development from onsite and offsite congestion brought on by increased uncontrolled vehicular and pedestrian traffic.

As members of the master condominium association that includes the Hampton Inn and the Friendly Toast Restaurant, we are co-owners of the property to be used for the proposed hotel operations. Of those residents living in the neighborhood surrounding the proposed development, we will be among those most affected by the increased congestion that will likely result. We would like to see the issues raised in our comments addressed during Planning Board review of the project.

Our comments are as follows.

1. On-Street public safety issues.

The developer proposes to use three existing on-street parking spaces (resulting in three less parking spaces for public use – how will the city be compensated?) on Fore Street for hotel guest check-in / drop off. Hotel guests will pull into these spaces, unload their luggage, and proceed across the sidewalk to the hotel entrance. The valet will then drive the vehicle to the existing surface parking lot at the Hampton Inn or, if no space is available there which will likely be a frequent

occurrence, to an offsite satellite parking area. For hotel guests checking out of the proposed hotel, the process will be the same only in reverse.

We believe that the proposed drop off / check-in / check-out as proposed presents multiple public safety hazards as explained below:

- With the proposed hotel having 132 rooms (seven more than the existing Hampton Inn), it is not a stretch - based on our observations over the past 13 years at the Hampton Inn - to expect many more than three vehicles during peak demand wanting to use the dedicated drop off spaces at the same time. As only three drop off spaces are available, remaining vehicles awaiting their turn will likely stand idling in the southbound Fore Street travel lane in one of the busiest blocks in the city's east end. The standing vehicle queue will back up into the nearby India Street / Fore Street intersection, prompting vehicular and pedestrian accidents there.
- In effect the developer is recreating the drop off procedure currently employed by the nearby Marriott Residence Inn at 145 Fore Street, except that the Residence Inn allows drop off vehicles to pull off of Fore Street while discharging guests while the proposed Home 2 Suites will conduct its drop off operations directly adjacent to the Fore Street travel lane. Given the uncontrolled nature of the proposed process including the likelihood of hotel guests opening their car doors and stepping into oncoming traffic, this cannot be considered a safe operation. And should the proposed project be approved and implemented, the process would be permanent with no other available option. We hope this isn't the legacy the Planning Board wants to be associated with.
- Southbound Fore Street traffic other than hotel guests, blocked by the aforementioned standing vehicles, will attempt to maneuver around by pulling into the northbound travel lane, exacerbating an already unsafe situation, noting that:

- there will be vehicles entering and exiting the existing nearby Hampton Inn entrance, the Simba parking lot (216 Fore Street), and the two public parking lots at the McAdam building directly across from the proposed hotel; note also that vehicles containing patrons of the busy Friendly Toast restaurant (open seven days a week) are often seen slowly cruising this Fore Street block looking for a parking space.
- oftentimes there is a large vehicle standing / idling in the northbound Fore Street travel lane opposite the proposed Home 2 Suites while making deliveries to the Hampton Inn; increased large-vehicle standing in the northbound travel lane will likely result because the proposed hotel will need the same type of delivery service.
- most guests arriving at the proposed hotel will be heading northbound on Fore Street, and will need to turn around in the vicinity of the India Street / Fore Street intersection to access the entrance drop off.
- it will take valets up to ten minutes to park each guest vehicle and return to their post, resulting in delays to servicing of awaiting guests.

The combined scenario described above is a formula for Fore Street traffic gridlock.

2. On-Property public safety issues.

Please consider the following proposed on-property features that will contribute to uncontrolled traffic patterns resulting in vehicle and pedestrian safety issues.

- Only 96 on-site parking spaces are proposed to service a combined 257 guest rooms in the two hotels. This means – based on our 13 years of observations of Hampton Inn operations - that

the parking lot will likely be full most of the time resulting in very busy valet movement of vehicles within a confined area.

- It was stated at the September 12, 2024 neighborhood informational meeting that the proposed hotel will not have a dedicated trash room. Instead, trash will be manually transported across the surface parking lot and disposed of at the existing Hampton Inn dumpster room. This will, in effect, double the amount of trash stored within the dumpster room which currently struggles to house the volume of trash from the Hampton Inn, the Friendly Toast, and Portside Condominium residents. The developer is proposing to manually transport trash generated by the proposed Home 2 Suites Hotel and retail units across a busy valet-serviced parking lot on a constant, year-round, permanent basis.
- Many vendors will service the two hotels, restaurant, retail units, and condominium units. Vendor vehicles, including those associated with trash removal, HVAC maintenance, building repair and maintenance, and delivery of food and other supplies will need to access the parking lot on a continual basis.
- As on-site snow storage will no longer be available, snow removal vehicles, likely consisting of a dump truck and front-end loader, will need to access the parking lot during winter months.
- The public will be encouraged to walk through the parking lot using the two mid block permeability paths connecting Middle Street and Fore Street.

The result of the above simultaneous activities will be a congested permanent mix of pedestrians and vehicles crossing paths in an uncontrolled manner, a situation that will beg accidents and endanger pedestrians maneuvering through the parking lot.

3. On-Property condominium resident parking issues.

The developer's Overall First Floor Plan, Drawing A1.01, showing the proposed parking lot presents several problems for Portside Condominium residents, noted below.

- The proposed four resident parking spaces to the south of the existing Permeability Path leading to the Hampton Inn hotel entrance are in reality only three spaces. Only three spaces currently exist there, and it appears that the area cannot accommodate four resident-sized parking spaces. Also of note, the proposed application shows no proposed marked handicapped parking spaces in the parking lot.
- Currently, the parking lot is marked with a painted striped accessway for resident access to the parking lot from the residential lobby. The accessway is not depicted in the proposed parking lot plan. The residents need a walkway to safely carry items from their vehicles to the lobby. The proposed parking plan has smaller-sized parking spaces with no walking access to the parking lot for the residents. The residents will be able to access their vehicles only by walking through the very busy existing Hampton Inn drop off area, creating a potentially unsafe / dangerous situation.
- Two of the 12 proposed resident parking spots are simply not acceptable. The two spots referenced are those that call for "sideways" parking at the end of the Hampton Inn Drop Off overhang. These spaces will be unsafe to park in and exit from due to the large amount of guest activity and the valets using this area for parking and guest / luggage drop off.

4. Deficient abutter address list.

Please also note that the abutter address list attached to the submission on the Planning Department website is not complete and many of the abutters were not notified of the September 12, 2024 informational meeting. For example, wives of property co-owners are not included on the list.

Going forward for workshops and other communications, this error needs to be addressed.

Thank you for considering our comments.

INDEX

PLANS ————A1.01-A1.05

ELEVATIONS ————A2.01-A2.04

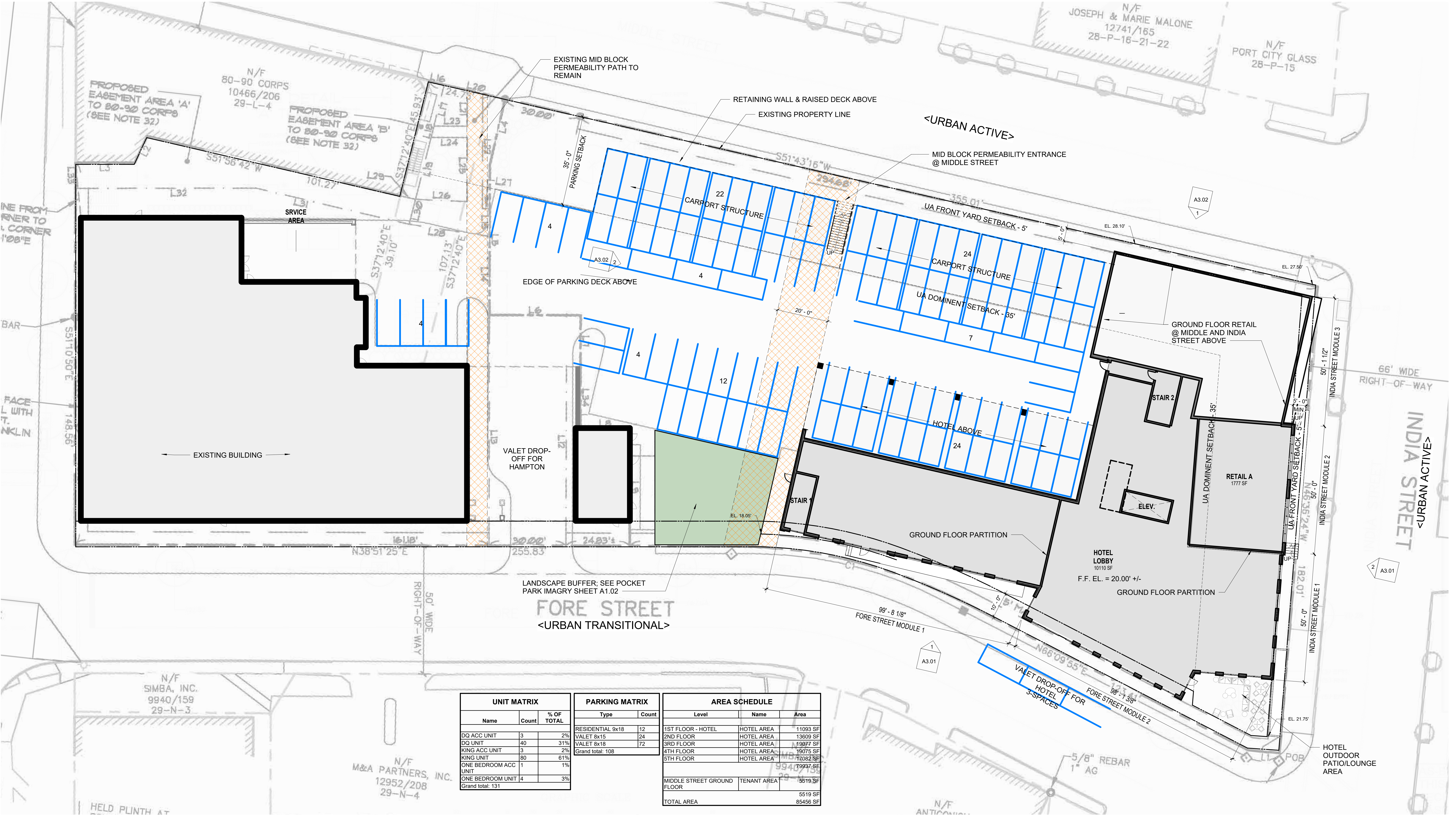
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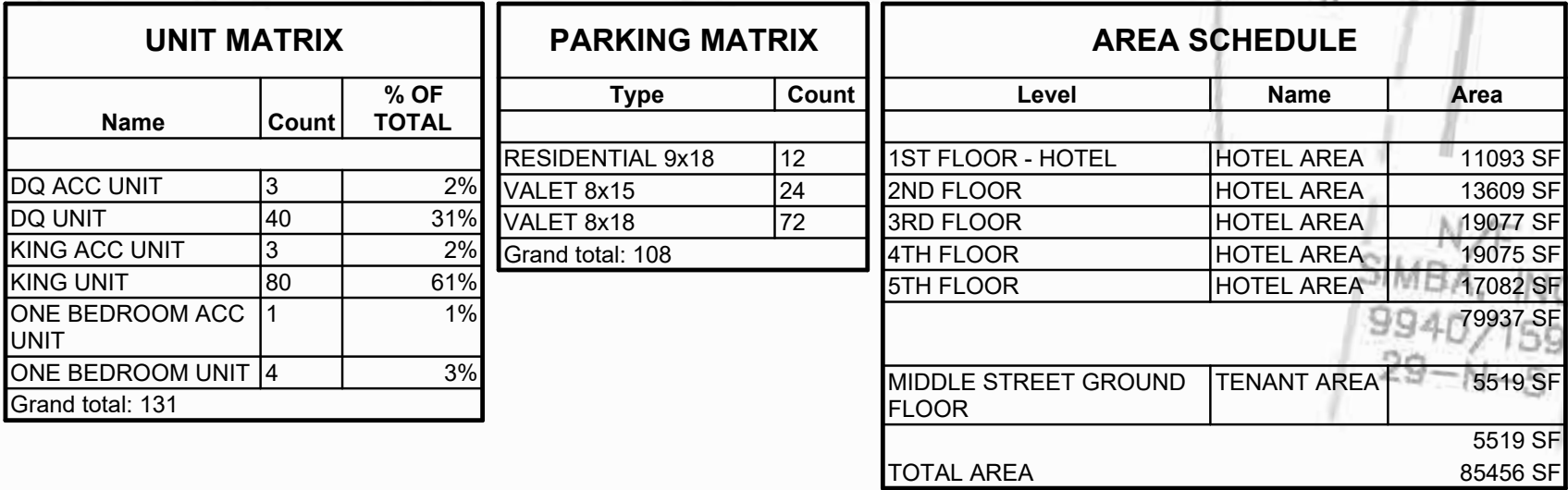
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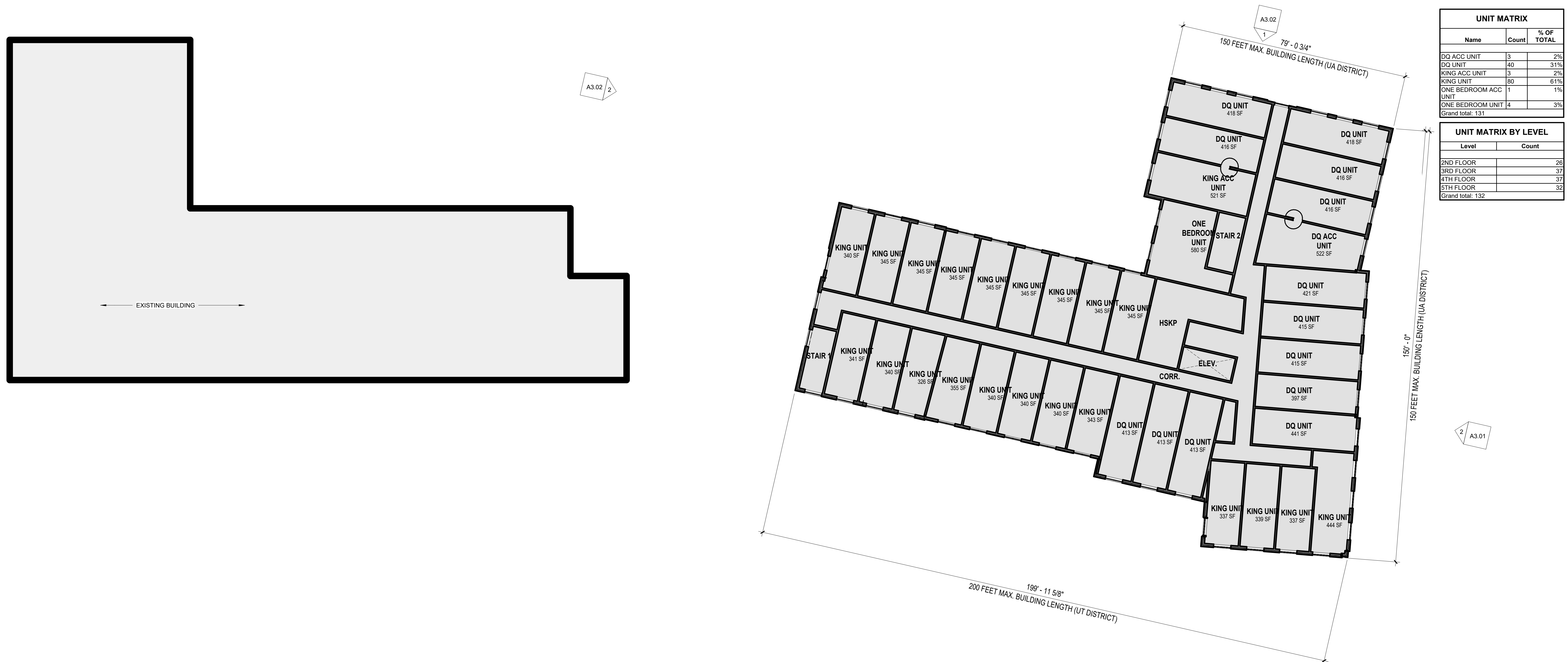


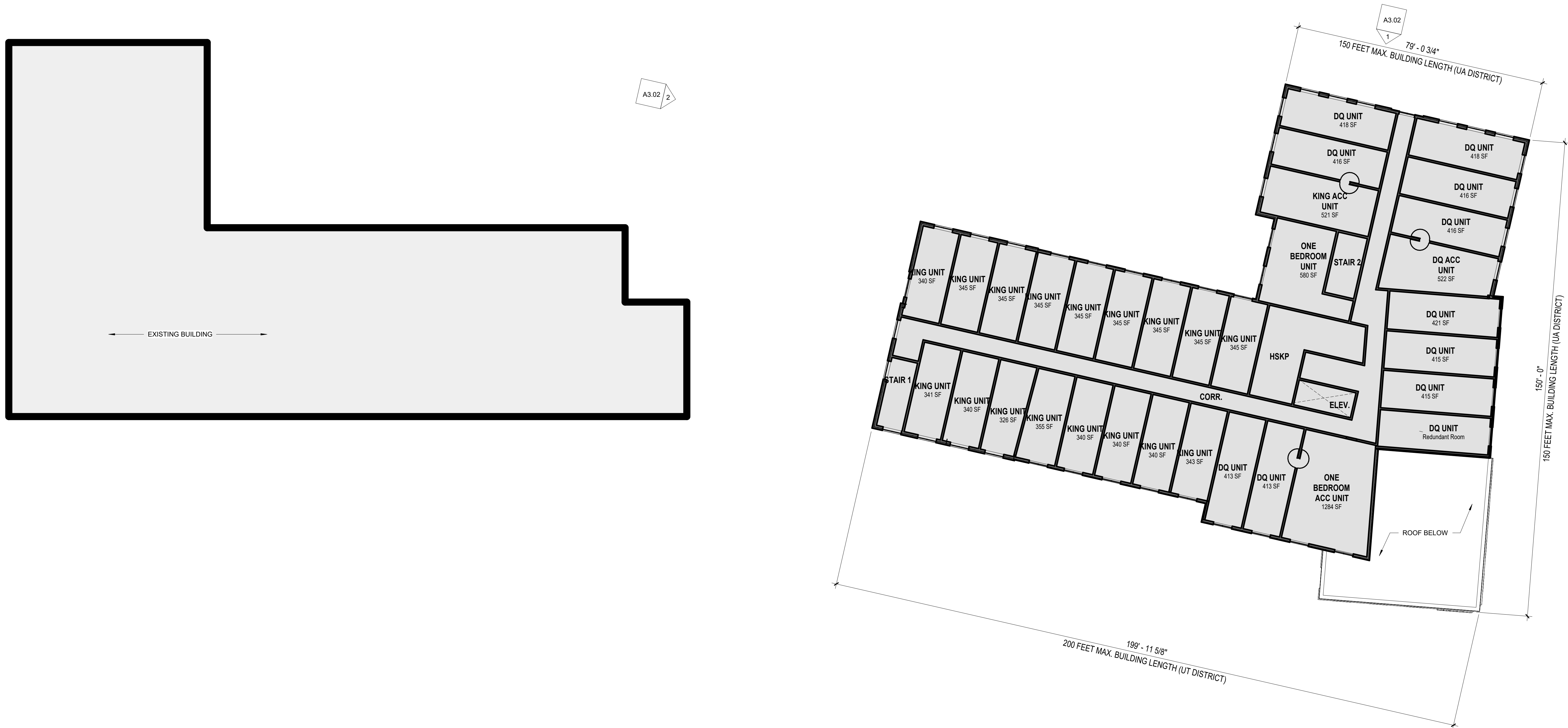
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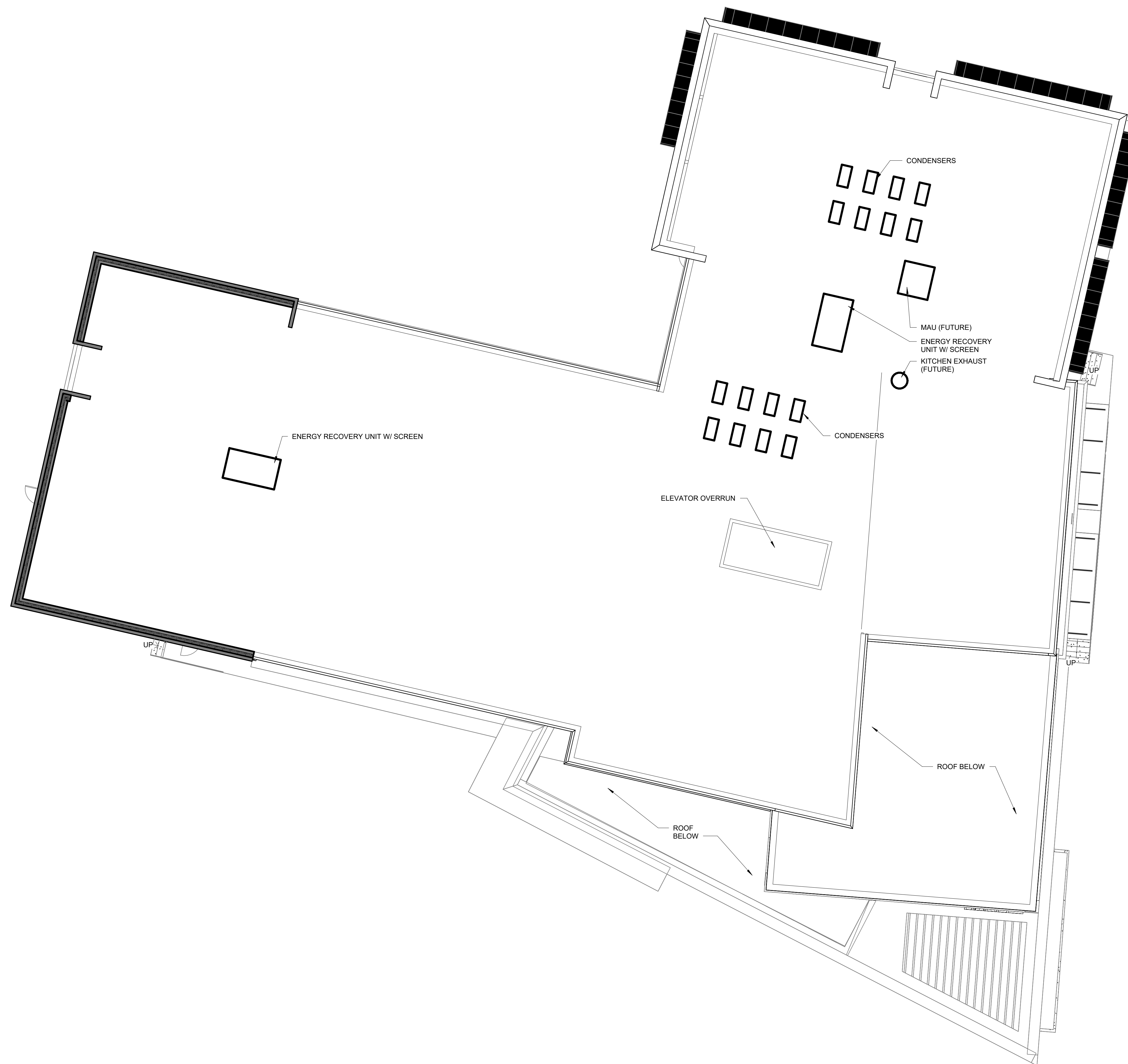
- PROPOSED 5-STORY MIXED-USE HOTEL & COMMERCIAL RETAIL BUILDING WITH ASSOCIATED ON-SITE VALET PARKING. THE HOTEL LOBBY IS ACCESSED FROM FORE STREET, WITH RETAIL SPACES ACCESSED FROM INDIA + MIDDLE STREETS. MID-BLOCK PERMEABILITY CONNECTING MIDDLE + FORE STREETS IS PROVIDED BETWEEN THE EXISTING HOTEL AND THE PROPOSED BUILDING.



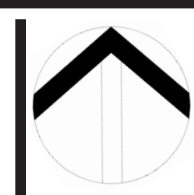








OVERALL ROOF PLAN





OVERALL EAST ELEVATION

PROPOSED HOTEL

Date 27

Dwg.

SEPT

2024

A2.01

203 FORE STREET - PORTLAND, MAINE 04101

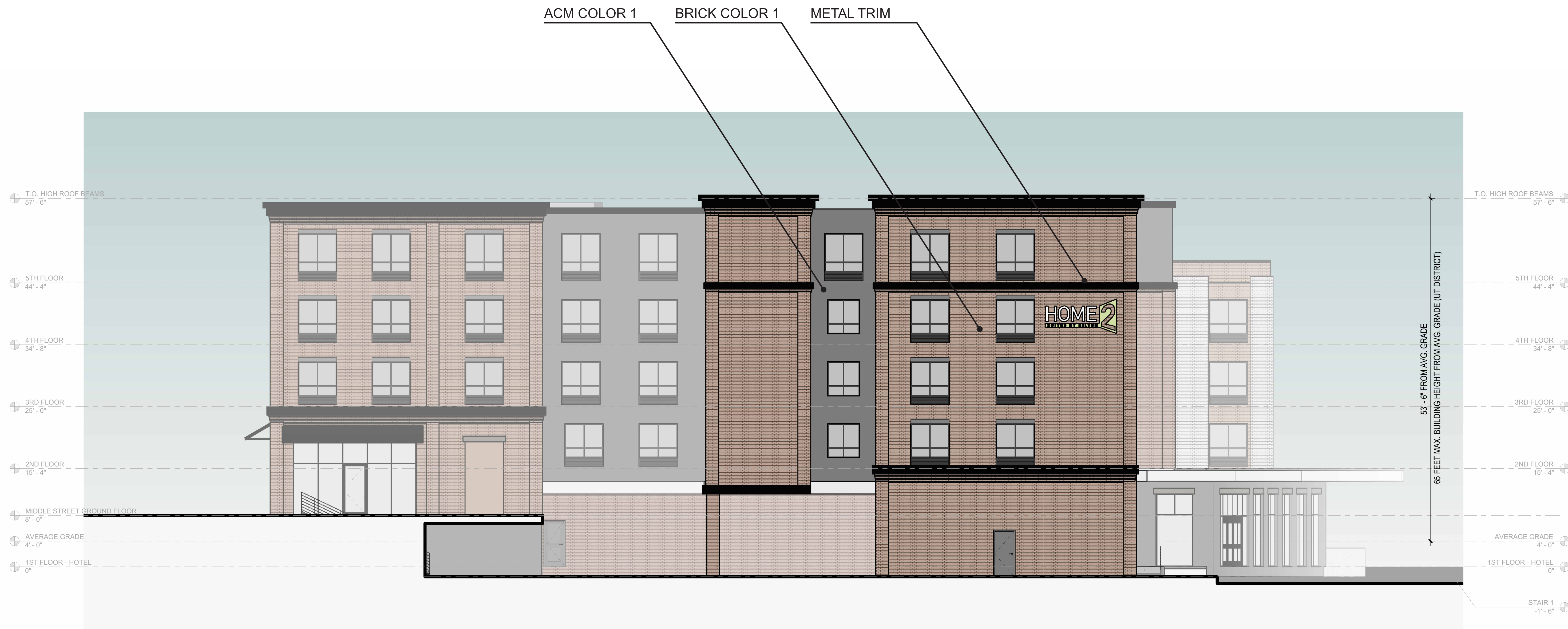


BRICK COLOR 1

METAL TRIM

ACM COLOR 1





OVERALL WEST ELEVATION

PROPOSED HOTEL
203 FORE STREET - PORTLAND, MAINE 04101

Date 27
SEPT
2024

Dwg.

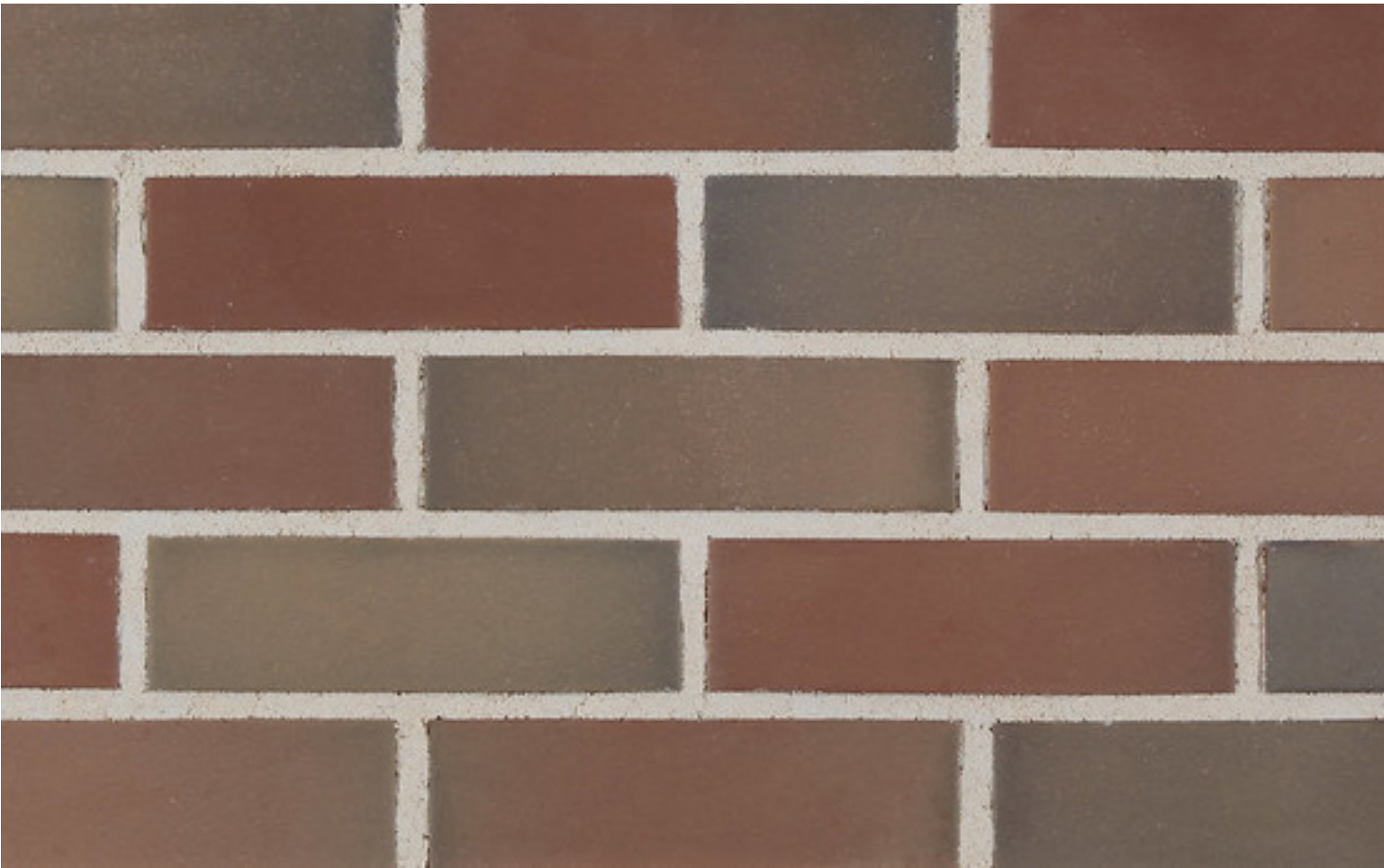
A2.04



ALUMINUM COMPOSITE MATERIAL - ACM - COLOR 1
MANUFACTURER: TBD
MODEL: TBD
SPECIFICATIONS: TBD



ALUMINUM COMPOSITE MATERIAL - ACM - COLOR 2
MANUFACTURER: TBD
MODEL: TBD
SPECIFICATIONS: TBD



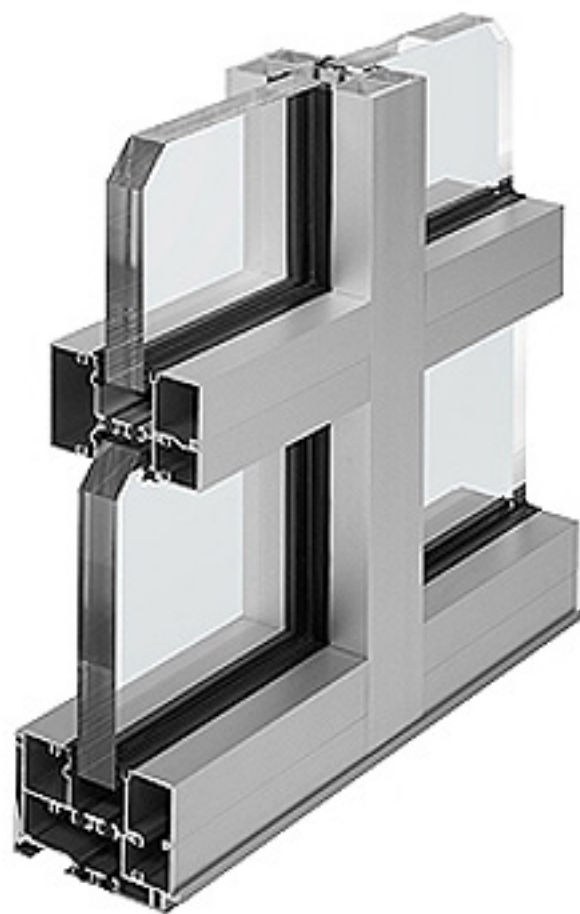
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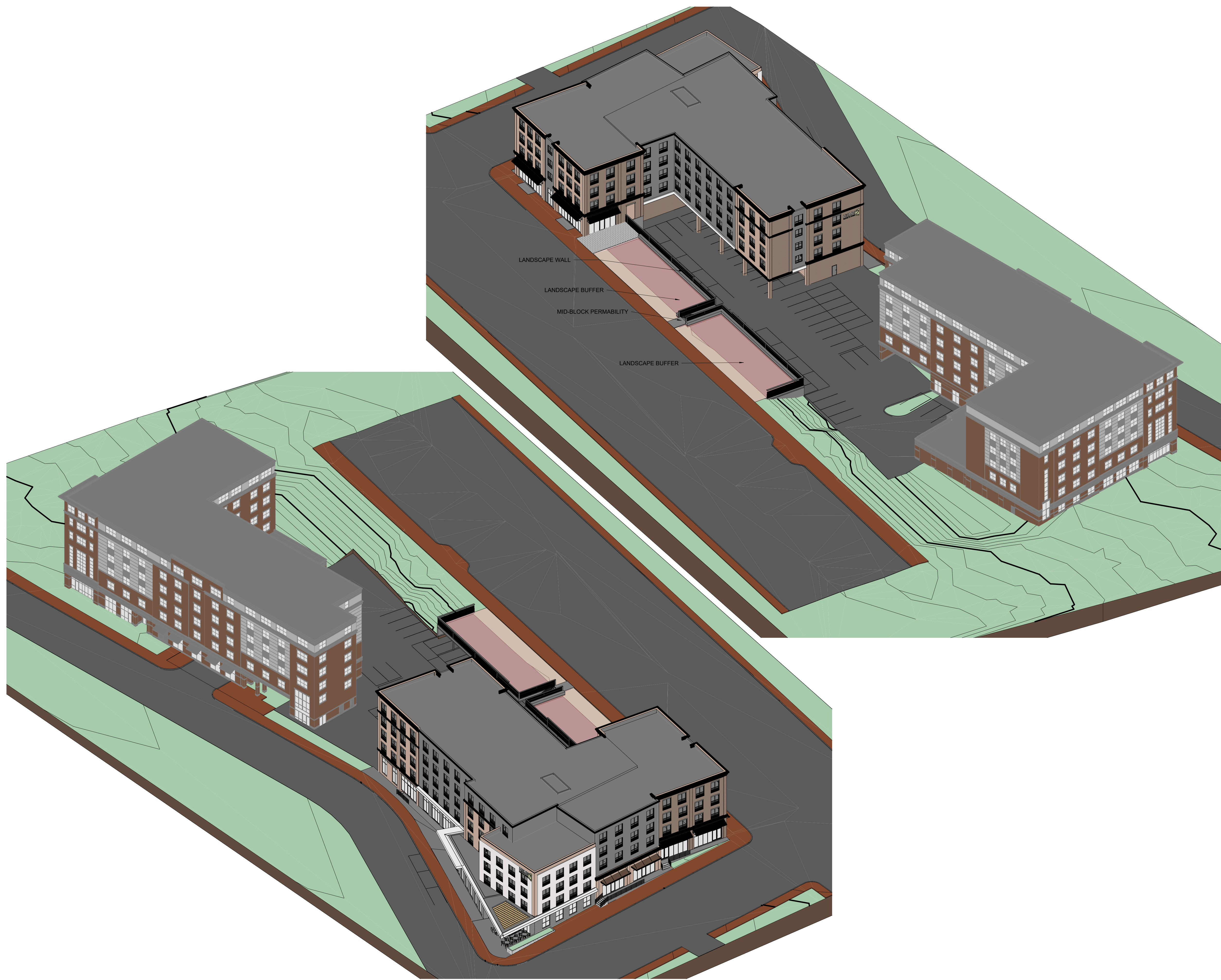
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SPECIFICATIONS: TBD



STOREFRONT
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MODEL: TRIFAB 451 UT
COLOR: BLACK FINISH
SPECIFICATIONS:



UNIT WINDOWS
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MODEL: TBD
COLOR: BLACK
SPECIFICATIONS: VINYL COMMERCIAL WINDOW SYSTEM



ISOMETRIC VIEWS











LANDSCAPE DESIGN PENDING CONFIRMATION OF APPROVED LIMIT & SCOPE OF THE PROPOSED POCKET PARK

POCKET PARK SCREEN - OPTION 1



POCKET PARK PRECEDENTS



POCKET PARK PRECEDENTS



POCKET PARK PRECEDENTS



LANDSCAPE DESIGN PENDING CONFIRMATION OF APPROVED LIMIT & SCOPE OF THE PROPOSED POCKET PARK

POCKET PARK SCREEN - OPTION 2

PROPOSED ALONG MIDDLE STREET AND ADJACENT TO THE MID BLOCK PERMABILITY PEDESTRIAN THRU-WAY ALONG FORE STREET IS TO PROVIDE A COMBINATION OF HARDSCAPE AND LANDSCAPE ELEMENTS TO CREATE SMALL PARK LIKE SETTINGS FOR RELAXATION AND SOCIALIZATION ALONG THESE PUBLIC ACCESS STREETS AS ASSETS FOR THE COMMUNITY. POCKET PARK ELEMENTS SHALL INCLUDE A COMBINATION OF LANDSCAPE AND HARDSCAPE WITH BENCHES, RAISED FLOWER BEDS, PLANTINGS, AND OTHER NATURAL ELEMENTS. IMAGRY SHOWN FOR INFORMATION ONLY. A LANDSCAPE ARHITECT WOULD BE RETAINED TO ASSIST IN THE DESIGN OF THESE SMALL COMMUNITY SPACES.



RETAIL ENTRY AWNING - OPTION 1



RETAIL ENTRY AWNING - OPTION 2

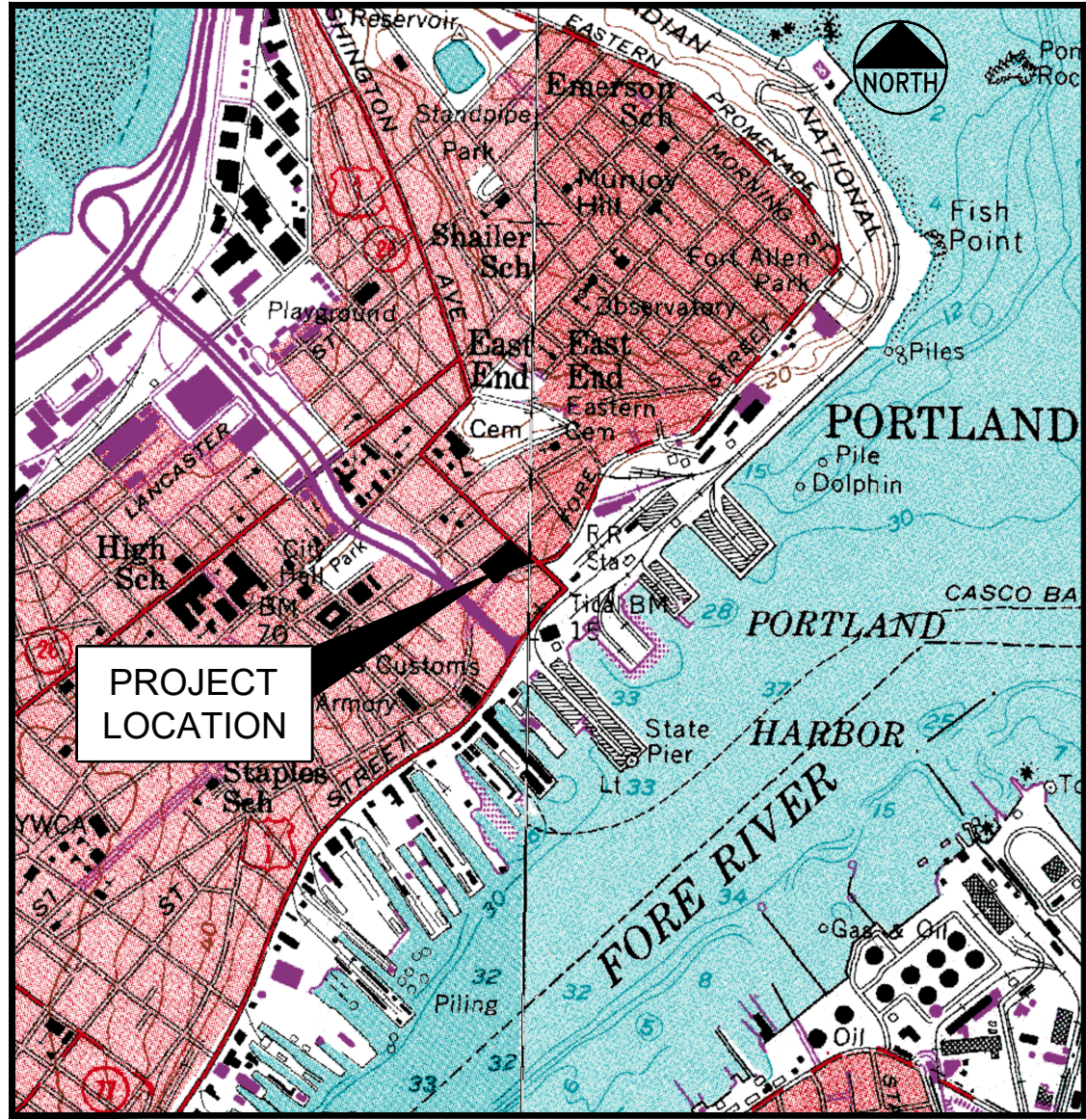
OWNER/APPLICANT

TML 29-L-003
CHATHAM PORTLAND DT LLC
222 LAKEVIEW AVENUE SUITE 200
WEST PALM BEACH, FL 33401
C.C.R.D. BOOK 30252 PAGE 341

TAX MAP - BLOCK - LOT (ADDRESS)

MAP 29 - BLOCK L - LOT 3 (203 FORE STREET)

SITE DEVELOPMENT PLANS
FOR A COMMERCIAL MIXED USE/HOTEL BUILDING ON
LOT 2 - 203 FORE STREET PROPERTY
PORTLAND, MAINE
OCTOBER 2024
PERMITTING SET



LOCATION MAP
N.T.S.

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- C-1.0 COVER SHEET
- C-1.1 GENERAL NOTES & LEGEND
- C-2.0 BOUNDARY & TOPOGRAPHIC SURVEY - BY OWEN HASKELL
- C-2.1 EXISTING CONDITIONS & DEMOLITION PLAN
- C-2.2 CONSTRUCTION MANAGEMENT PLAN (BY PROCON)
- C-2.3 ORIGINAL SUBDIVISION PLAN
- C-3.0 SITE LAYOUT PLAN
- C-3.1 PARKING PLAN
- C-4.0 GRADING, DRAINAGE & EROSION CONTROL PLAN
- C-4.1 STORMWATER MANAGEMENT PLAN & DETAILS
- C-4.2 FOCALPOINT DETAILS
- *C-4.3 5 SCALE GRADING ENLARGEMENT
- C-5.0 UTILITY PLAN
- C-6.0 SITE DETAILS
- C-6.1 SITE DETAILS
- C-6.2 SITE & MISCELLANEOUS DETAILS
- C-6.3 STORM DRAIN & UTILITY DETAILS
- C-6.4 UTILITY & MISCELLANEOUS DETAILS

*NOT INCLUDED IN THIS PLAN SET

UTILITIES

WATER:
PORTLAND WATER DISTRICT
22 DOUGLASS STREET
P.O. BOX 3553
PORTLAND, MAINE 04104
207.774.5961
CONTACT: ROBERT BARTELS

SEWER / STREETS:
CITY OF PORTLAND
PUBLIC SERVICES DIVISION
258 CANCO ROAD
PORTLAND, MAINE 04103
207.874.8846
CONTACT: BRAD ROLAND, P.E. - SENIOR
PROJECT ENGINEER

ELECTRIC:
CENTRAL MAINE POWER
162 CANCO ROAD
PORTLAND, MAINE 04103
207.842.2367
CONTACT: JAMIE COUGH
jcough@cmpco.com
207.415.4300

TELEPHONE:
CONSOLIDATED COMMUNICATIONS
5 DAVIS HILL FARM ROAD
PORTLAND, MAINE 04103
207.797.1866
CONTACT: PATRICK MORRISON

NATURAL GAS:
NORTHERN UTILITIES / UNITIL
376 RIVERSIDE INDUSTRIAL PARKWAY
PORTLAND, MAINE 04103
207.541.2570
CONTACT: SCOTT CARPENTER

CABLE:
TIME WARNER CABLE
115 JOHNSON ROAD
PORTLAND, MAINE 04102
207.253.2324
CONTACT: MARK PELLETIER

DIG SAFE:
CALL BEFORE YOU DIG
888.344.7233

PERMITS / APPROVALS

TYPE:

LOCAL

SITE PLAN / MAJOR SITE PLAN APPROVAL:

GOVERNING BODY:

CITY OF PORTLAND PLANNING AUTHORITY
CITY HALL, CONGRESS STREET
PORTLAND, MAINE 04103
207.874.8722

SUBDIVISION:

BUILDING PERMIT:

CITY OF PORTLAND CODE ENFORCEMENT OFFICE
CITY HALL, CONGRESS STREET
PORTLAND, MAINE 04103
207.874.8900

UTILITY / STREET OPENING PERMITS:

CITY OF PORTLAND PUBLIC SERVICES DIVISION
250 CANCO ROAD
PORTLAND, ME 04103
207.874.8801

TRAFFIC MOVEMENT PERMIT:

CITY OF PORTLAND PLANNING AUTHORITY (DELEGATED)
CITY HALL, CONGRESS STREET
PORTLAND, MAINE 04103

STATE

VOLUNTARY RESPONSE ACTION PLAN

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
312 CANCO ROAD, #4
PORTLAND, MAINE 04103
207.822.6300

STATUS/DATE ISSUED:

MAJOR SITE PLAN APPLICATION
SUBMITTED: 2024.08.02
WORKSHOP HELD: T.B.D.
FINAL SUBMISSION: T.B.D.

PREVIOUSLY APPROVED AS LOT 2 - SEE PLAN
IN C.C.R.D. PLAN BOOK 210, PAGE 194

TO BE FILED BY BUILDING CONTRACTOR

TO BE FILED PRIOR TO CONSTRUCTION

SCOPING MEETING: T.B.D.

SEE CERTIFICATION OF COMPLETION
C.C.R.D. BOOK 28791, PAGE 132
SEE DECLARATION OF ENVIRONMENTAL COVENANT
C.C.R.D. BOOK 28791, PAGE 136

CONSULTANT LIST

CIVIL ENGINEER:
GORRILL PALMER
300 SOUTHBOROUGH DRIVE, SUITE 200
SOUTH PORTLAND, MAINE 04106
207.772.2515
ATTN: STEVE BUSHEY
SBUSHEY@GORRILLPALMER.COM
KBOURASSA@GORRILLPALMER.COM

SURVEYOR:
OWEN HASKELL, INC.
390 US ROUTE 1, UNIT 10
FALMOUTH, MAINE 04105
207.774.0424
ATTN: SAM GLIDDEN

GEOTECHNICAL ENGINEER:
T.B.D.

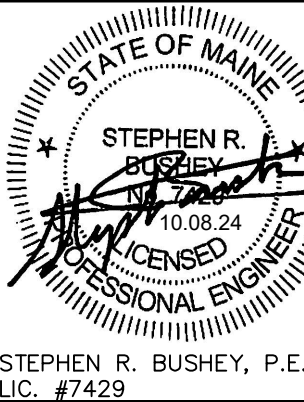
LANDSCAPE ARCHITECT:
CARROLL ASSOCIATES
217 COMMERCIAL STREET, SUITE 200
PORTLAND, MAINE 04101
207.772.1552
ATTN: PATRICK CARROLL
pcarroll@carroll-assoc.com
TRAFFIC ENGINEER / TDM CONSULTANT:
GORRILL PALMER
300 SOUTHBOROUGH DRIVE, SUITE 200
SOUTH PORTLAND, MAINE 04106
207.772.2515
ATTN: RANDY DUNTON
RDUNTON@GORRILLPALMER.COM

DESIGN BUILD LEADER:
PROCON, INC.
1359 HOOKSETT ROAD
HOOKSETT, NH 03108
603.578.2159
ATTN: KENT BEIRNE, AIA
VICE PRESIDENT ARCHITECTURE
kbeirne@proconinc.com

Stephen R. Bushey

I HEREBY ACKNOWLEDGE THAT THESE PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MAINE AND THAT I AM COMPETENT TO PREPARE THIS DOCUMENT.

NOTE: THIS PLAN SET
IS ISSUED FOR
PERMITTING PURPOSES
& SHALL NOT BE USED
FOR CONSTRUCTION.



Rev.	Date	Revision

Rev.	Date	Revision
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-COVER.dwg		
This plan shall not be modified without written permission from Gorriill Palmer. Any alterations, authorized or otherwise, shall be at the user's sole risk and without liability to Gorriill Palmer.		



Gorriill Palmer, an LJB Engineering Company
GorriillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name:	COVER SHEET
Project:	Home 2 Suites – 203 Fore Street Portland, Maine
Client:	Chatham Portland DT, LLC c/o Chatham Lodging Trust 222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No.	C-1.0
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U:\3904.01_Home 2 Suites Portland Chatham Lodging\Z - CAD\DWG\3904.01-GEN.dwg 10/8/2024 12:39 PM

GENERAL NOTES:

- THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF ALL REGULATIONS ADMINISTERED BY THE LOCAL UTILITY COMPANIES AND THE CITY OF PORTLAND.
- 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.
- 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.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THE 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.
- 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.
- 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.
- ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO PROJECT CONTRACT SPECIFICATIONS, AND THE CITY OF PORTLAND TECHNICAL MANUAL STANDARDS, WHICHEVER IS MORE STRINGENT.
- TOPOGRAPHIC AND BOUNDARY SURVEY INFORMATION WAS PROVIDED BY OWEN HASKELL, INC. BENCHMARK = USC & GC DISK AT 17 COMMERCIAL STREET. ELEVATION 14.50
- FEMA MAP COMMUNITY PANEL NUMBERS 0692 AND 0711. THE SITE IS LOCATED IN A C ZONE.
- 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.
- ALL SIGNAGE SHALL CONFORM TO THE STANDARDS FOR SIZE, HEIGHT, LOCATION AND REFLECTIVITY SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- ALL CURB SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS AS NOTED ON THE PLANS: GRANITE AND BITUMINOUS CONCRETE CURB SHALL MEET THE REQUIREMENTS OF MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS 609.03 AND 609.04 AND CITY OF PORTLAND TECHNICAL STANDARDS.
- ALL DIMENSIONING UNLESS OTHERWISE NOTED IS TO THE FACE OF CURB OR FACE OF BUILDING.
- THE FACILITY IS SERVICED BY PUBLIC WATER, SEWER, NATURAL GAS AND OVERHEAD POWER. THE PROJECT INCLUDES UPDATES TO THE POWER SERVICE INCLUDING THE INSTALLATION OF NEW UNDERGROUND SYSTEM. SEE SITE ELECTRICAL PLANS FOR DETAILS.

PERMITTING NOTES:

- 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.

GRADING AND DRAINAGE NOTES:

- 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.
- SLOPE PROTECTION IS TO BE PROVIDED PER THE DESIGN PLANS AND MAY INCLUDE RIPRAP, SOD OR MULCH.
- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING EARTHWORK OPERATIONS TO INSURE THAT DISTURBANCE TO ANY STEEP SLOPE AREAS ARE MINIMIZED TO THE EXTENT PRACTICABLE.
- 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.
- 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.
- NO HOLES, TRENCHES OR STRUCTURES SHALL BE LEFT OPEN OVERNIGHT IN ANY EXCAVATION ACCESSIBLE TO THE PUBLIC OR IN PUBLIC RIGHTS-OF-WAY.
- THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND DEVIATION OF APPROVED PLANS NOT AUTHORIZED BY THE ARCHITECT/ENGINEER AND/OR CLIENT/OWNER.
- 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.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.
- EXTERIOR GRADES AROUND PROPOSED STRUCTURE SHALL BE COORDINATED WITH FINAL BUILDING PLANS AND PROVIDE FOR ALL ACCESS OPENINGS.
- SUBGRADE FILL PLACED BENEATH ALL PERMANENT PAVEMENT, SIDEWALK OR CONCRETE SURFACES EXCLUDING ANY BUILDING AREAS, SHALL BE GRANULAR BORROW (MOOT 703.19). SUBGRADE FILL PLACED BENEATH ALL LANDSCAPE AREAS EXCEPT THOSE ADJACENT THE FOUNDATION SYSTEMS MAY BE A COMMON BORROW MATERIAL SUITABLE FOR EMBANKMENT CONSTRUCTION, FREE FROM FROZEN MATERIAL, PERISHABLE RUBBLE, PEAT, ORGANICS, ROCKS LARGER THAN 12" IN DIAMETER, VEGETATION AND OTHER MATERIAL UNSUITABLE FOR ROADWAY AND SUBGRADE CONSTRUCTION. EXCAVATED ON-SITE MATERIALS MAY BE USED FOR FILL PROVIDED THE MATERIAL IS FREE FROM UNSUITABLE MATERIAL DESCRIBED IN THIS NOTE AND UPON APPROVAL OF THE ENGINEER. EXCAVATED ONSITE MATERIALS MAY NOT BE USED AS COMPACTED STRUCTURAL FILL BENEATH THE BUILDING AREAS OR AS FOUNDATION BACKFILL. GRANULAR BORROW AND COMMON BORROW SHALL COMPLY WITH THE MOOT SPECIFICATIONS.
- ALL FILLS SHALL BE PLACED IN LAYERS NOT MORE THAN 12" LOOSE DEPTH AND COMPACTED BY HEAVY COMPACTION EQUIPMENT. MINIMUM COMPACTION SHALL BE 95% OF MAXIMUM DENSITY ASTM 1557, MODIFIED AND FIELD DENSITY ASTM D2922 (NUCLEAR METHODS).
- THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY. NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING.

CONSTRUCTION MANAGEMENT NOTES:

- ALL CONSTRUCTION SHALL COMPLY WITH 2009 NFPA 1 CHAPTER 16 SAFE GUARDS DURING BUILDING CONSTRUCTION, ALTERATION AND DEMOLITION OPERATIONS.
- ANY CUTTING AND WELDING WORK PERFORMED ONSITE SHALL REQUIRE A "HOT WORK" PERMIT FROM THE PORTLAND FIRE DEPARTMENT.
- 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.
- 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.
- STREETS SHALL MAINTAIN A 20' WIDTH FOR FIRE DEPARTMENT ACCESS AT ALL TIMES.
- FIRE HYDRANTS SHALL NOT BE BLOCKED OR ENCLOSED BY FENCING. A 3' CLEARANCE SHALL BE MAINTAINED AT ALL TIMES AROUND FIRE HYDRANTS.

EROSION CONTROL NOTES:

THE PROJECT SITE IS RELATIVELY SMALL AND WILL PRIMARILY FEATURE BELOW GROUND EXCAVATION THAT WILL RESULT IN AN INTERNALLY DRAINING RUNOFF PATTERN. NEARLY THE ENTIRE PROJECT SITE WILL BE STABILIZED BY ROOFTOP, PAVEMENT, OR BRICK SIDEWALKS.

THE PRIMARY EMPHASIS OF THE EROSION AND SEDIMENTATION CONTROL PLAN TO BE IMPLEMENTED FOR THIS PROJECT IS AS FOLLOWS:

- PLANNING THE PROJECT TO PROVIDE THE ABILITY TO CAPTURE ANY ERODED MATERIALS FROM THE WORK AREA ON THE SITE.
- DEVELOPMENT OF A CAREFUL CONSTRUCTION SEQUENCE.
- RAPID STABILIZATION OF DENUDED AREAS TO MINIMIZE THE PERIOD OF SOIL EXPOSURE.
- PREVENTING SEDIMENT LADEN RUNOFF FROM ENTERING THE EXISTING STORM DRAIN NETWORK ON AND AROUND THE SITE.
- KEEPING SURROUNDING STREETS FREE OF MUD AND DUST BY REGULARLY SWEEPING.

EROSION/SEDIMENTATION CONTROL DEVICES

AS PART OF THE SITE DEVELOPMENT THE CONTRACTOR WILL IMPLEMENT THE FOLLOWING EROSION AND SEDIMENT CONTROL DEVICES. THESE DEVICES SHALL BE INSTALLED AS INDICATED ON THE PLANS OR AS DESCRIBED HEREIN. FOR FURTHER REFERENCE, SEE THE "MAINE EROSION AND SEDIMENT CONTROL BMPs" HANDBOOK PUBLISHED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

- SILTATION FENCE SHALL BE INSTALLED DOWN SLOPE OF ANY DISTURBED AREAS TO TRAP RUNOFF-BORNE SEDIMENTS UNTIL THE SITE IS REVEGETATED. THE SILT FENCE SHALL BE INSTALLED PER THE DETAIL PROVIDED IN THE PLAN SET AND INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. THE CONTRACTOR SHALL MAKE REPAIRS IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE LINE. PROPER PLACEMENT OF STAKES AND KEYING THE BOTTOM OF THE FABRIC INTO THE GROUND ARE CRITICAL TO THE FENCE'S EFFECTIVENESS. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THE FENCE, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM. THE SILTATION FENCE SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL THE SITE IS PERMANENTLY STABILIZED.
- CATCH BASIN INLET PROTECTION: STONE SEDIMENT TRAPS OR A PREMANUFACTURED SILTSACK™ WILL BE INSTALLED AT CATCH BASIN INLETS TO PREVENT SILT FROM ENTERING THE STORM DRAIN SYSTEM. INSTALLATION DETAILS ARE PROVIDED IN THE PLAN SET. INLET PROTECTION SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL TRIBUTARY AREAS ARE PERMANENTLY STABILIZED.

TEMPORARY EROSION & SEDIMENTATION CONTROL MEASURES

ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. THE FOLLOWING ARE PLANNED AS TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION:

- SILTATION FENCE AND CATCH BASIN INLET PROTECTION AS DESCRIBED ABOVE.
- IF OPERATIONS DURING WET MONTHS RESULT IN TRACKING OF MUD OFF THE SITE ONTO PUBLIC ROADS, ROADS SHALL BE SWEEPED AT LEAST ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. WHERE CHRONIC MUD TRACKING OCCURS, A STABILIZED CONSTRUCTION ENTRANCE SHOULD BE PROVIDED.
- IF OPERATIONS DURING DRY MONTHS RESULT IN FUGITIVE DUST EMISSION, ADJACENT ROADS SHALL BE SPRAYED WITH WATER ONCE A WEEK OR MORE FREQUENTLY, AS NEEDED.
- STABILIZE WITH MULCH OR OTHER NON-ERODIBLE COVER ANY SOILS THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS.
- LITTER, CONSTRUCTION DEBRIS, AND CHEMICALS MUST NOT BE STORED IN A MANNER THAT WILL CREATE A POLLUTANT SOURCE IF EXPOSED TO STORMWATER RUNOFF.

TIMING AND SEQUENCE OF EROSION/SEDIMENTATION CONTROL MEASURES

THE FOLLOWING BASIC CONSTRUCTION SEQUENCE SHALL BE REQUIRED TO ENSURE THE EFFECTIVENESS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES IS OPTIMIZED. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE OWNER A SPECIFIC CONSTRUCTION SCHEDULE, WHICH SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER.

NOTE: FOR ALL GRADING ACTIVITIES, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION NOT TO OVEREXPOSE THE SITE BY LIMITING THE DISTURBED AREA.

- INSTALL PERIMETER SILTATION FENCE & CATCH BASIN INLET PROTECTION. THE CONTRACTOR MUST INSTALL ANY ADDED MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE AND FUGITIVE DUST EMISSIONS DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS.
- CLEAR AND GRUB THE WORK AREA FOR THE BUILDING, HAUL OFF THE LOAM, AND EXCAVATE FOR THE BUILDING FOUNDATION.
- CONSTRUCT THE DRAINAGE SYSTEM.
- INSTALL STONE AND HAY BALE CHECK DAMS AT ANY CONCENTRATED FLOW DISCHARGE POINTS.
- INSTALL SIDEWALKS AND PAVEMENT AS DETAILED ON THE SITE PLANS.
- REMOVE ALL TEMPORARY EROSION CONTROL DEVICES ONCE THE SITE IS STABILIZED.

PROVISIONS FOR MAINTENANCE OF THE EROSION/SEDIMENTATION CONTROL FEATURES

DURING CONSTRUCTION OF THE BUILDING AND ASSOCIATED SITE DEVELOPMENT THE CONTRACTOR SHALL BE REQUIRED TO PERFORM THE FOLLOWING:

- INSPECTION OF THE PROJECT WORK SITE ON A WEEKLY BASIS AND AFTER EACH SIGNIFICANT RAINFALL EVENT (0.5 INCH OR MORE WITHIN ANY CONSECUTIVE 24-HOUR PERIOD) DURING CONSTRUCTION UNTIL THE SITE HAS BEEN PERMANENTLY STABILIZED. INSPECTION OF THE PROJECT WORK SITE SHALL INCLUDE:
 - IDENTIFICATION OF PROPER EROSION CONTROL MEASURE INSTALLATION IN ACCORDANCE WITH THE EROSION CONTROL DETAILS OR AS SPECIFIED HEREIN.
 - DETERMINE WHETHER EACH EROSION CONTROL MEASURE IS OPERATING PROPERLY. IF NOT, IDENTIFY DAMAGE TO THE CONTROL DEVICE AND DETERMINE REMEDIAL MEASURES.
 - IDENTIFY AREAS THAT APPEAR VULNERABLE TO EROSION AND DETERMINE ADDITIONAL EROSION CONTROL MEASURES THAT SHOULD BE USED TO IMPROVE CONDITIONS.
 - DETERMINE THE NEED TO SWEEP ADJACENT STREETS OR APPLY WATER FOR DUST CONTROL.

ACCUMULATED SILT/SEDIMENT SHOULD BE REMOVED WHEN THE DEPTH OF SEDIMENT REACHES 50 PERCENT OF THE BARRIER HEIGHT. ACCUMULATED SILT/SEDIMENT SHOULD BE REMOVED FROM BEHIND SILT FENCING WHEN THE DEPTH OF THE SEDIMENT REACHES 6 INCHES.

- IF INSPECTION OF THE SITE INDICATES A CHANGE SHOULD BE MADE TO THE EROSION CONTROL PLAN, EITHER TO IMPROVE EFFECTIVENESS OR CORRECT A SITE-SPECIFIC DEFICIENCY, THE INSPECTOR SHALL IMMEDIATELY IMPLEMENT THE CORRECTIVE MEASURE AND NOTIFY THE OWNER OF THE CHANGE.

- THE CONTRACTOR SHALL KEEP A LOG (REPORT) SUMMARIZING THE INSPECTIONS AND ANY CORRECTIVE ACTION TAKEN. THE LOG MUST INCLUDE THE NAME(S) AND QUALIFICATIONS OF THE PERSON MAKING THE INSPECTIONS, THE DATE(S) OF THE INSPECTIONS, AND MAJOR OBSERVATIONS ABOUT THE OPERATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS, MATERIALS STORAGE AREAS, AND VEHICLES ACCESS POINTS TO THE PARCEL. MAJOR OBSERVATIONS MUST INCLUDE: BMPs THAT NEED MAINTENANCE, BMPs THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATION(S) WHERE ADDITIONAL BMPs ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPs, NOTE IN THE LOG THE CORRECTIVE ACTION TAKEN AND WHEN IT WAS TAKEN.

THE LOG MUST BE MADE ACCESSIBLE TO THE OWNER AND REGULATORY STAFF, AND A COPY MUST BE PROVIDED UPON REQUEST.

- ONCE THE SITE HAS BEEN PERMANENTLY STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES SHOULD BE REMOVED.

UTILITY NOTES:

- ALL REQUIRED UTILITIES SERVING THE PROJECT SHALL BE COORDINATED BETWEEN THE SITE WORK CONTRACTOR AND DIVISION 22/25 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.
- 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.
- THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRIC SERVICE WITH CENTRAL MAINE POWER; THE TELECOMMUNICATIONS SERVICE WITH FAIRPOINT COMMUNICATIONS AND CABLE SERVICE WITH TIME WARNER CABLE. ALL WORK SHALL CONFORM TO THE PROJECT SPECIFICATIONS OR UTILITY COMPANY STANDARDS, WHICHEVER IS MORE STRINGENT.
- ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE AT NO ADDITIONAL EXPENSE TO THE OWNER.
- ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.

VRAP - CERTIFICATION OF COMPLETION CONDITIONS

- THE FUTURE INSTALLATION OF GROUNDWATER EXTRACTION WELLS ON THE PROPERTY FOR ANY PURPOSE IS PROHIBITED WITHOUT PRIOR WRITTEN PERMISSION FROM THE DEPARTMENT.
- IF SOILS ARE EXCAVATED ON THE PROPERTY THAT WILL NOT BE USED ON SITE DURING FUTURE WORK, THESE SOILS MUST BE CHARACTERIZED TO DETERMINE IF THEY CAN BE USED OFFSITE OR IF THEY NEED TO BE APPROPRIATELY DISPOSED.
- PROPERTY USE SHALL REMAIN RESIDENTIAL AND COMMERCIAL UNLESS OTHERWISE APPROVED IN WRITING BY THE DEPARTMENT.
- A SUB-SLAB VAPOR BARRIER MUST BE INSTALLED BENEATH ANY NEW STRUCTURES BUILT ON THE PROPERTY THAT ARE TO OCCUPIED BY HUMANS.
- A COPY OF THIS CERTIFICATE SHALL BE RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS. A COPY OF THE RECORDED DOCUMENT MUST BE SUPPLIED TO THE DEPARTMENT.
- A DECLARATION OF ENVIRONMENTAL COVENANT, AS DEFINED IN 38 M.R.S.A. § 3001 et seq., THAT IS CONSISTENT WITH THIS CERTIFICATE AND ACCEPTABLE TO THE DEPARTMENT MUST BE PREPARED AND RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS. A COPY OF THE RECORDED DOCUMENT MUST BE SUPPLIED TO THE DEPARTMENT.

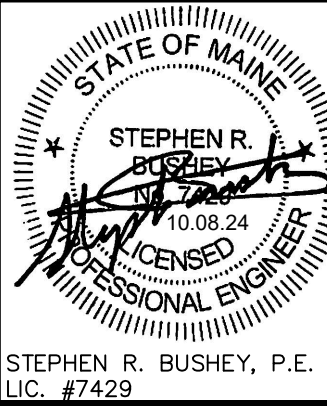
LEGEND:

PROPOSED

EXISTING

BUILDING	IRON PIN FOUND (IPF) OR CAPPED IRON ROD FOUND (CIR)
LANDSCAPING	ELECTRIC MANHOLE
	CATCH BASIN
	SEWER MANHOLE
	DRAIN MANHOLE
	DOWN SPOUT
	WATER VALVE
	WATER SHUTOFF
EDGE OF PAVEMENT	UTILITY POLE SIGN
VERTICAL GRANITE CURB	LIGHT POLE
SLIPFORM CONCRETE CURB	ELECTRIC METER
	GAS METER
BRICK SIDEWALK	EDGE OF PAVEMENT CURB (GRANITE, UNLESS NOTED)
	EDGE OF GRAVEL TREE
	STUMP
	EXISTING CONTOUR
	SPOT GRADE
	PROPERTY LINE
	RIGHT OF WAY
	STORM DRAIN
	SEWER
	UNDERGROUND WATER
	OVERHEAD UTILITY WIRES
	WOOD STOCKADE FENCE
	CHAIN LINK FENCE
	GUARD RAIL
	EXISTING BUILDING

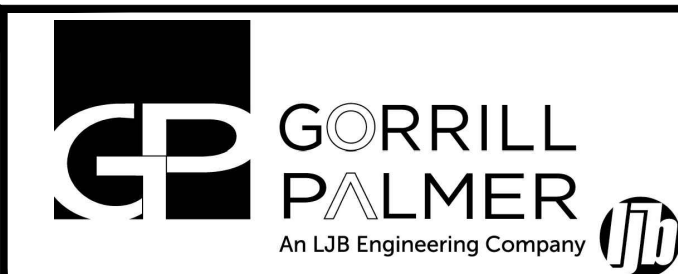
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Rev.	Date	Revision

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2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

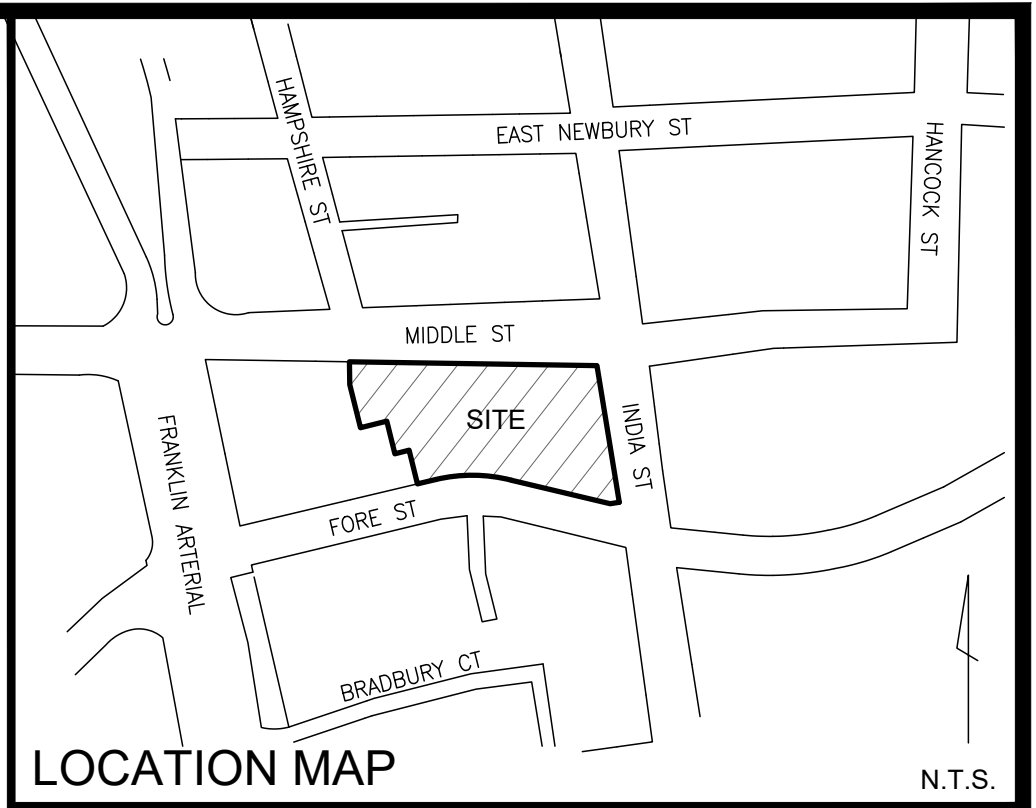
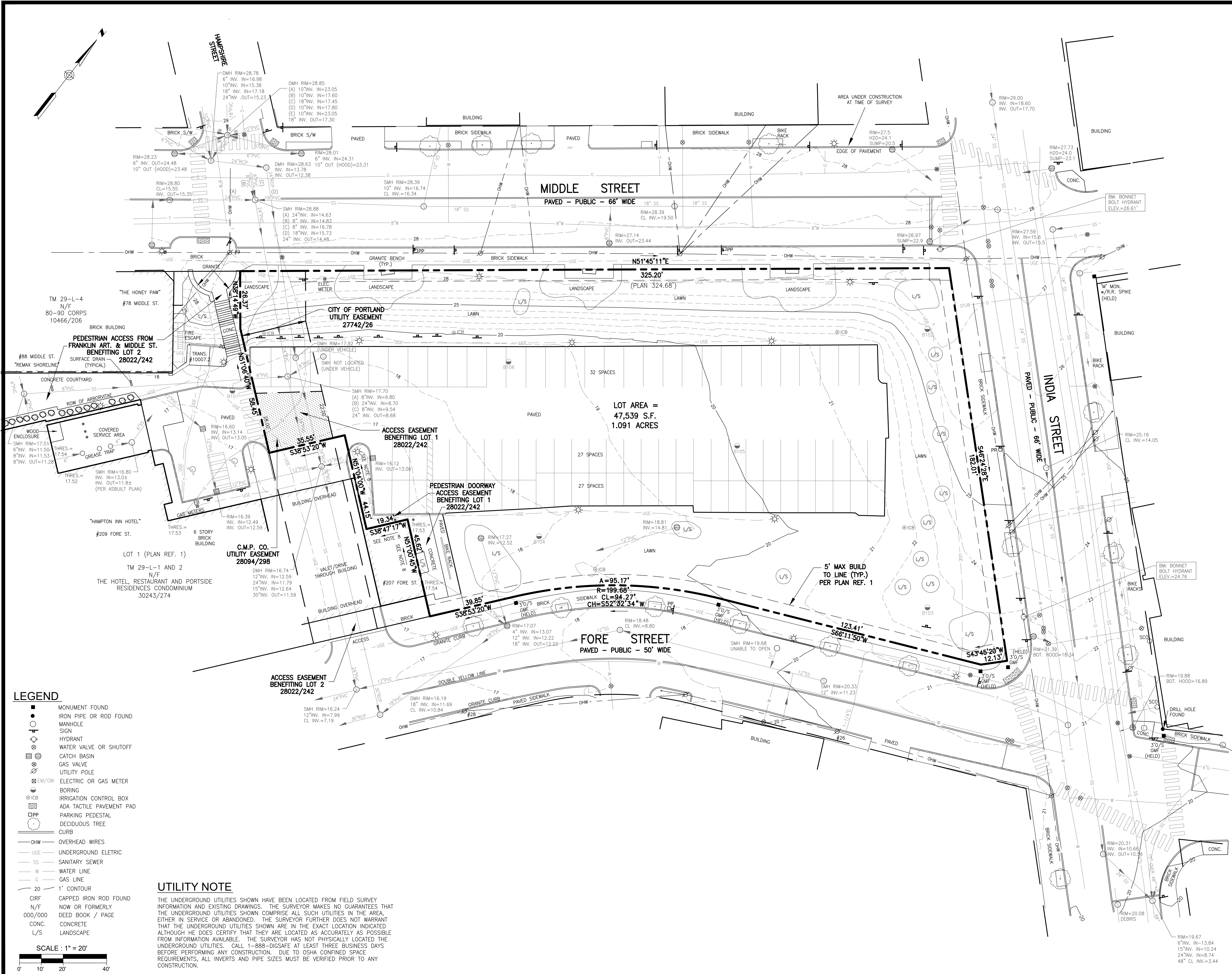
Design: SRR	Draft: CDD	Date: JUNE 2024
Checked: SRR	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-GEN.dwg		
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(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name:	GENERAL NOTES & LEGEND
Project:	Home 2 Suites – 203 Fore Street Portland, Maine
Client:	Chatham Portland DT, LLC c/o Chatham Lodging Trust 222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No.
C-1.1



- ### PLAN REFERENCES
- "SUBDIVISION PLAN OF: HOTEL, RESTAURANT AND PORTSIDE RESIDENCES, 207 & 209 FORE STREET, PORTLAND, ME FOR: OLD PORT HOSPITALITY, LLC." BY SEBAGO TECHNICS DATED 02-08-10 AND REVISED THROUGH 04-23-10. RECORDED IN PLAN BOOK 210 PAGE 194.
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 - "ALTA/NSPS LAND TITLE SURVEY, 203 FORE STREET, PORTLAND, CUMBERLAND, COUNTY, MAINE MADE FOR GORRILL PALMER" MAY 30, 2018 BY OWEN HASKELL, INC.

- ### GENERAL NOTES
- OWNER OF RECORD: CHATHAM PORTLAND DT LLC, 50 COCONUT ROW STE. 211, PALM BEACH, FL 33480 CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 30252, PAGE 341.
 - LOCUS IS SHOWN AS LOT 3 BLOCK L ON CITY OF PORTLAND'S TAX MAP 29.
 - BEARINGS ARE BASED ON STATE PLANE COORDINATE SYSTEM, MAINE WEST ZONE, NAD 83 PER CITY CONTROL MONUMENTS.
 - CITY CONTROL POINTS USED:
PT# 3023 - OCEAN GATEWAY PROJECT
PT# 3000 - N.E. CORNER HANCOCK/FORE
N:301390.32
E:2931443.86
N:301536.149
E:2931222.69
 - USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.
ELEVATIONS ARE BASED ON CITY OF PORTLAND VERTICAL DATUM (NGVD 1929). BENCHMARK: USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.
 - PER PLAN REFERENCE 1, THE PROPERTY LINES ALONG THE CONDOMINIUM BUILDING ON LOT 1 SHALL BE LOCATED ON THE ASBUILT WALL AT GROUND LEVEL. SEE NOTE 34 ON REFERENCED PLAN.

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
SAMUEL D. GLIDDEN, PLS #2520
5/30/2018
DATE

STATE OF MAINE
SAMUEL D. GLIDDEN
2520
PROFESSIONAL LAND SURVEYOR

Boundary & Topographic Survey

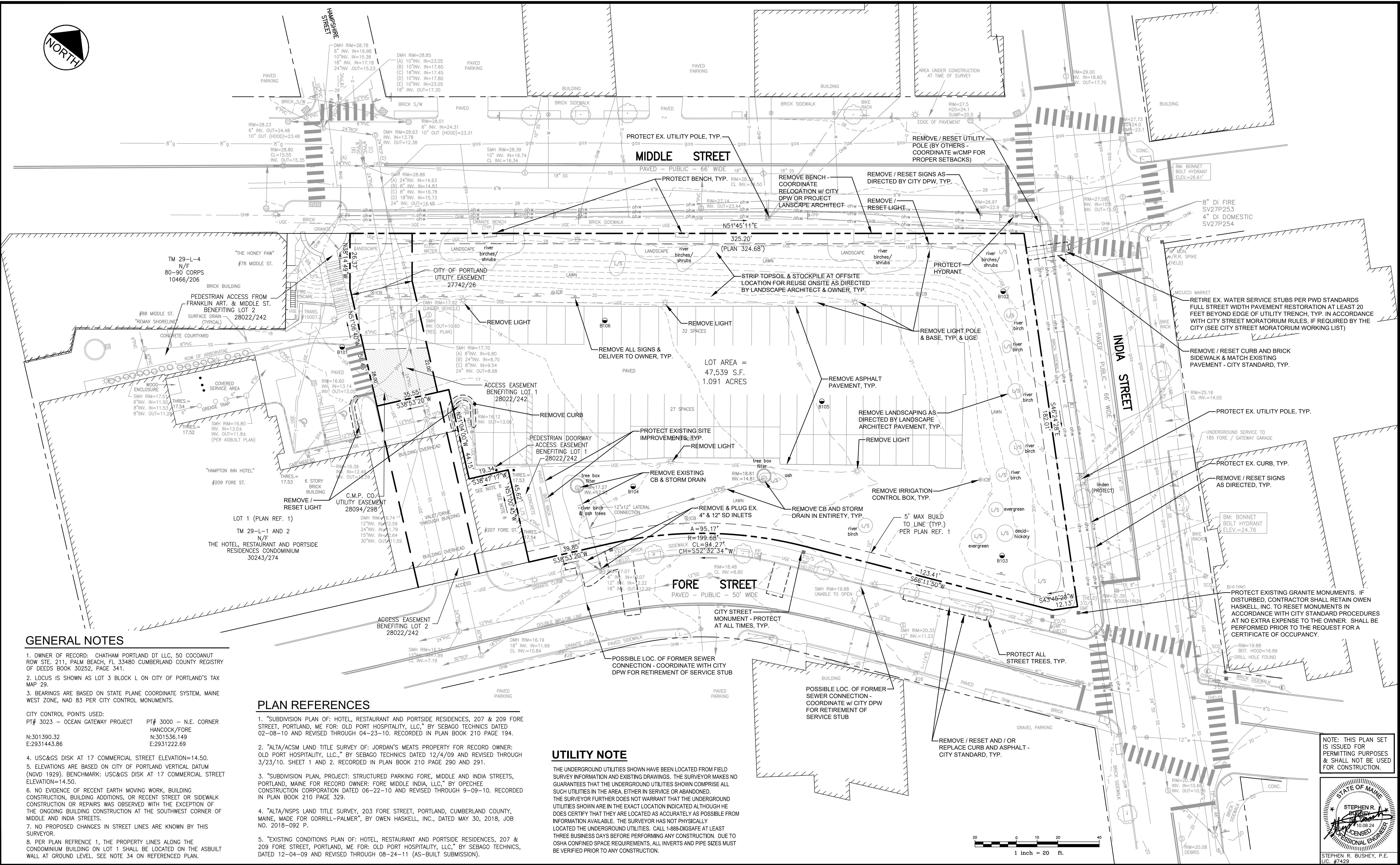
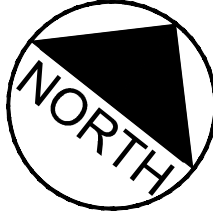
At
203 Fore Street, Portland, Maine

Made for
Gorrill Palmer
300 Southborough Drive, #200
South Portland, Maine

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424

DRAWN BY: SDG/JLW DATE: MAY 30, 2018 JOB NO. 2018-092 P
CHECKED BY: SDG SCALE: 1" = 20' DRWG. NO. 1

U:\3904.01_Home 2 Suites Portland Chatham Lodging_V - CAD\DWG\3904.01-EX AND DEMO.dwg 10/8/2024 12:41 PM



GENERAL NOTES

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- 5. ELEVATIONS ARE BASED ON CITY OF PORTLAND VERTICAL DATUM (NGVD 1929). BENCHMARK: USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.
- 6. NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, BUILDING ADDITIONS, OR RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS WAS OBSERVED WITH THE EXCEPTION OF THE ONGOING BUILDING CONSTRUCTION AT THE SOUTHWEST CORNER OF MIDDLE AND INDIA STREETS.
- 7. NO PROPOSED CHANGES IN STREET LINES ARE KNOWN BY THIS SURVEYOR.
- 8. PER PLAN REFERENCE 1, THE PROPERTY LINES ALONG THE CONDOMINIUM BUILDING ON LOT 1 SHALL BE LOCATED ON THE ASBUILT WALL AT GROUND LEVEL. SEE NOTE 34 ON REFERENCED PLAN.

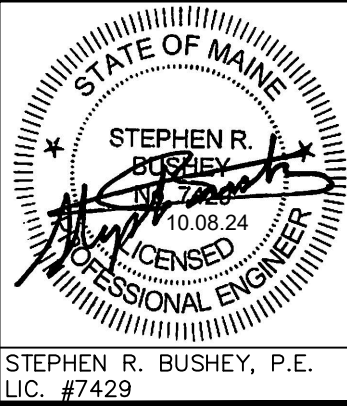
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UTILITY NOTE

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.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.



Rev.	Date	Revision

Rev.	Date	Revision
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-EX AND DEMO.dwg		
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300 Southborough Drive - Suite 200
South Portland, ME 04106

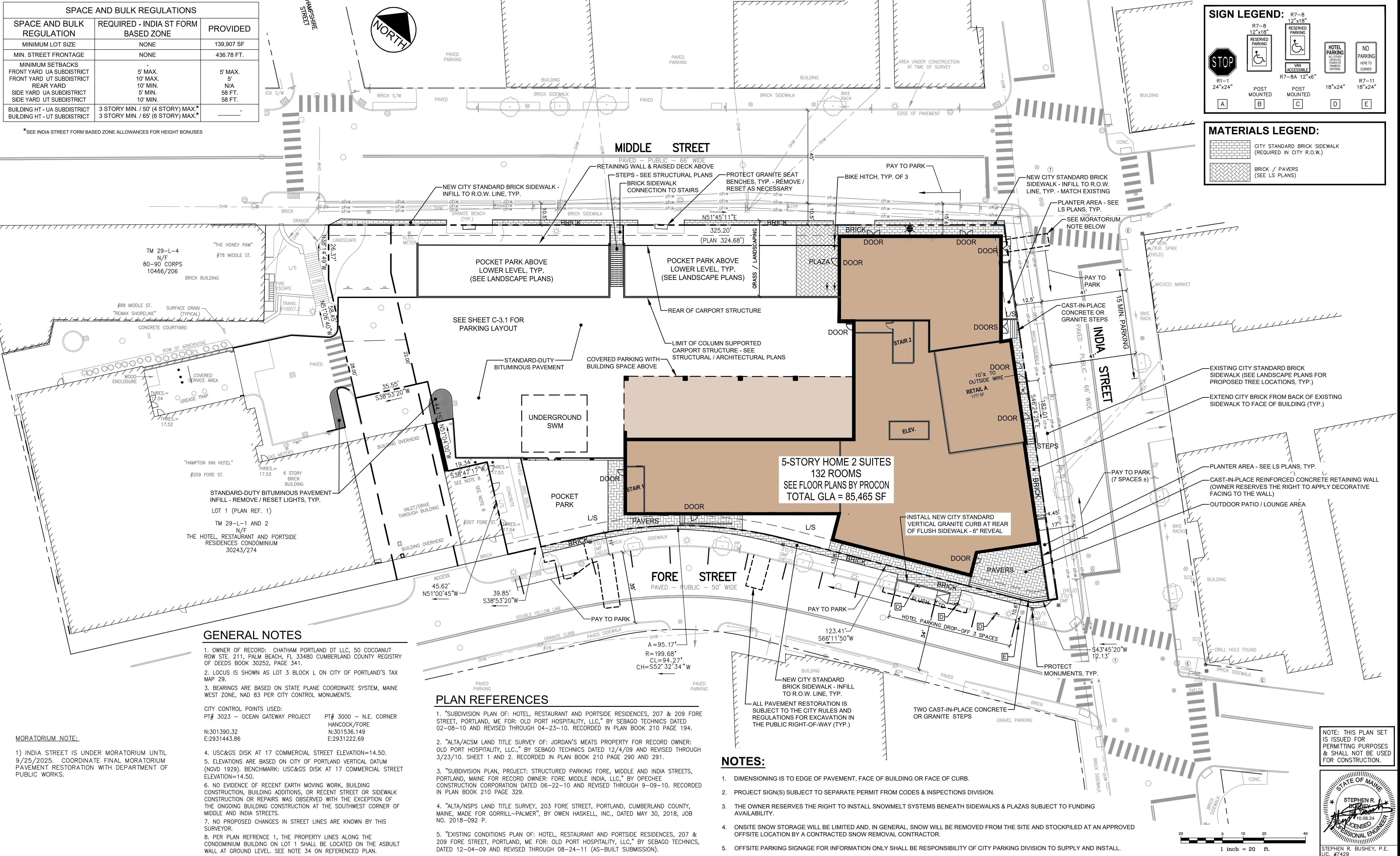
Drawing Name:	EXISTING CONDITIONS & DEMOLITION PLAN
Project:	Home 2 Suites - 203 Fore Street Portland, Maine
Client:	Chatham Portland DT, LLC c/o Chatham Lodging Trust 222 Lakeview Avenue- Suite 200, West Palm Beach, FL 33401

Drawing No.
C-2.1

U:\3904.01_Home 2 Suites Portland Chatham Lodging\Z - CAD\DWG\3904.01-SITE.dwg 10/8/2024 12:37 PM

SPACE AND BULK REGULATIONS		
SPACE AND BULK REGULATION	REQUIRED - INDIA ST FORM BASED ZONE	PROVIDED
MINIMUM LOT SIZE	NONE	139,907 SF
MIN. STREET FRONTAGE	NONE	436.78 FT.
MINIMUM SETBACKS		
FRONT YARD UA SUBDISTRICT	5' MAX.	5' MAX.
FRONT YARD UT SUBDISTRICT	10' MAX.	5'
REAR YARD	10' MIN.	N/A
SIDE YARD UA SUBDISTRICT	5' MIN.	58 FT.
SIDE YARD UT SUBDISTRICT	10' MIN.	58 FT.
BUILDING HT - UA SUBDISTRICT	3 STORY MIN. / 50' (4 STORY) MAX.*	
BUILDING HT - UT SUBDISTRICT	3 STORY MIN. / 65' (6 STORY) MAX.*	

*SEE INDIA STREET FORM BASED ZONE ALLOWANCES FOR HEIGHT BONUSES



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CITY CONTROL POINTS USED:

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E:2931443.86

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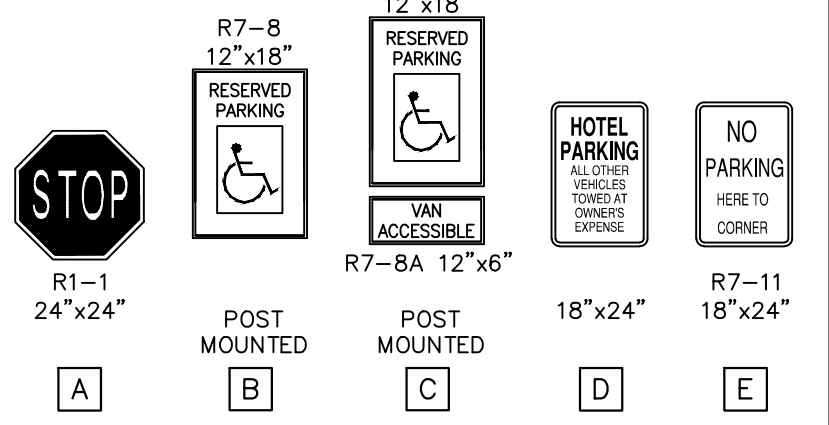
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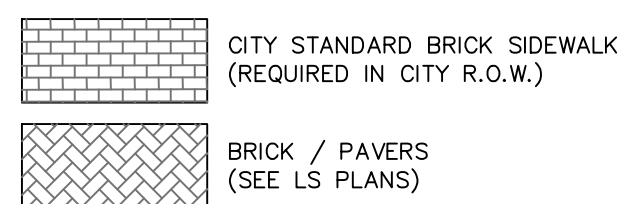
NOTES:

- DIMENSIONING IS TO EDGE OF PAVEMENT, FACE OF BUILDING OR FACE OF CURB.
- PROJECT SIGN(S) SUBJECT TO SEPARATE PERMIT FROM CODES & INSPECTIONS DIVISION.
- THE OWNER RESERVES THE RIGHT TO INSTALL SNOWMELT SYSTEMS BENEATH SIDEWALKS & PLAZAS SUBJECT TO FUNDING AVAILABILITY.
- ONSITE SNOW STORAGE WILL BE LIMITED AND, IN GENERAL, SNOW WILL BE REMOVED FROM THE SITE AND STOCKPILED AT AN APPROVED OFFSITE LOCATION BY A CONTRACTED SNOW REMOVAL CONTRACTOR.
- OFFSITE PARKING SIGNAGE FOR INFORMATION ONLY SHALL BE RESPONSIBILITY OF CITY PARKING DIVISION TO SUPPLY AND INSTALL.

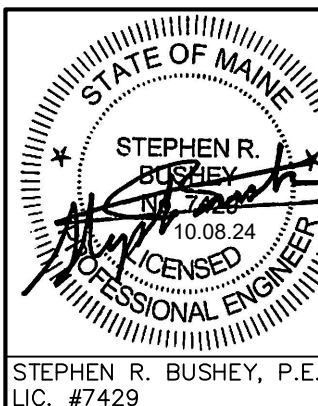
SIGN LEGEND:



MATERIALS LEGEND:



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2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-SITE.dwg		

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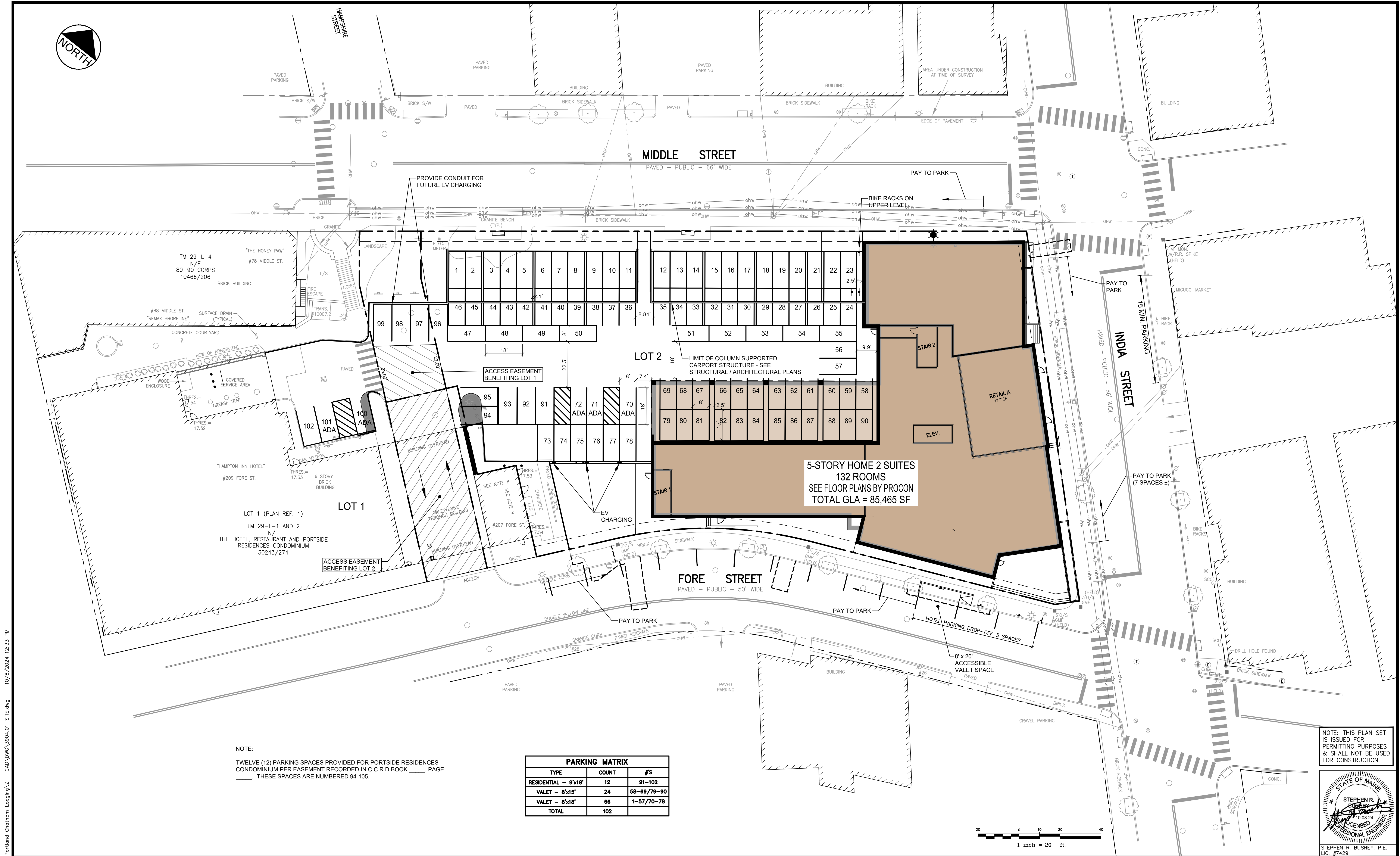


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GorriilPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name:	SITE LAYOUT PLAN
Project:	Home 2 Suites - 203 Fore Street Portland, Maine
Client:	Chatham Portland DT, LLC c/o Chatham Lodging Trust 222 Lakeview Avenue- Suite 200, West Palm Beach, FL 33401

Drawing No.

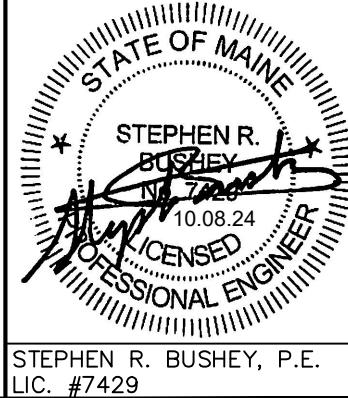
C-3.0



NOTE:
TWELVE (12) PARKING SPACES PROVIDED FOR PORTSIDE RESIDENCES CONDOMINIUM PER EASEMENT RECORDED IN C.C.R.D BOOK _____, PAGE _____. THESE SPACES ARE NUMBERED 94-105.

PARKING MATRIX		
TYPE	COUNT	#S
RESIDENTIAL -- 9'x18'	12	91-102
VALET -- 8'x15'	24	58-69/79-90
VALET -- 8'x18'	66	1-57/70-78
TOTAL	102	

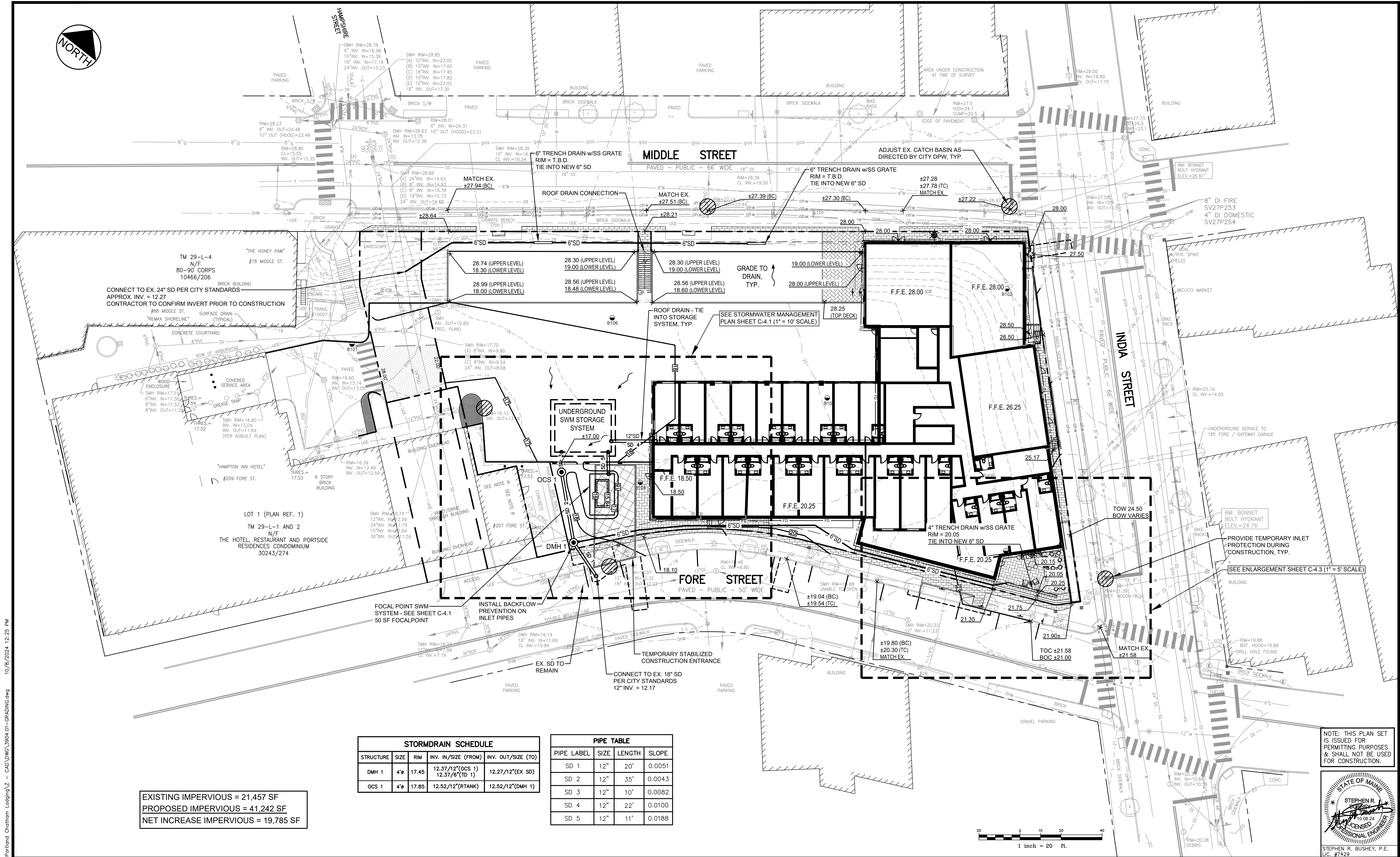
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Rev.	Date	Revision	Design: SRB Draft: CDD Date: JUNE 2024 Checked: SRB Scale: AS NOTED Job No.: 3904.01 File Name: 3904.01-SITE.dwg This plan shall not be modified without written permission from Gorriil Palmer. Any alterations, authorized or otherwise, shall be at the user's sole risk and without liability to Gorriil Palmer.	 GORRIIL PALMER An LJB Engineering Company	Gorriil Palmer, an LJB Engineering Company GorriilPalmer.com (207) 772-2515 300 Southborough Drive - Suite 200 South Portland, ME 04106	Drawing Name: PARKING PLAN Project: Home 2 Suites -- 203 Fore Street Portland, Maine Client: Chatham Portland DT, LLC c/o Chatham Lodging Trust 222 Lakeview Avenue-- Suite 200, West Palm Beach, FL 33401	Drawing No. C-3.1
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Rev.	Date	Revision
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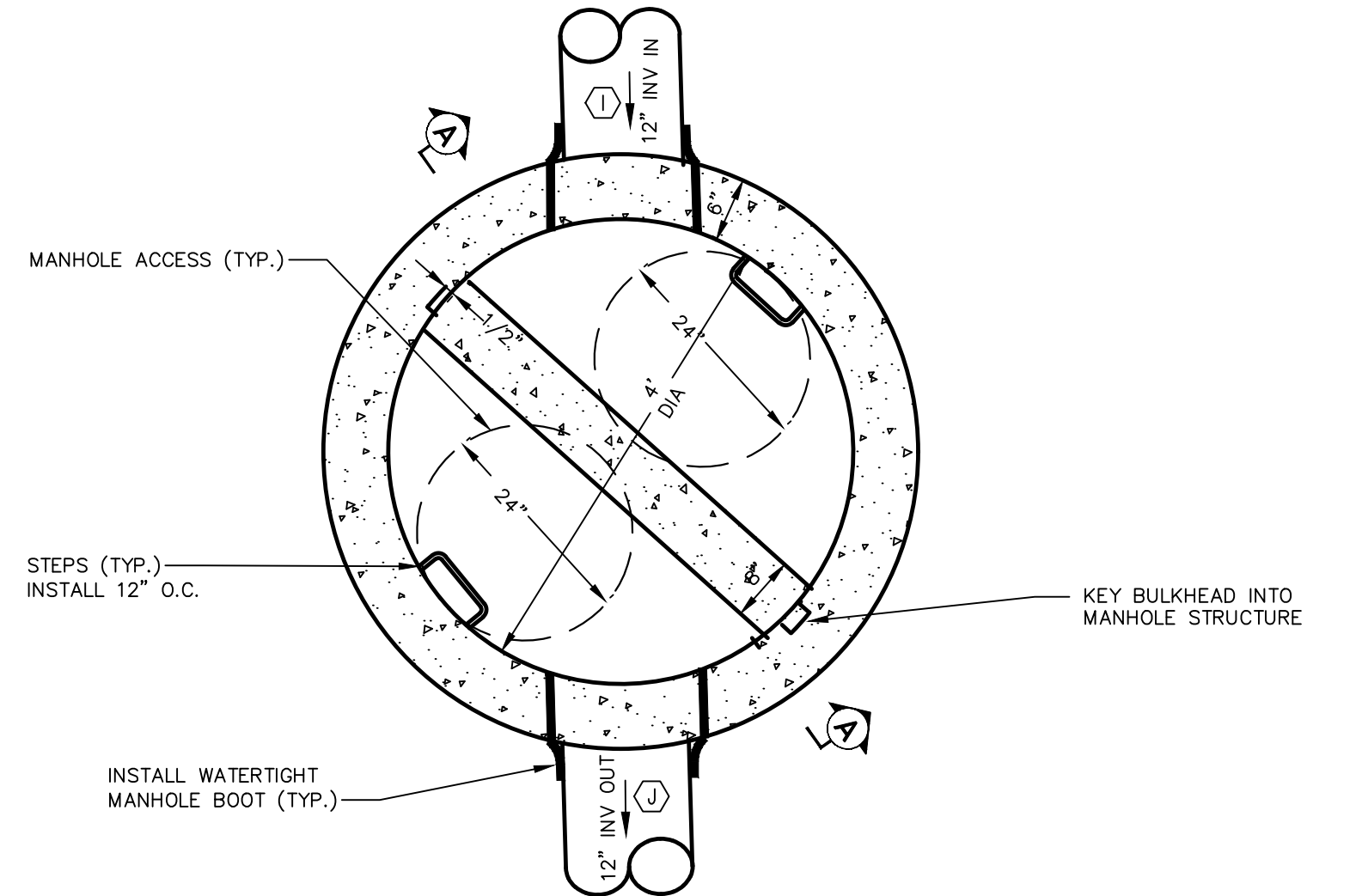
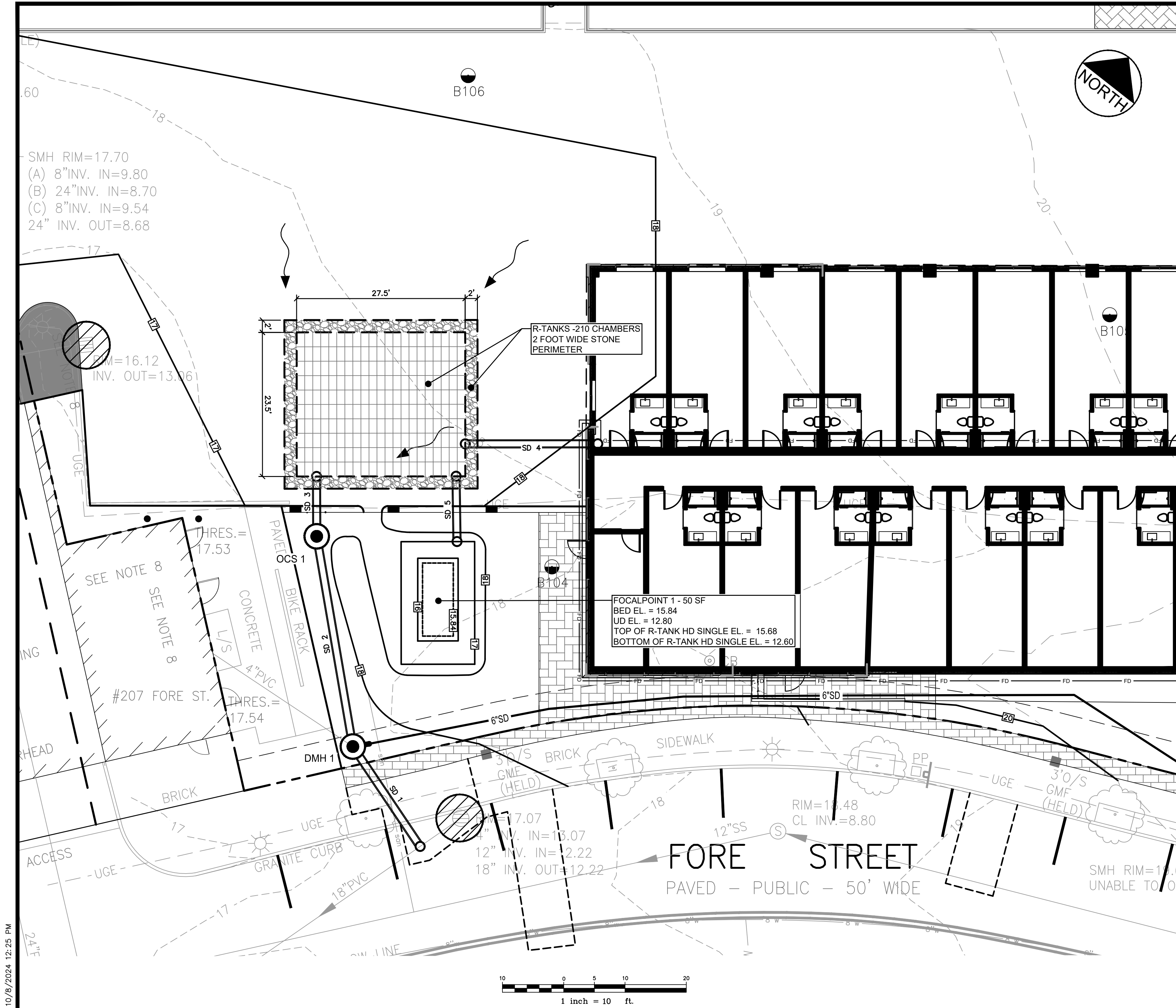
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An LJB Engineering Company

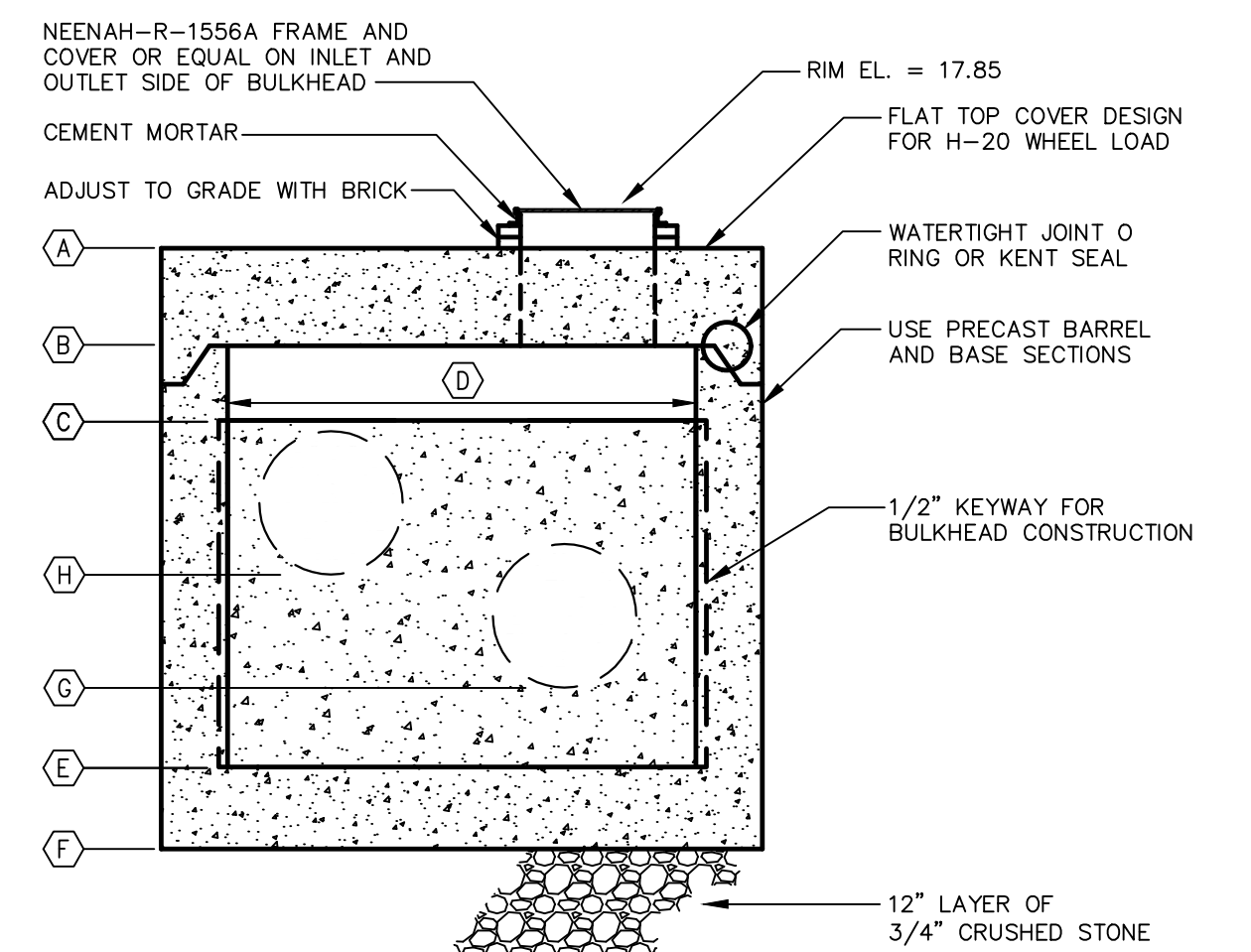
Gorriil Palmer, an LJB Engineering Company
GorriilPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name:	GRADING, DRAINAGE & EROSION CONTROL PLAN
Project:	Home 2 Suites - 203 Fore Street Portland, Maine
Client:	Chatham Portland DT, LLC c/o Chatham Lodging Trust 222 Lakeview Avenue- Suite 200, West Palm Beach, FL 33401

Drawing No.	C-4.0
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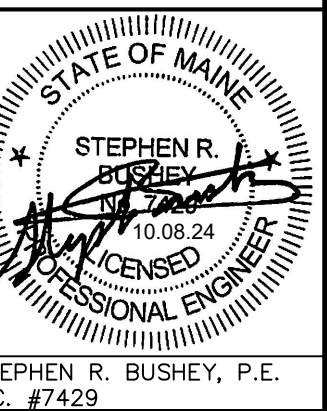
PLAN VIEW
OUTLET CONTROL STRUCTURE PLAN VIEW
SEE SCHEDULE



SECTION A-A
OUTLET CONTROL STRUCTURE SECTION VIEW
SEE SCHEDULE

OUTLET CONTROL STRUCTURE SCHEDULE		
	ITEM DESCRIPTION	ELEV. / DIM.
		OCS 1
A	TOP OF STRUCTURE	17.35
B	UNDERSIDE TOP SLAB	16.68
C	TOP OF CONCRETE BULKHEAD	15.68
D	WEIR LENGTH	4'
E	MANHOLE INVERT	12.52
F	BOTTOM OF STRUCTURE	11.85
G	ORIFICE INVERT	13.46
H	ORIFICE DIAMETER	6.5"
I	ORIFICE INVERT	14.75
J	ORIFICE DIAMETER	9"
	PIPE DIAMETER	12"
	INVERT IN	12.52
	PIPE DIAMETER	12"
	INVERT OUT	12.52

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.



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Rev.	Date	Revision

Rev.	Date	Revision
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-GRADING.dwg		
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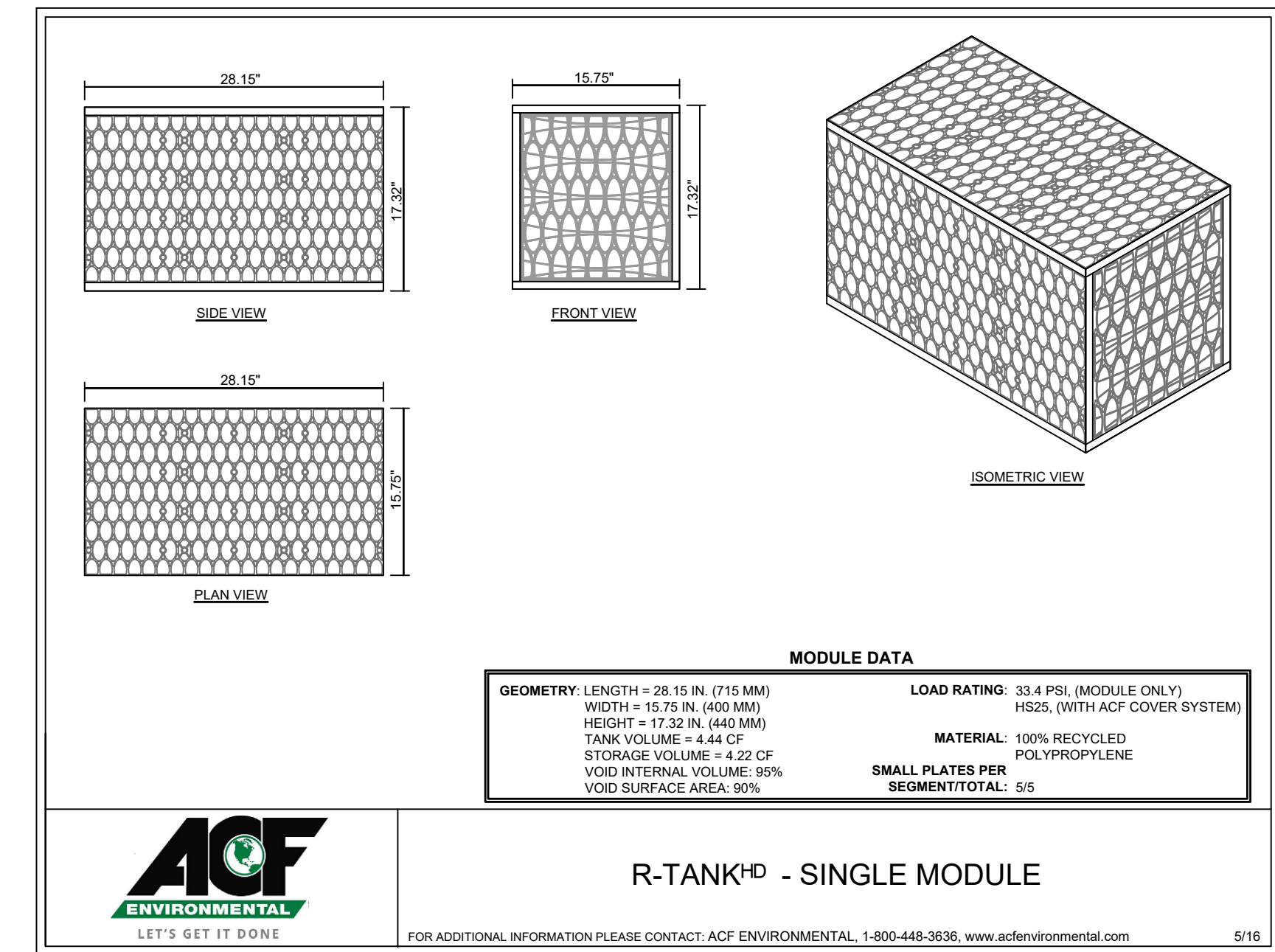
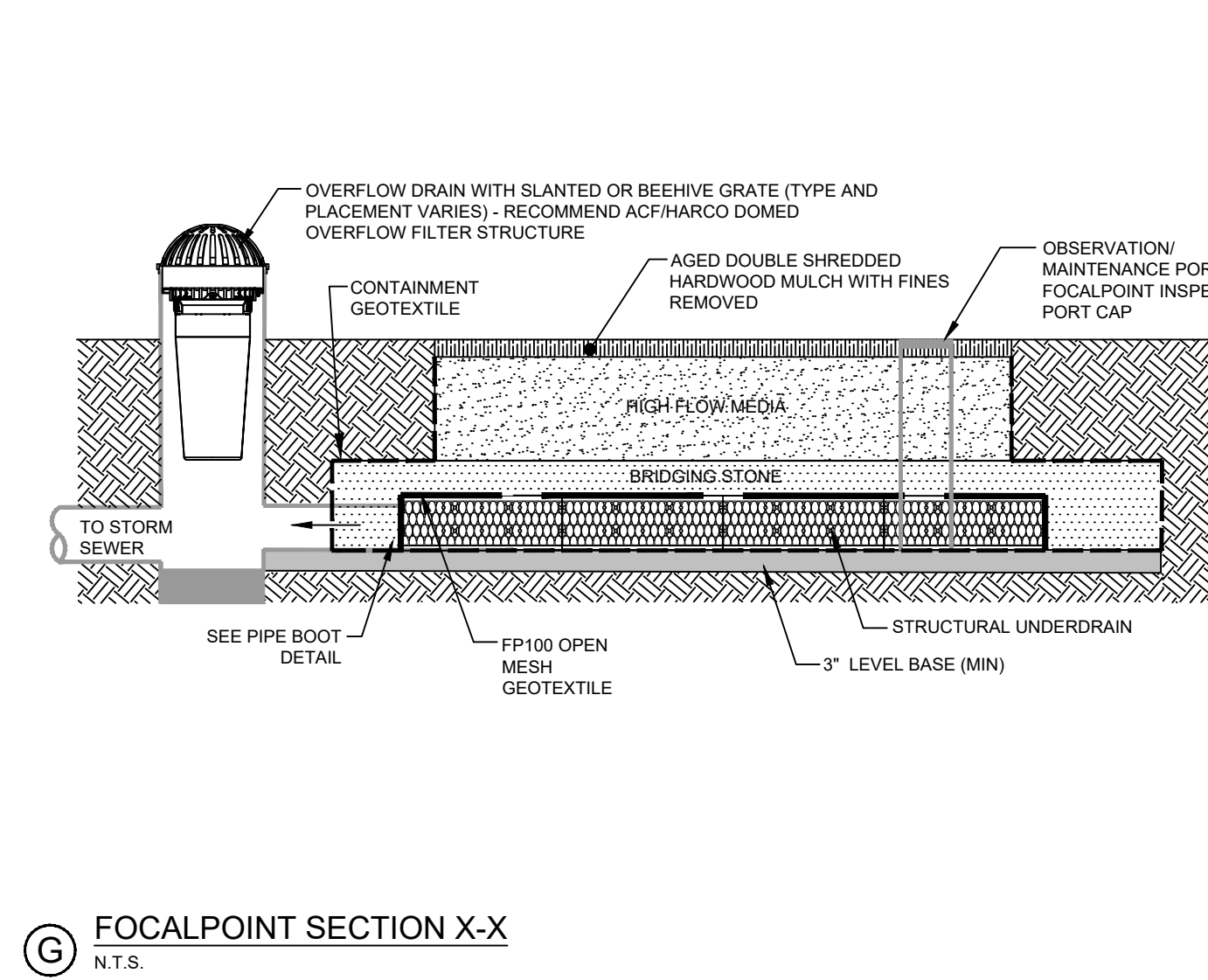
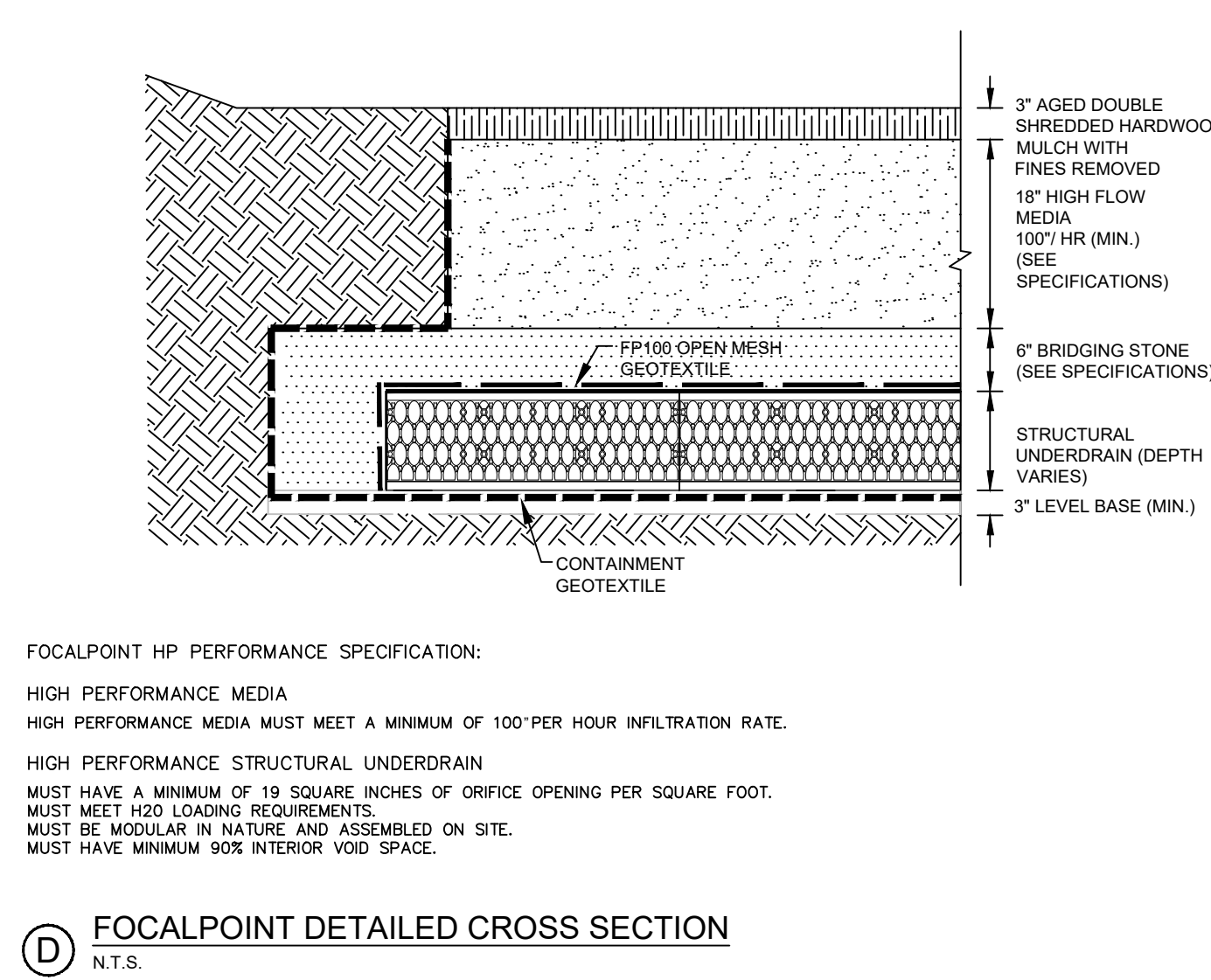
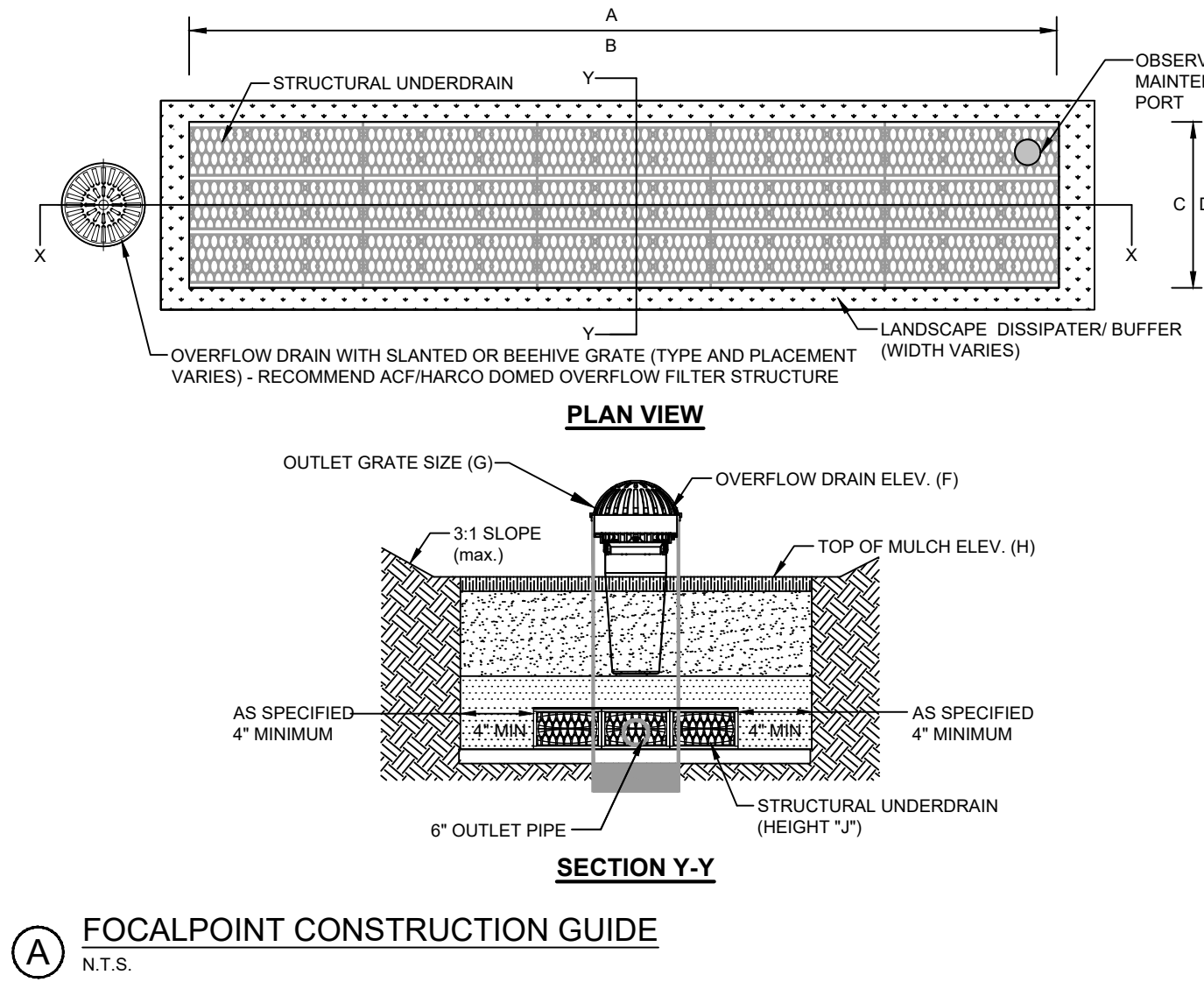


Gorriil Palmer, an LJB Engineering Company
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(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name:	STORMWATER MANAGEMENT PLAN & DETAILS
Project:	Home 2 Suites - 203 Fore Street Portland, Maine
Client:	Chatham Portland DT, LLC c/o Chatham Lodging Trust 222 Lakeview Avenue- Suite 200, West Palm Beach, FL 33401

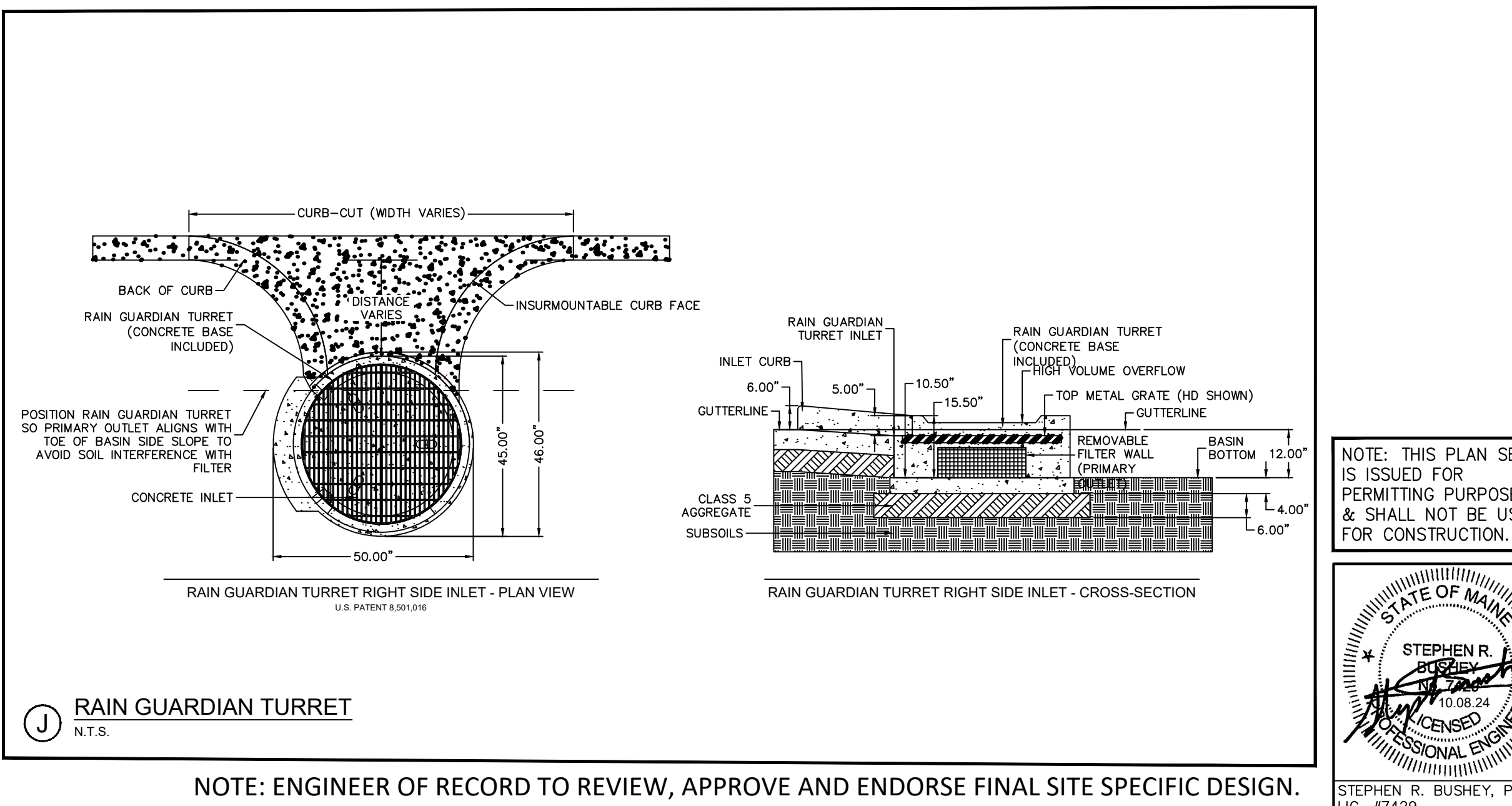
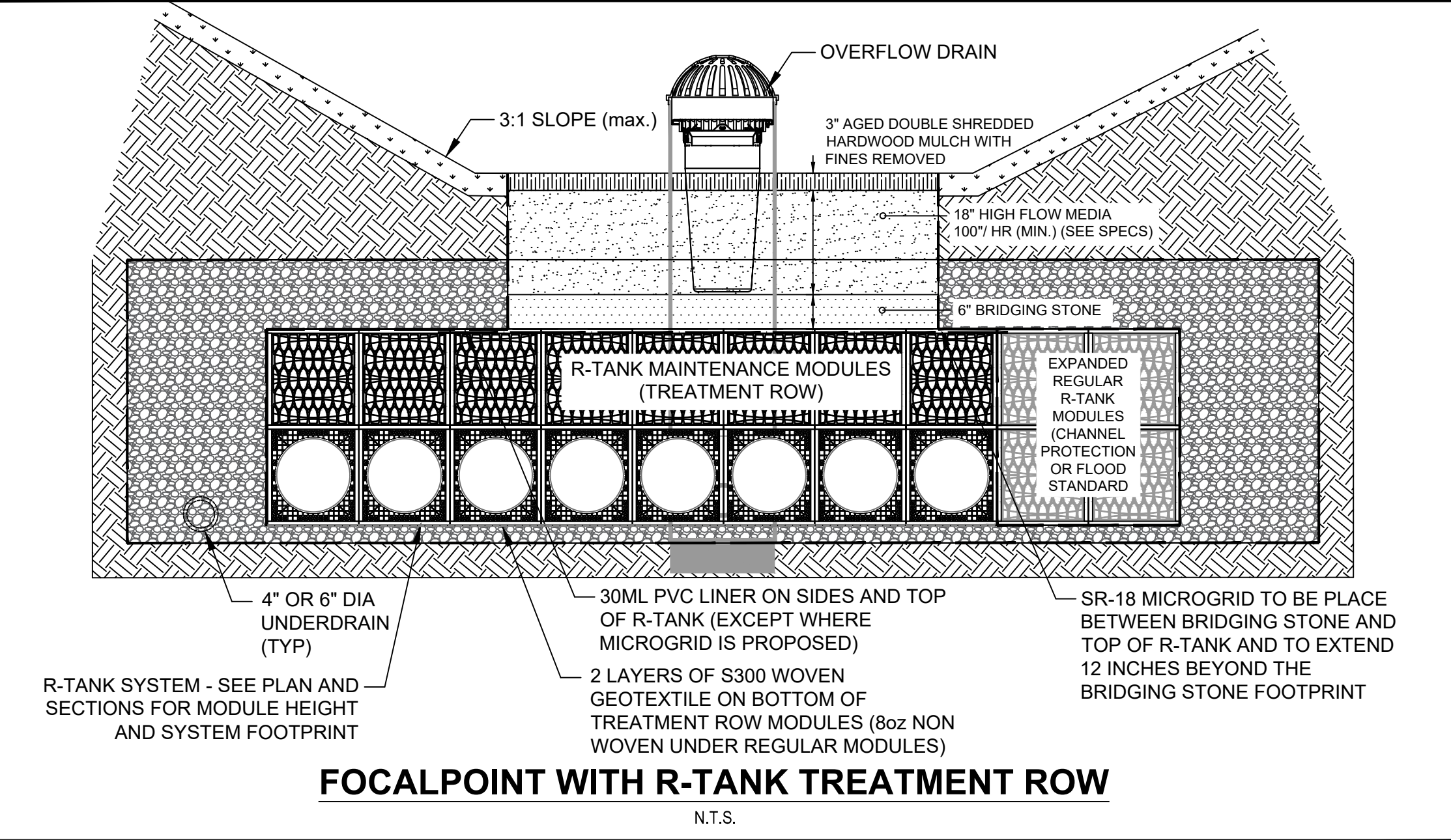
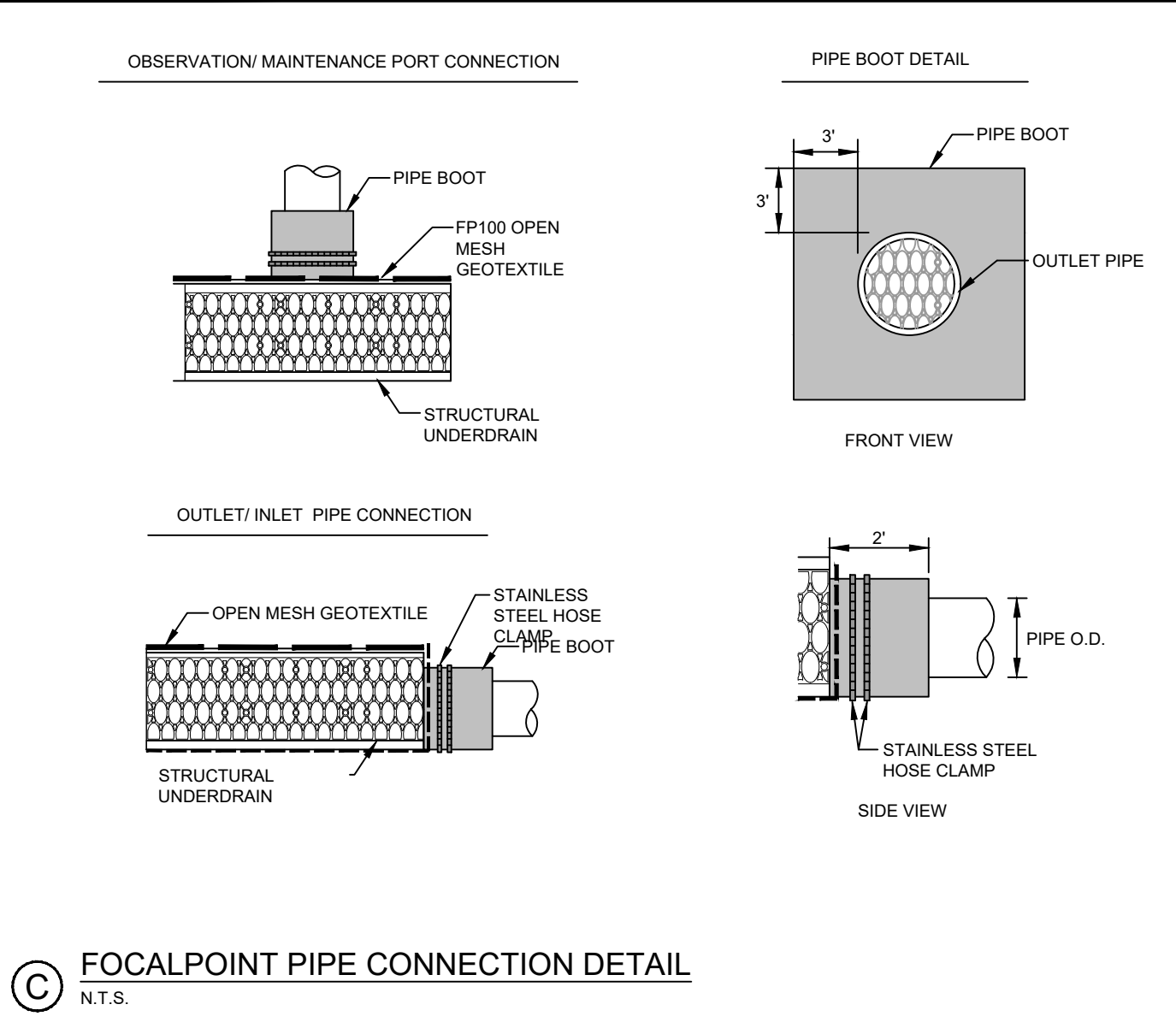
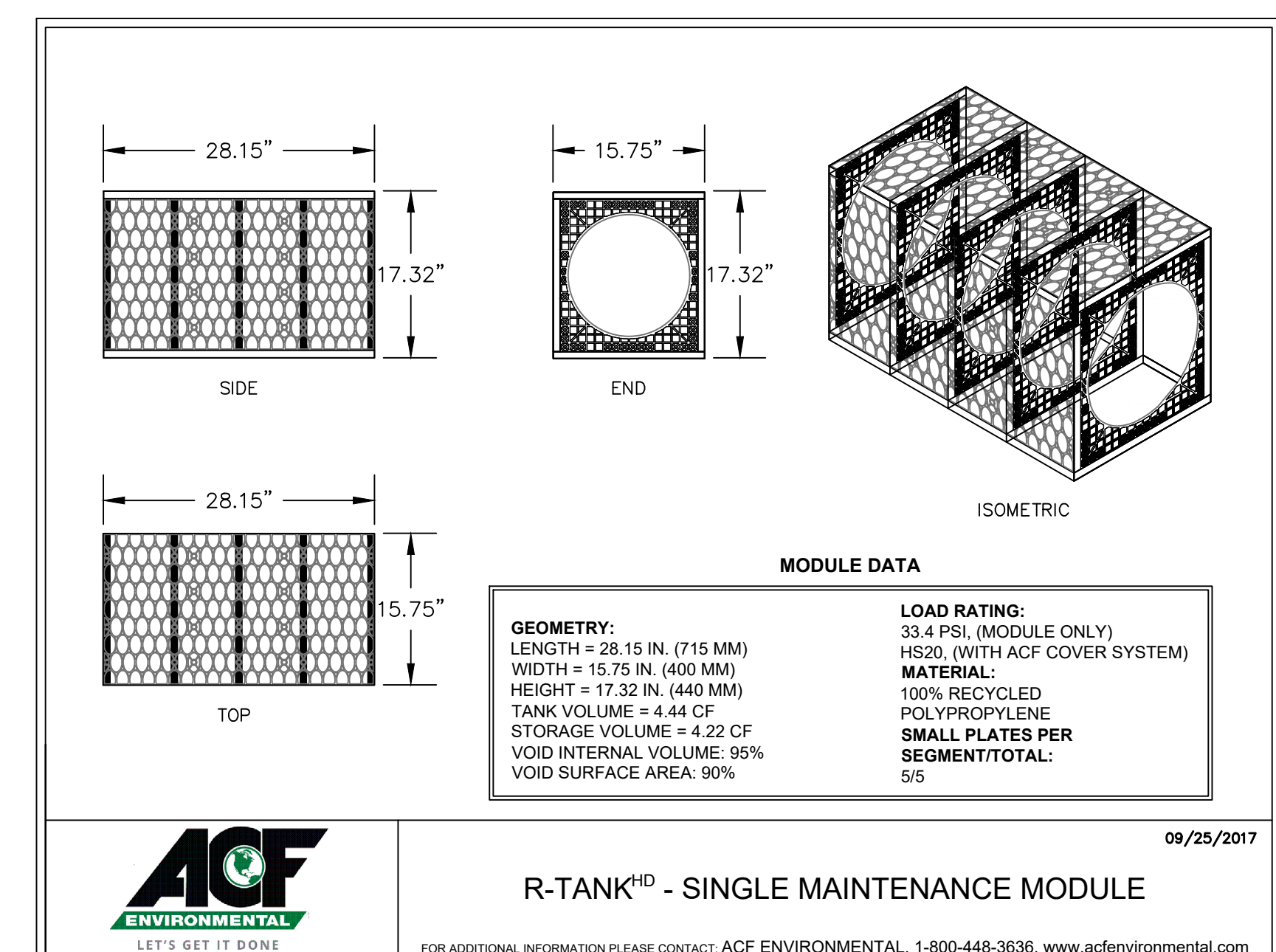
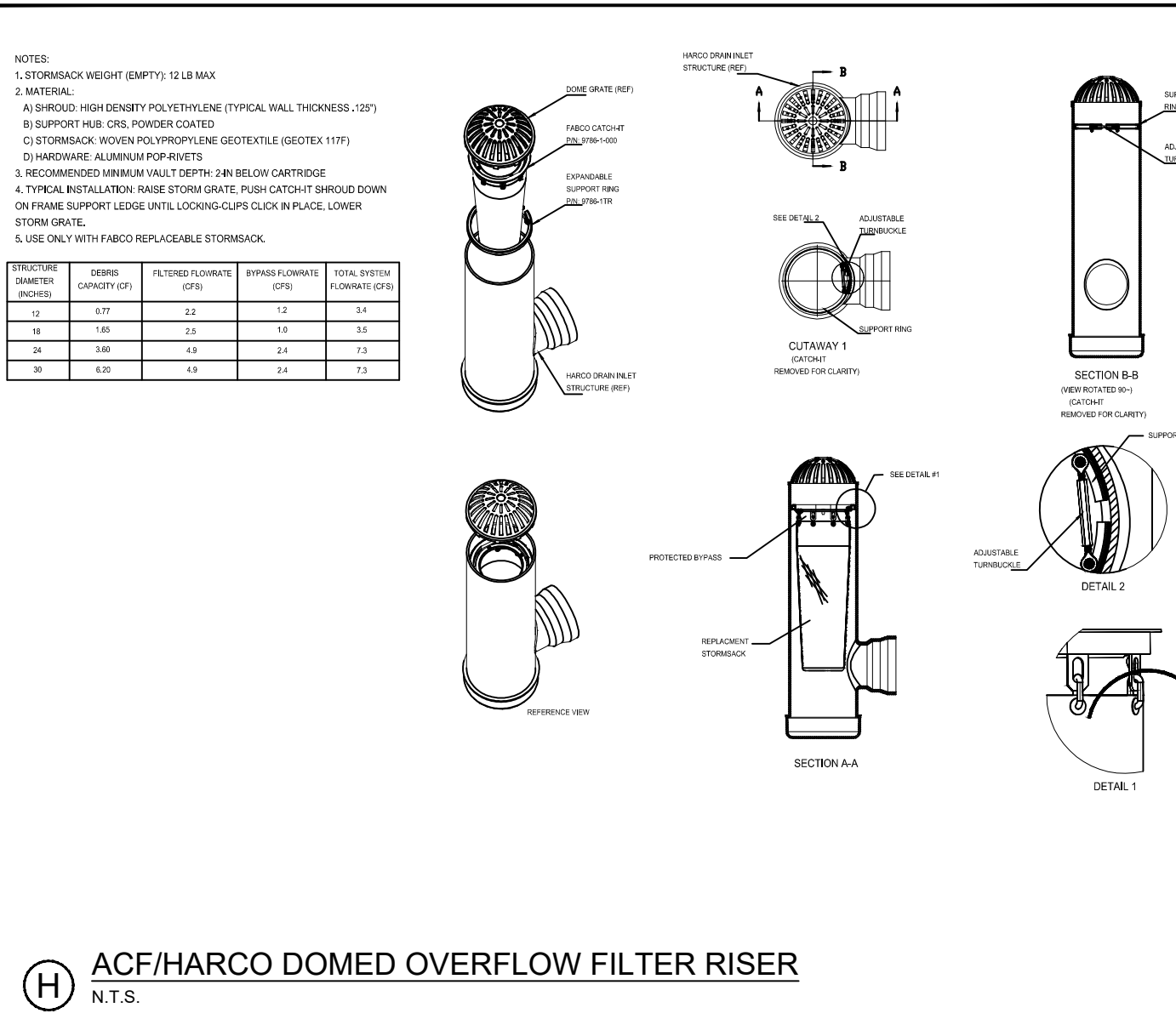
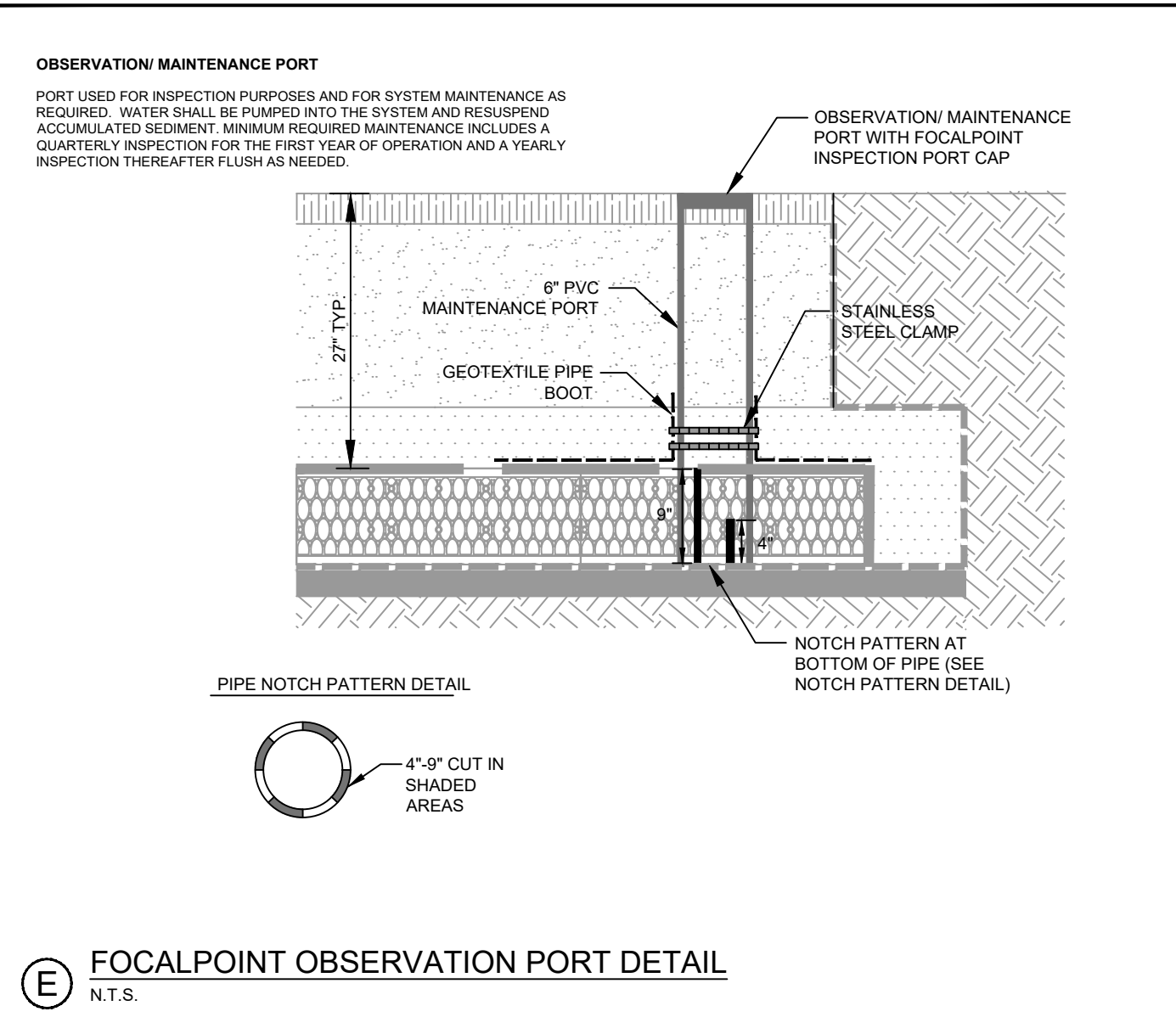
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FOCALPOINT KEY DIMENSIONAL DATA
N.T.S.

FOCALPOINT ID		FP-1
A	FOCALPOINT LENGTH	10.00
B	# UNDERDRAIN LONG	1
C	FOCALPOINT WIDTH	5.00
D	# UNDERDRAIN WIDE	1
E	WATER QUALITY VOLUME	686 CF
F	OVERFLOW ELEVATION	16.34
G	OUTLET GRATE SIZE	12" DIA
H	TOP OF MULCH	15.84
J	UNDERDRAIN HEIGHT	SINGLE



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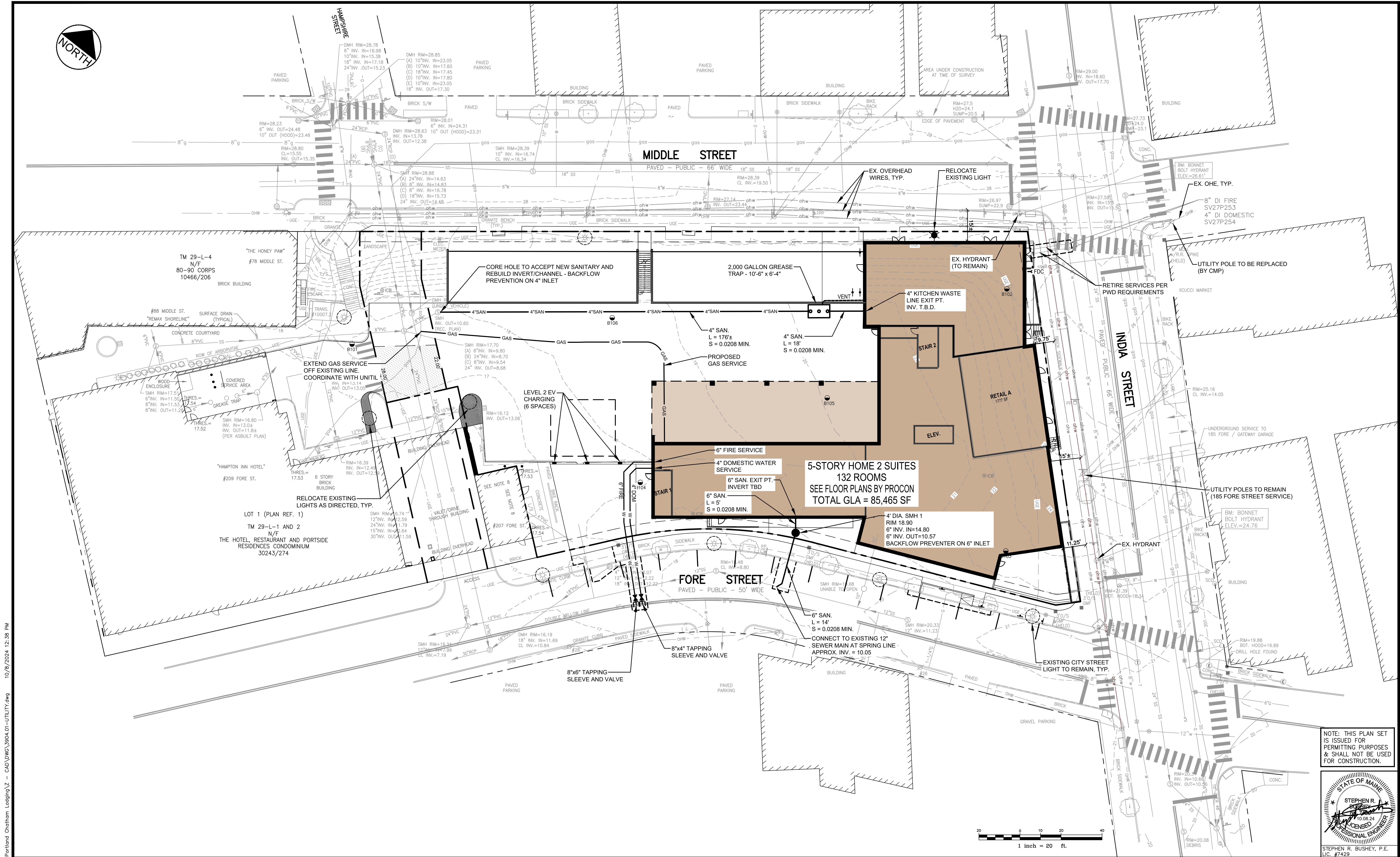
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U:\3904.01_Home 2 Suites Portland Chatham Lodging_VZ - CAD\DWG\3904.01-UTILITY.dwg 10/8/2024 12:38 PM

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2	2024.10.08	RESUBMITTED FOR LOR #1
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File Name: 3904.01-UTILITY.dwg		
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An LJB Engineering Company

Gorrell Palmer, an LJB Engineering Company
GorrellPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

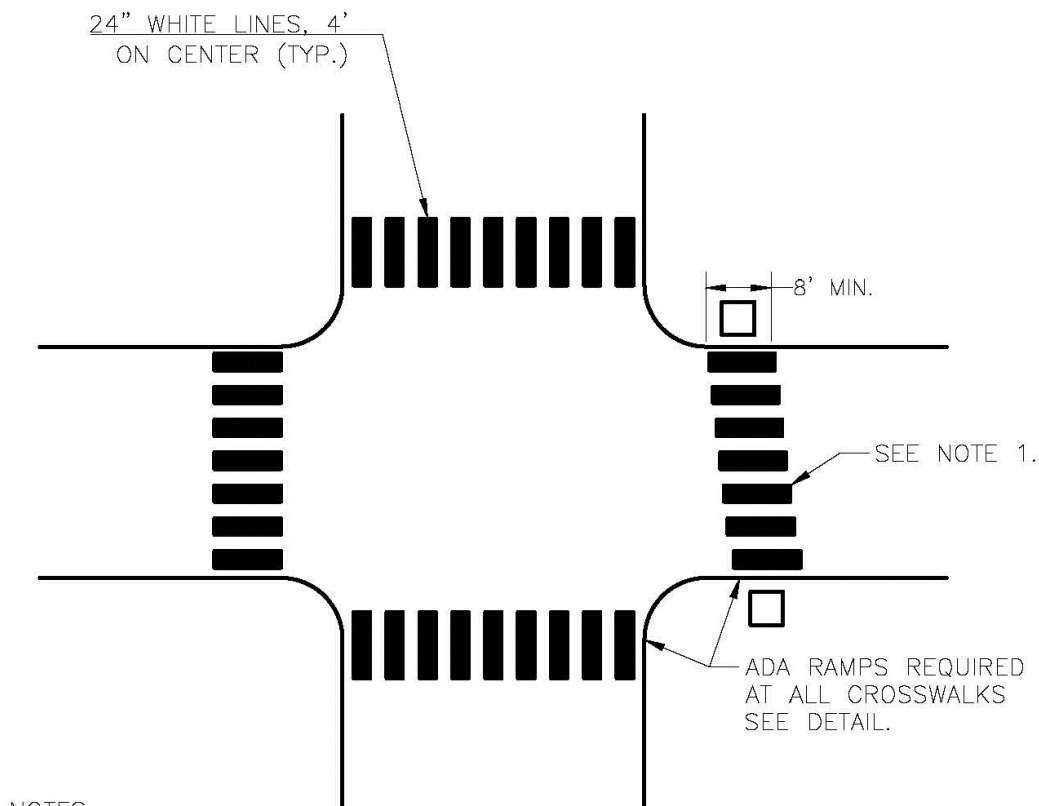
Drawing Name:**UTILITY PLAN**

Project:**Home 2 Suites - 203 Fore Street**
Portland, Maine

Client:**Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue- Suite 200, West Palm Beach, FL 33401

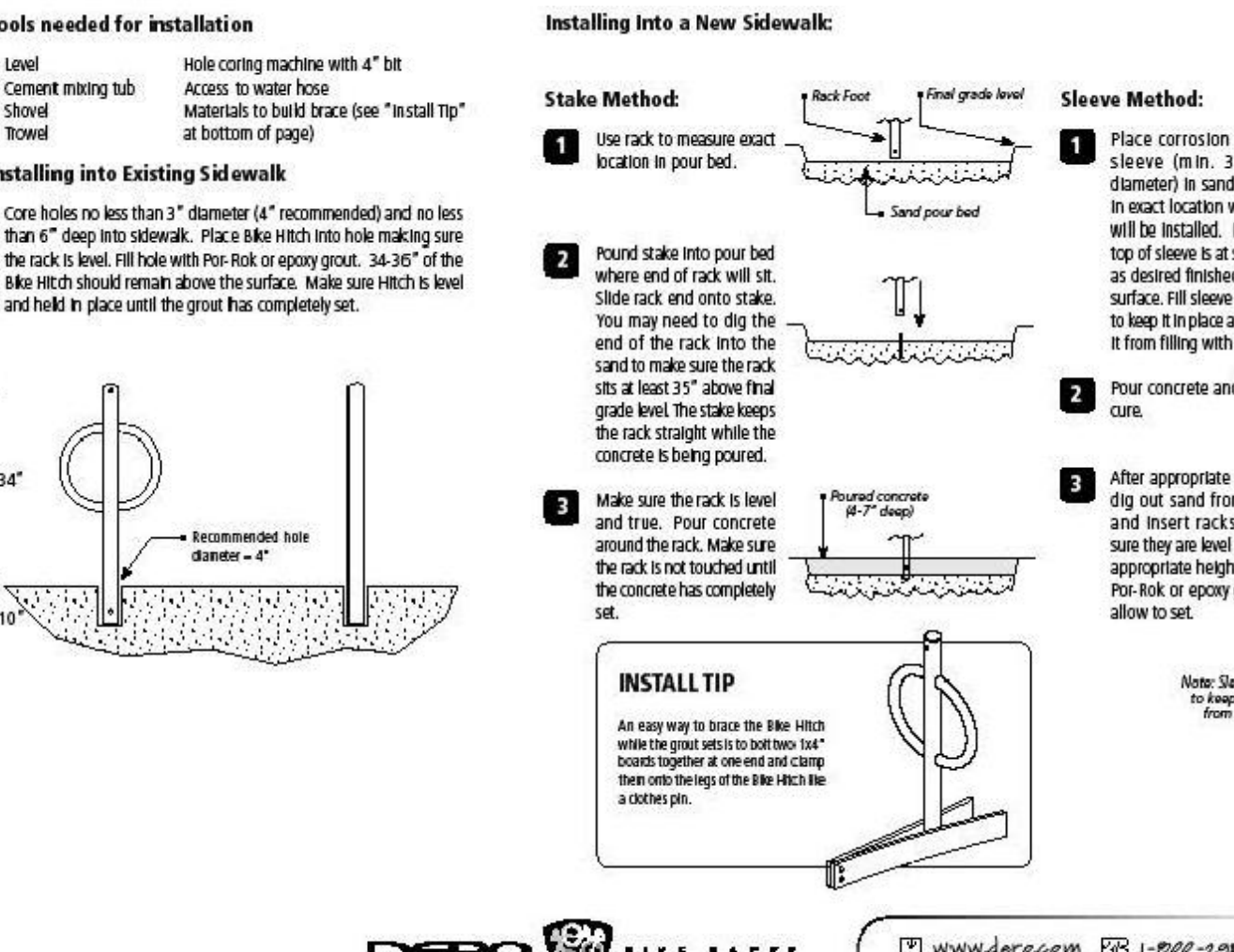
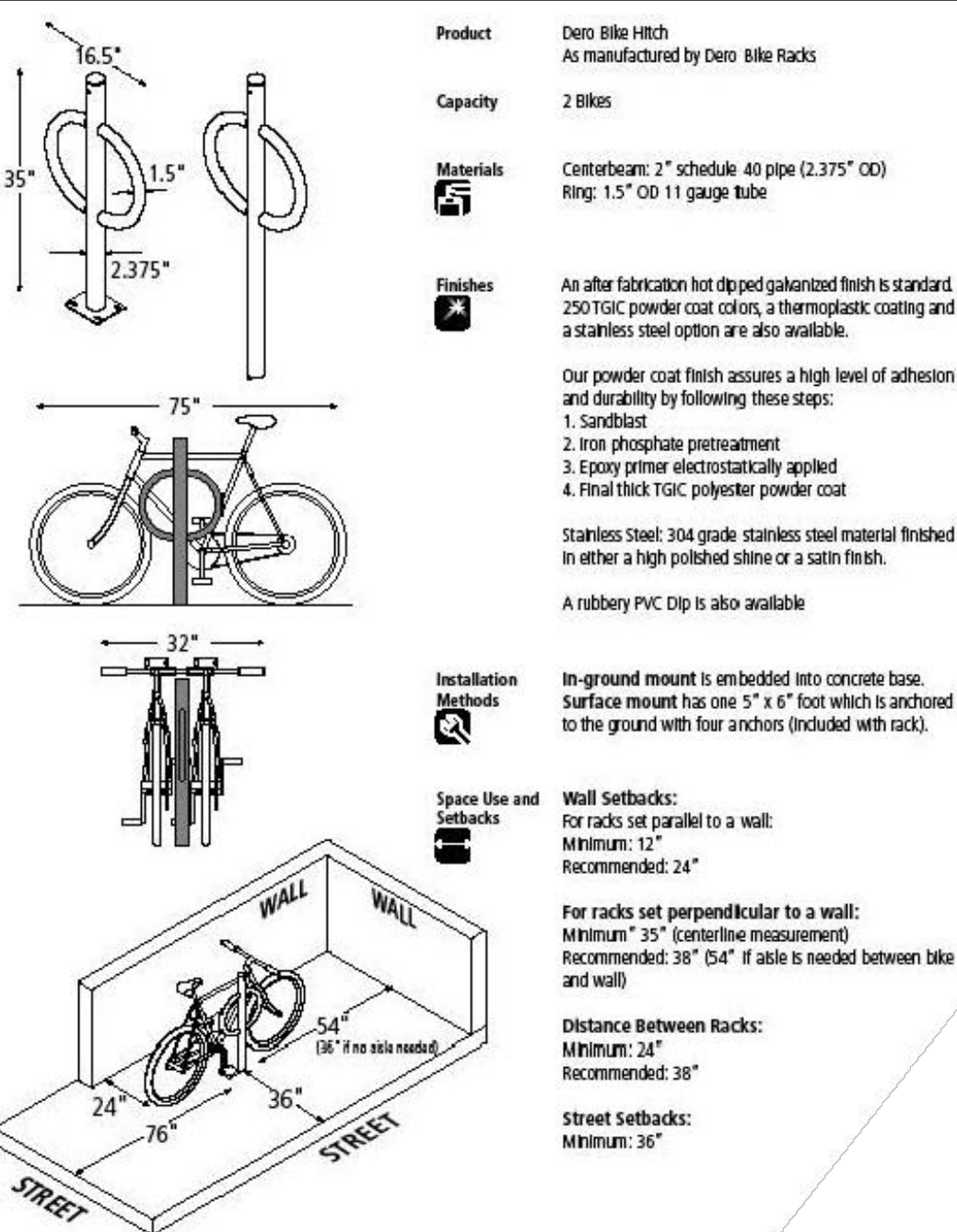
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C-5.0

Page 180

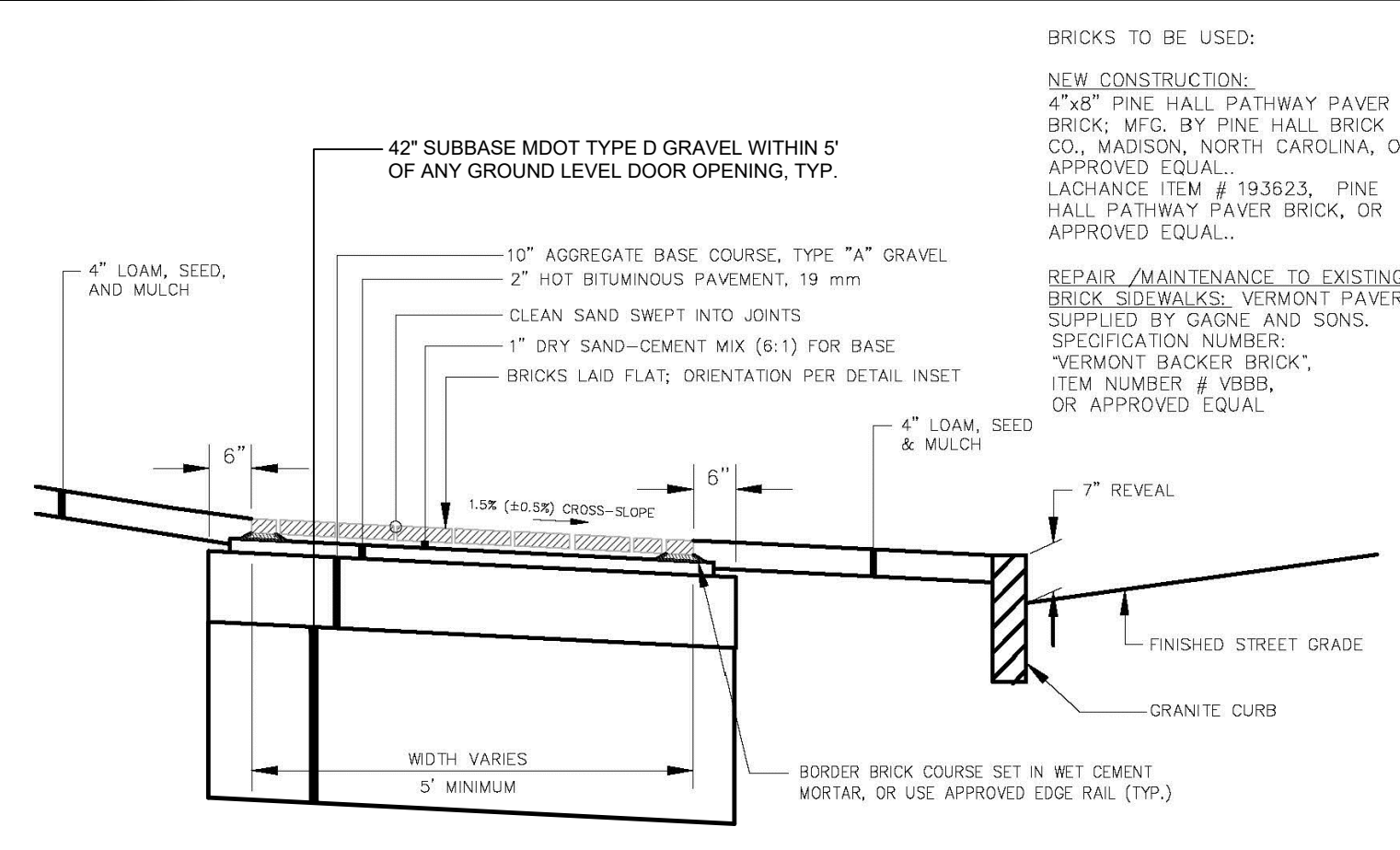


- NOTES:
- CROSSWALK BLOCKS SHALL BE STAGGERED AND REMAIN PARALLEL TO THE ROADWAY CENTERLINE AT SKEWED CROSSING LOCATIONS.
 - CROSSWALK MARKINGS LOCATED ON ARTERIAL STREETS SHALL BE APPLIED WITH A THERMOPLASTIC MATERIAL (OR APPROVED EQUAL) MEETING ALL MANUFACTURER AND MUTCD REQUIREMENTS.
 - THE ESTABLISHMENT PERIOD FOR CROSSWALK MARKINGS SHALL BE BASED ON MANUFACTURER'S SPECIFICATIONS AND SHALL AT A MINIMUM MEET MAINE DOT STANDARD SPECIFICATION 627.07 ESTABLISHMENT PERIOD REQUIREMENTS.

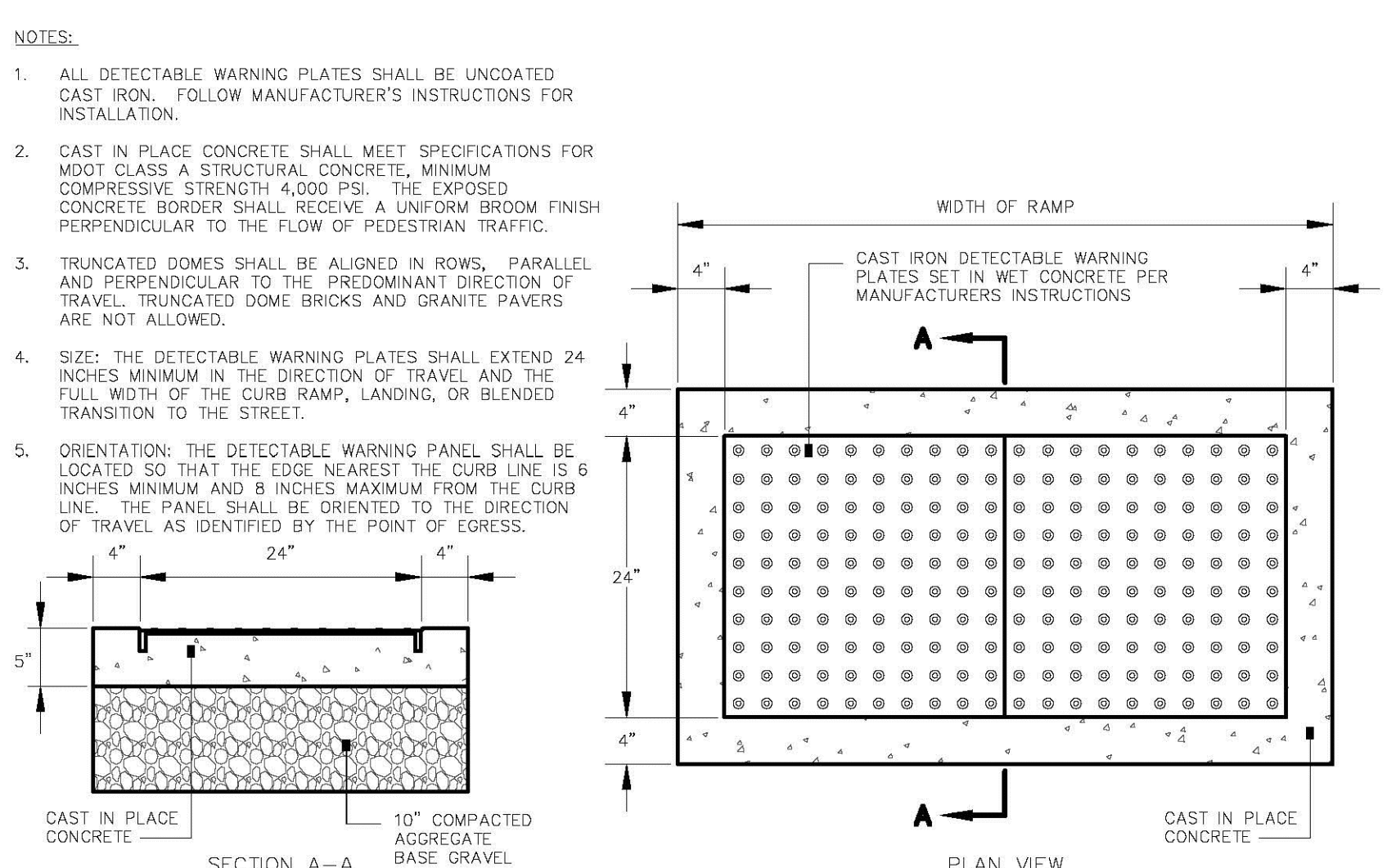
C CROSSWALK STRIPING DETAIL
N.T.S.
AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"



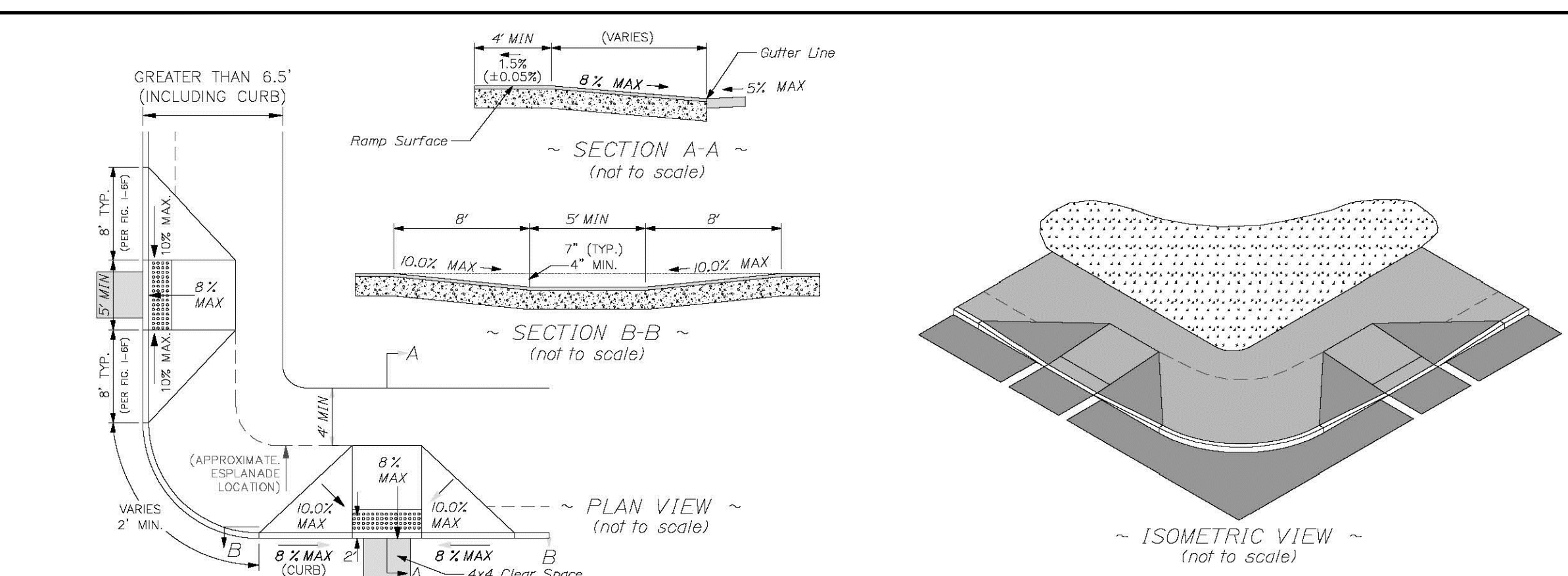
B CITY STANDARD DERO BIKE HITCH DETAILS
N.T.S.



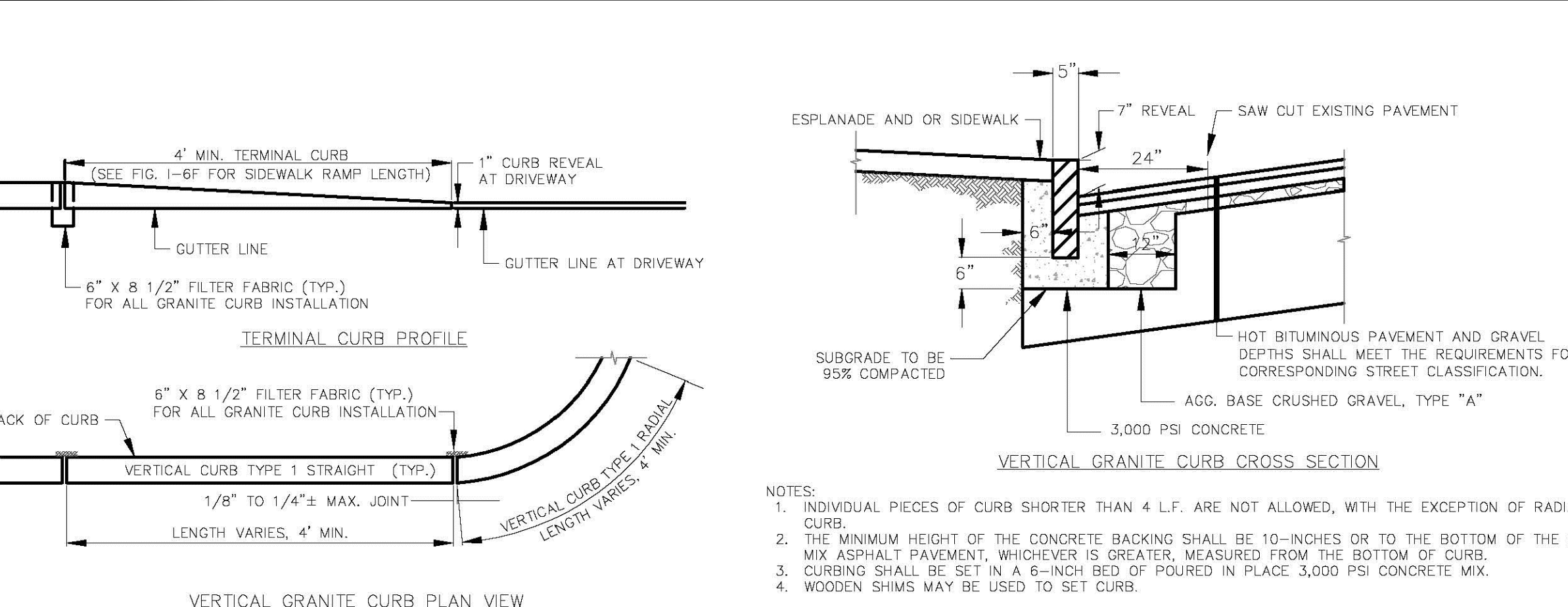
D BRICK SIDEWALK WITH BITUMINOUS BASE
N.T.S.
AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"



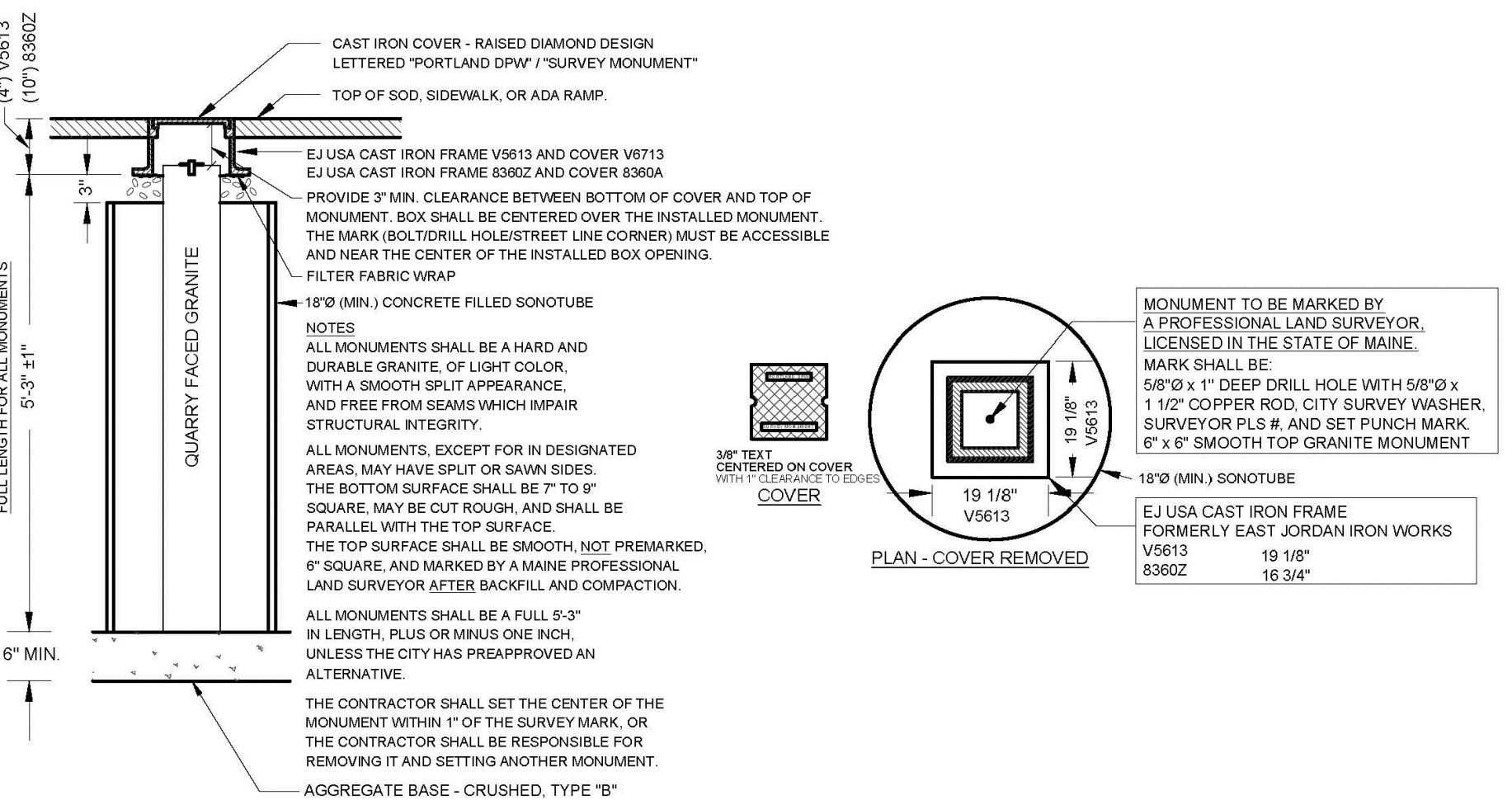
E SIDEWALK RAMP DETECTABLE WARNING PANEL
N.T.S.
AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"



F PERPENDICULAR ADA RAMP FOR SIDEWALK GREATER THAN 6.5'
N.T.S.
AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"

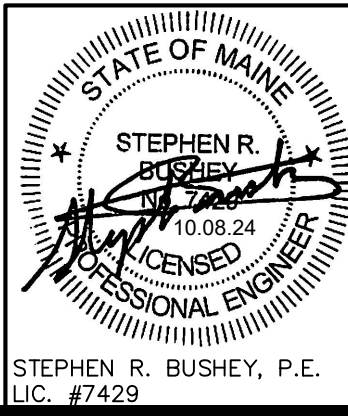


G VERTICAL GRANITE CURB DETAIL
N.T.S.
AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"



H GRANITE STREET MONUMENT DETAIL (IF NECESSARY TO BE RESET)
N.T.S.
AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"

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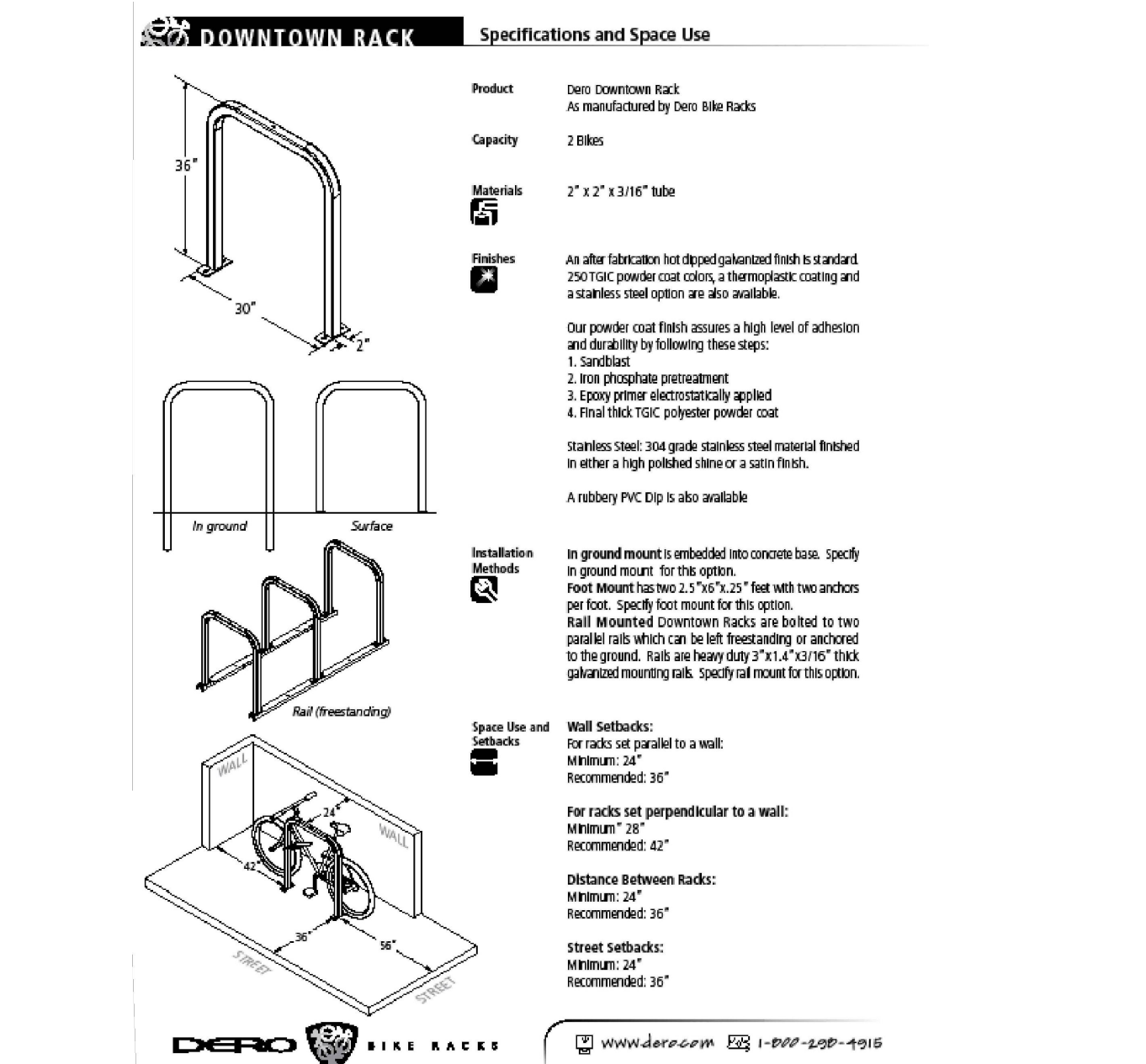
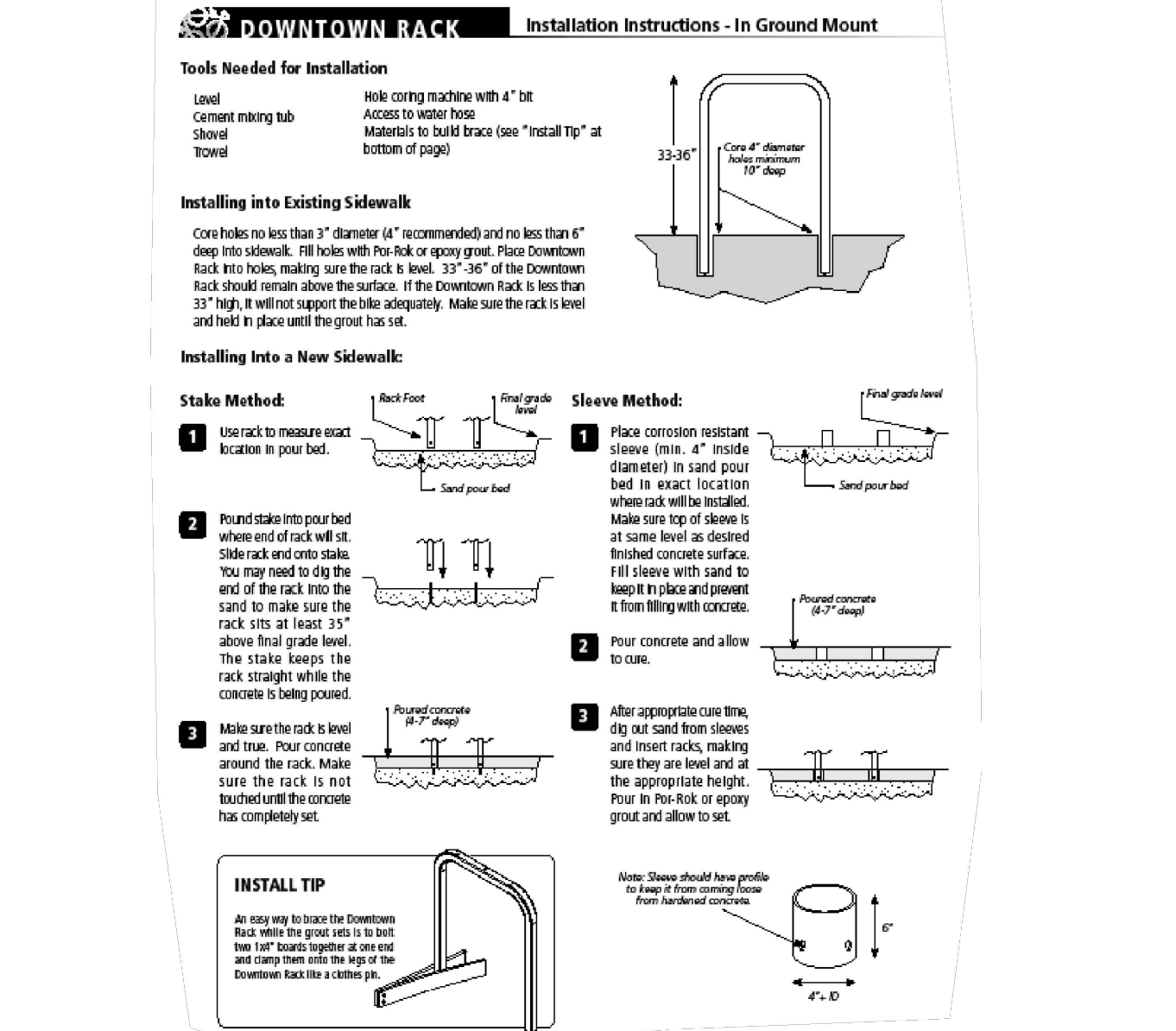
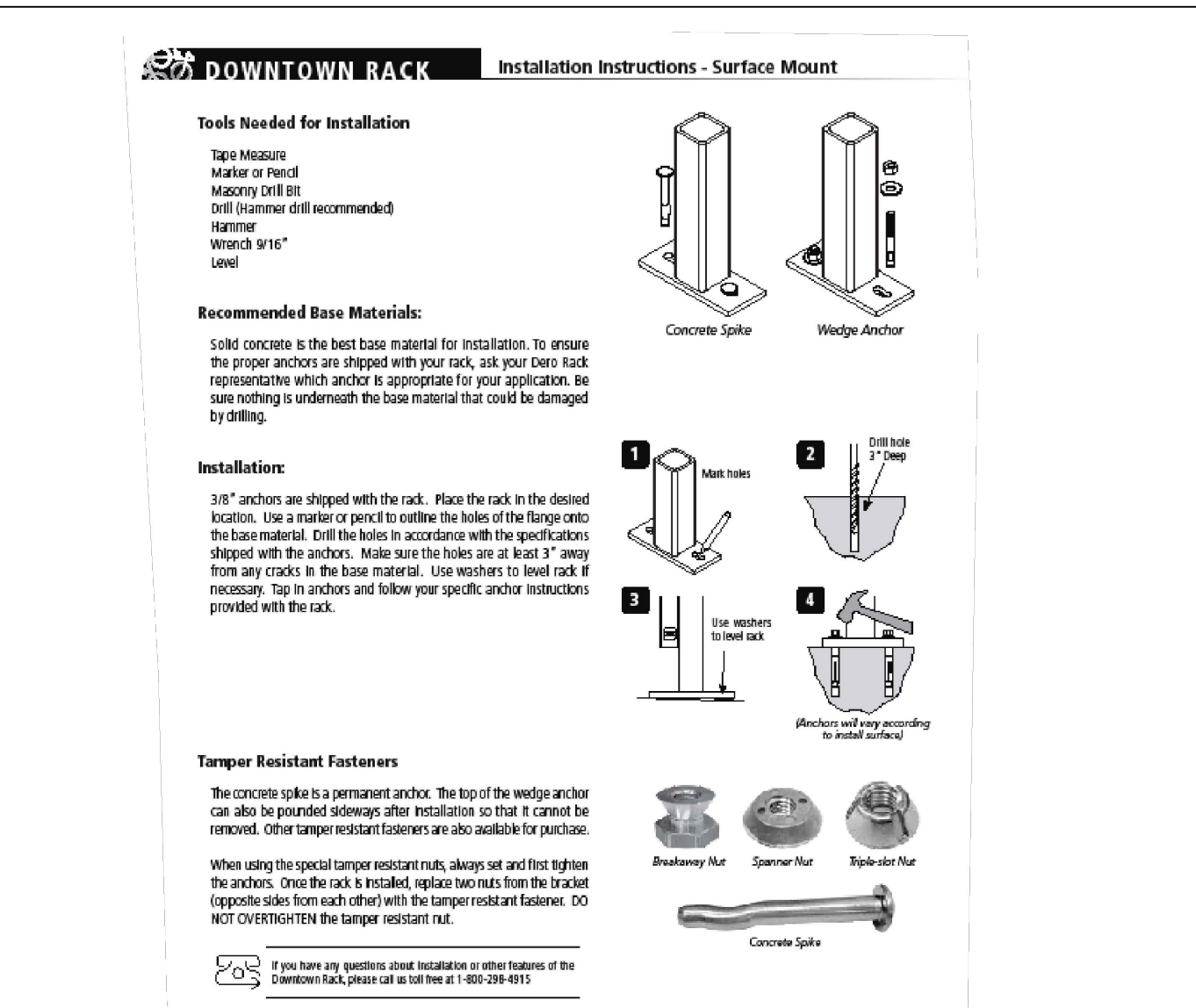
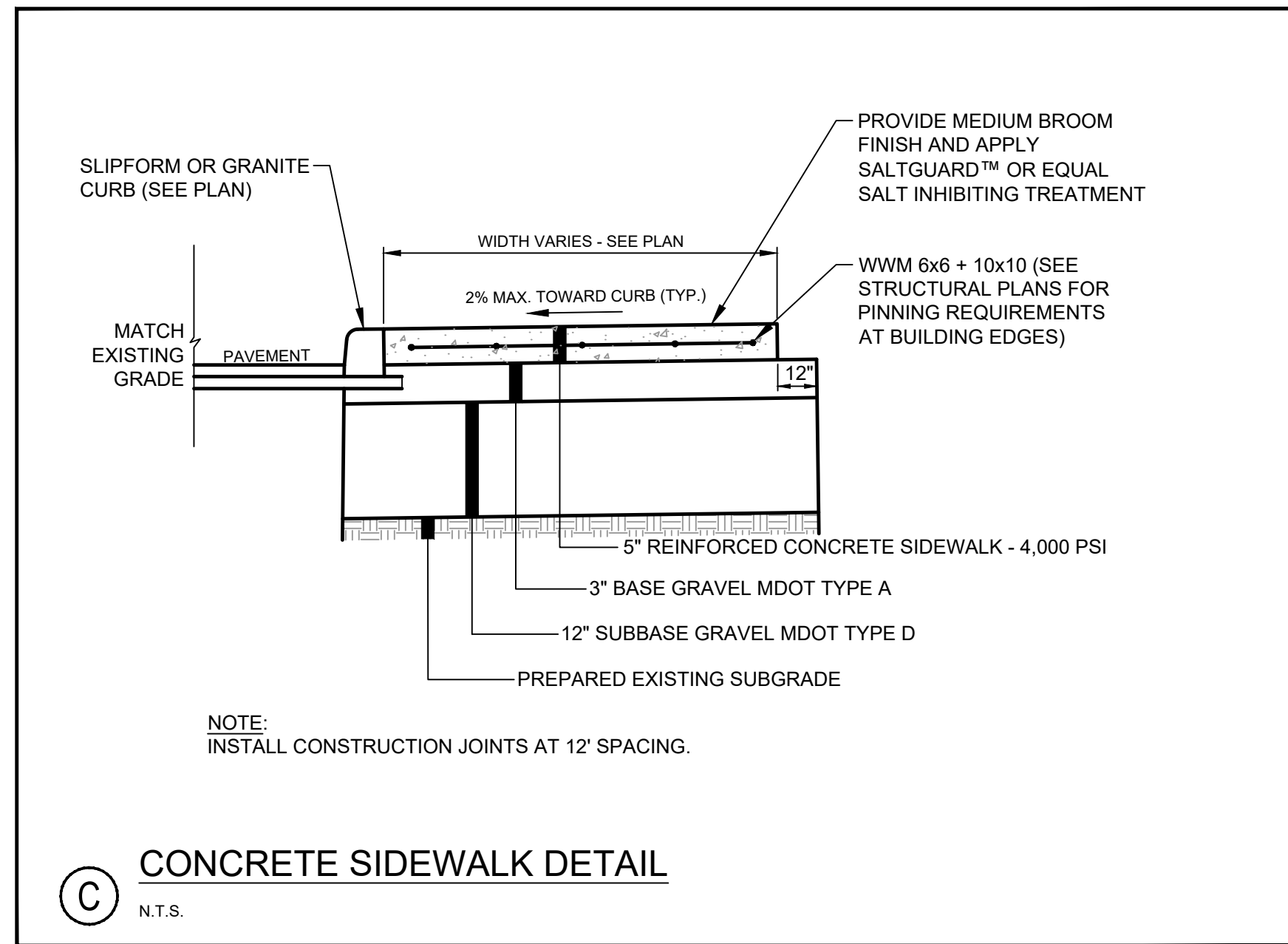
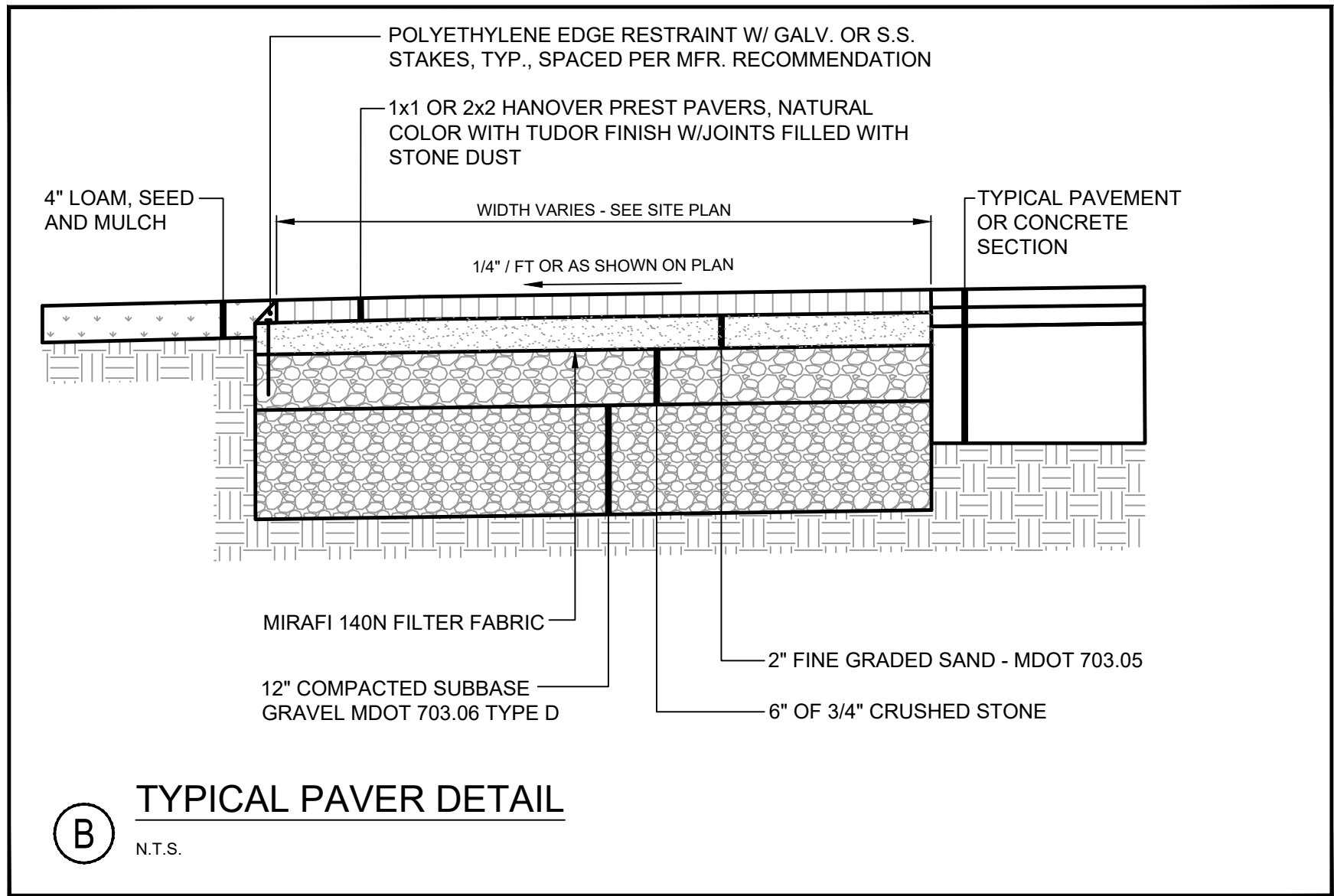
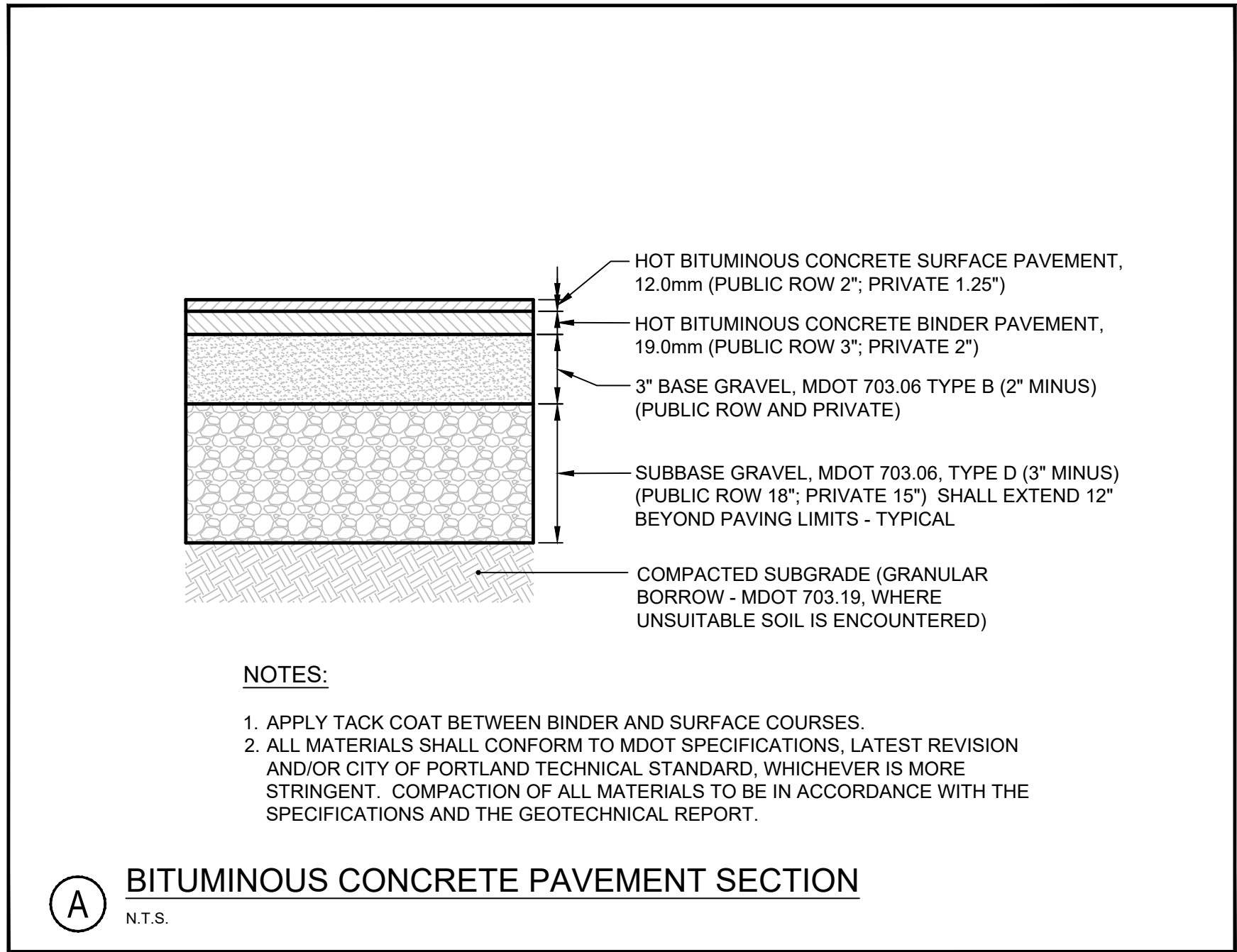
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File Name: 3904.01-DETAILS.dwg		



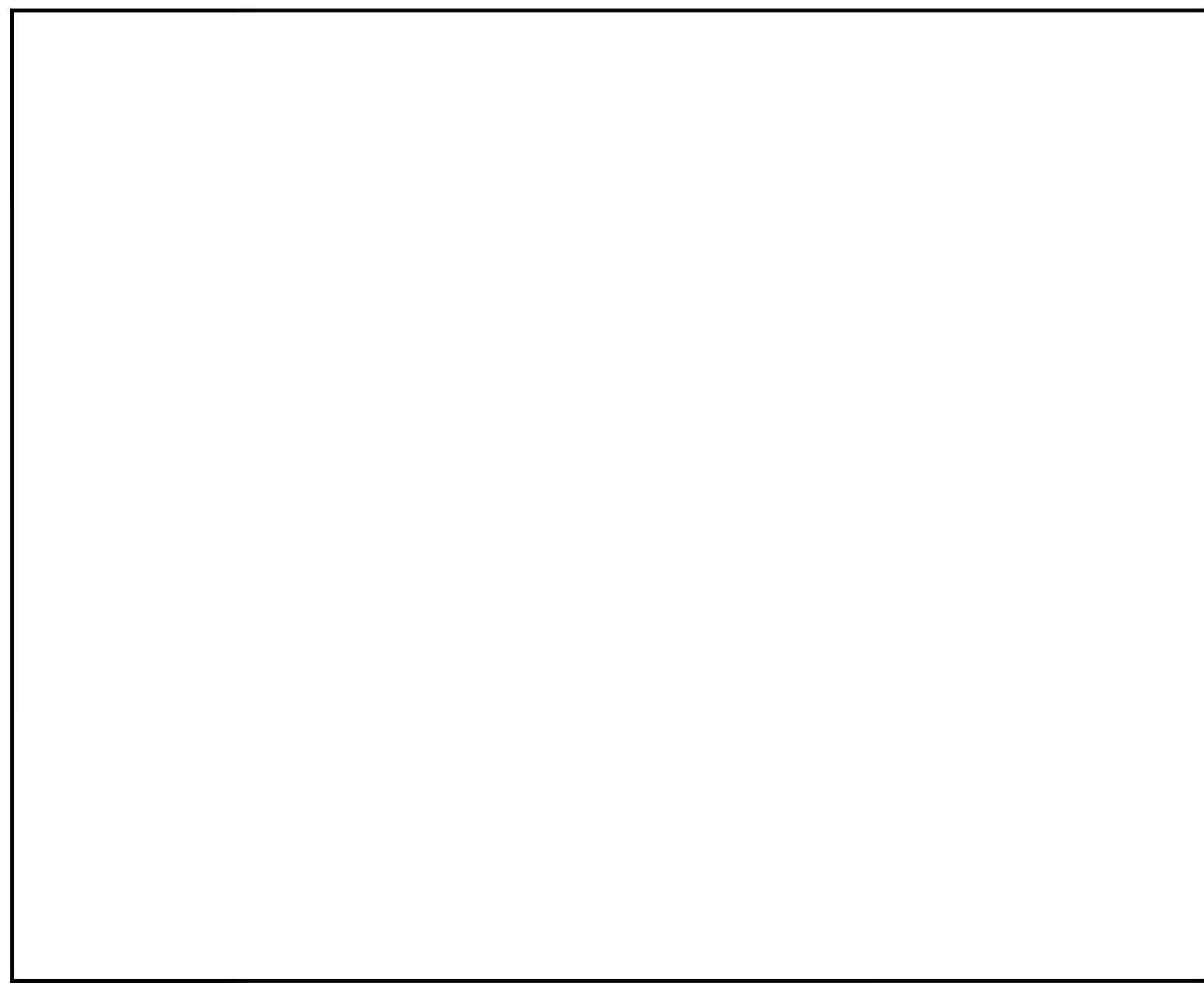
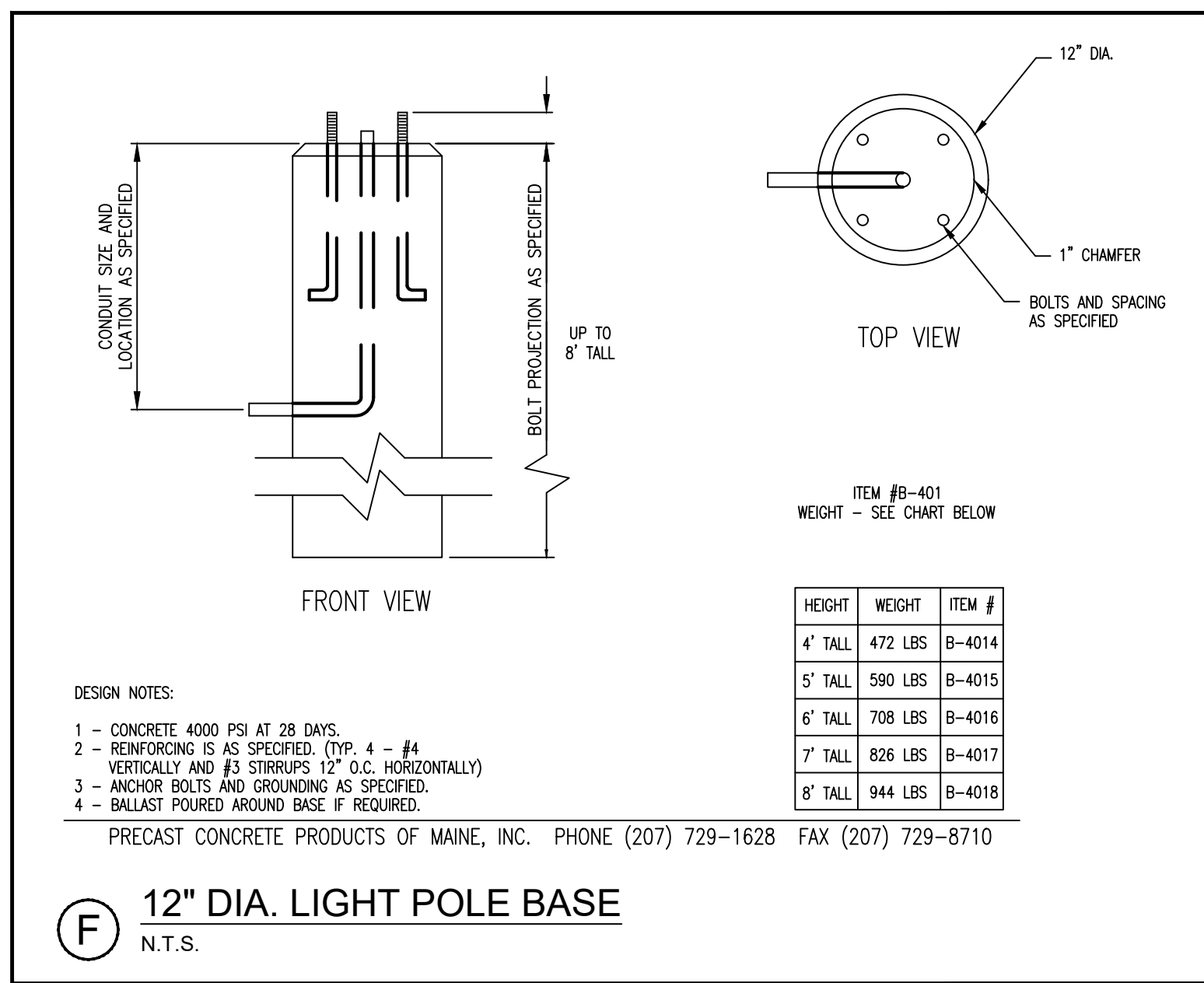
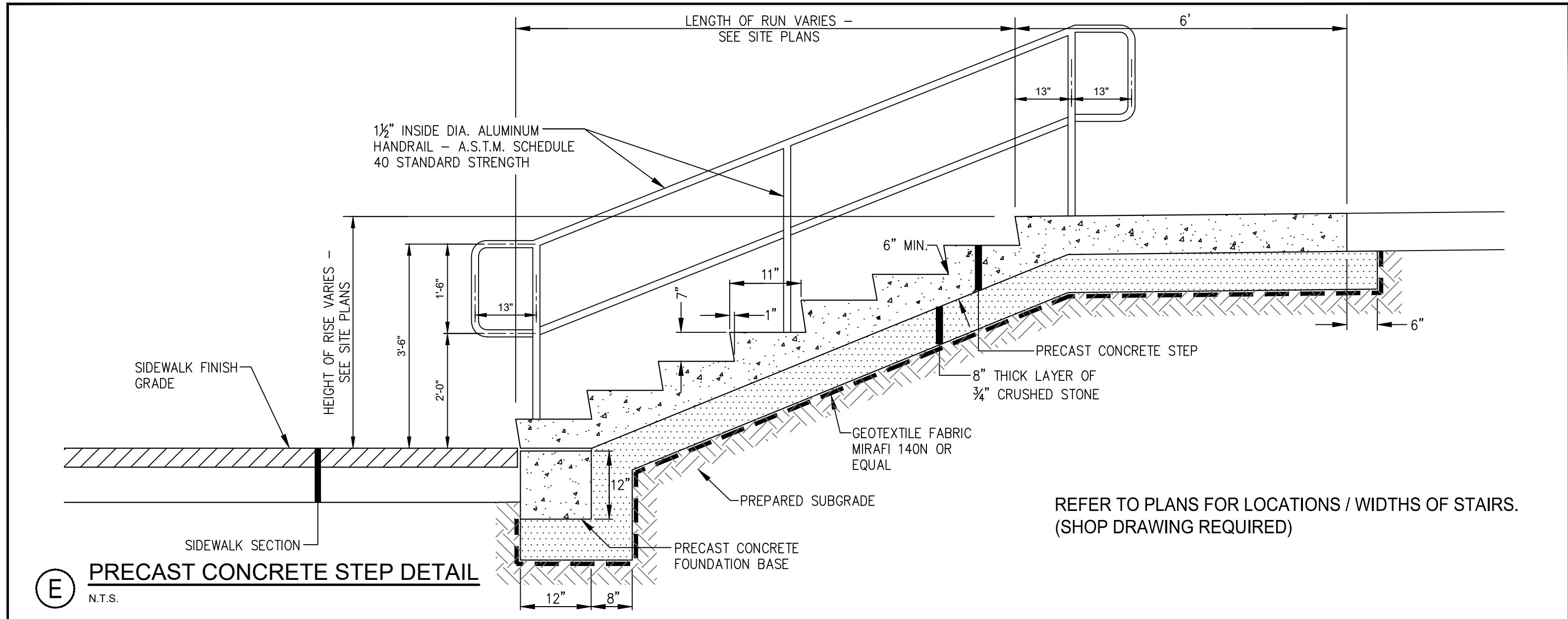
Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name:	SITE DETAILS
Project:	Home 2 Suites - 203 Fore Street Portland, Maine
Client:	Chatham Portland DT, LLC c/o Chatham Lodging Trust 222 Lakeview Avenue- Suite 200, West Palm Beach, FL 33401

Drawing No.	C-6.0
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BICYCLE RACK SPECIFICATION - DOWNTOWN RACK
N.T.S.
AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"



Rev.	Date	Revision
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Rev.	Date	Revision
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1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: JUNE 2024
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File Name: 3904.01-DETAILS.dwg		

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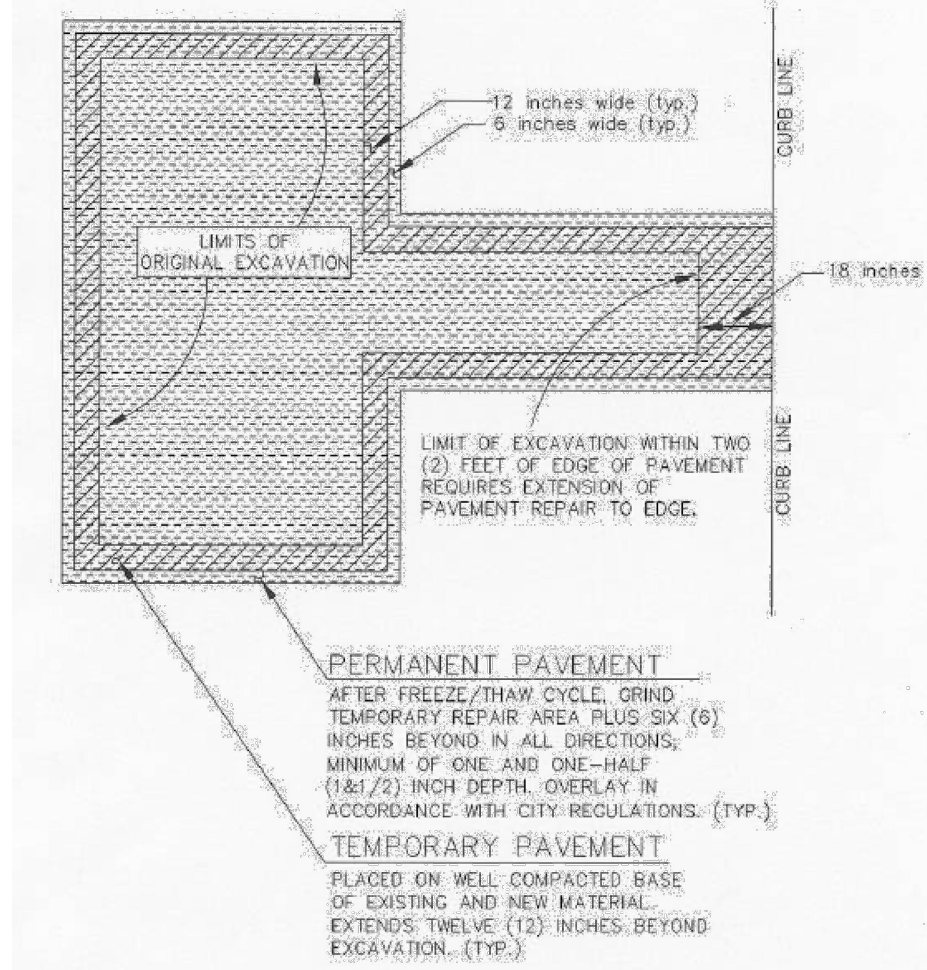


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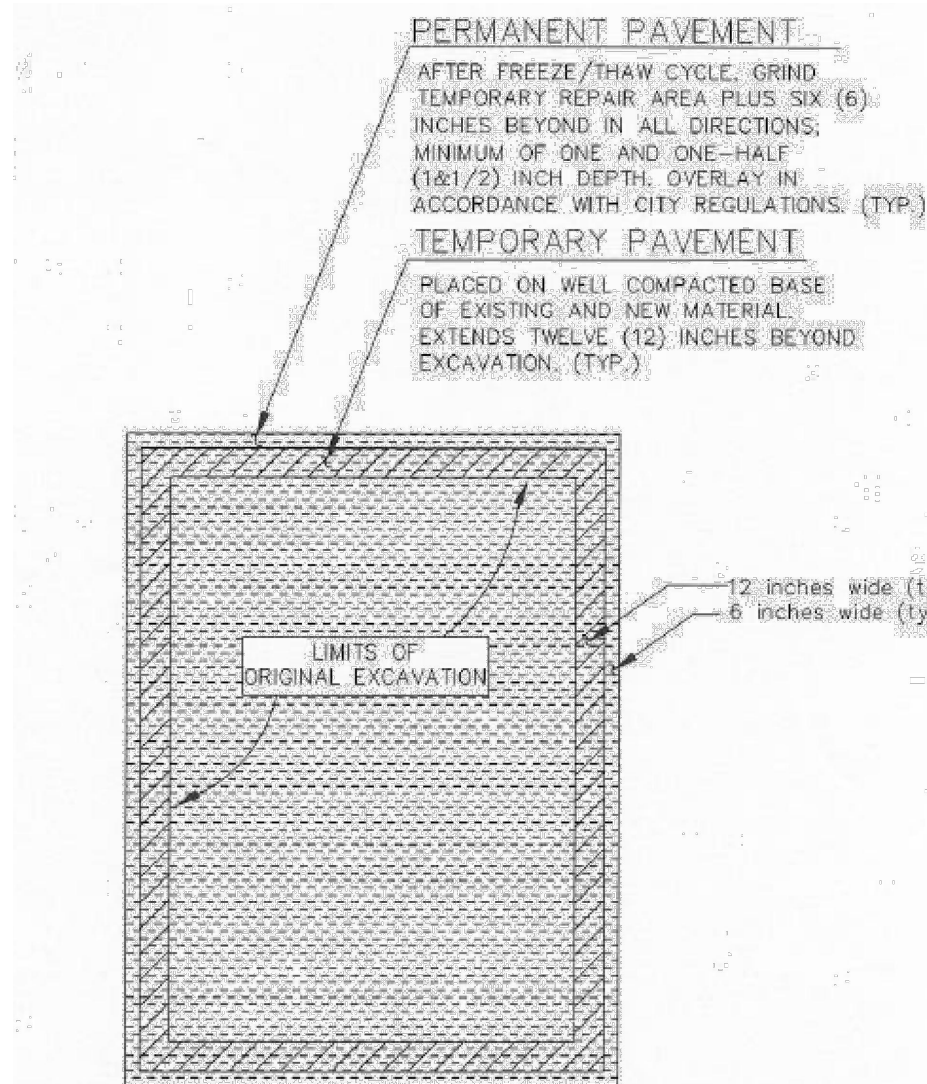
Drawing Name:	SITE DETAILS
Project:	Home 2 Suites - 203 Fore Street Portland, Maine
Client:	Chatham Portland DT, LLC c/o Chatham Lodging Trust 222 Lakeview Avenue- Suite 200, West Palm Beach, FL 33401

Drawing No.	C-6.1
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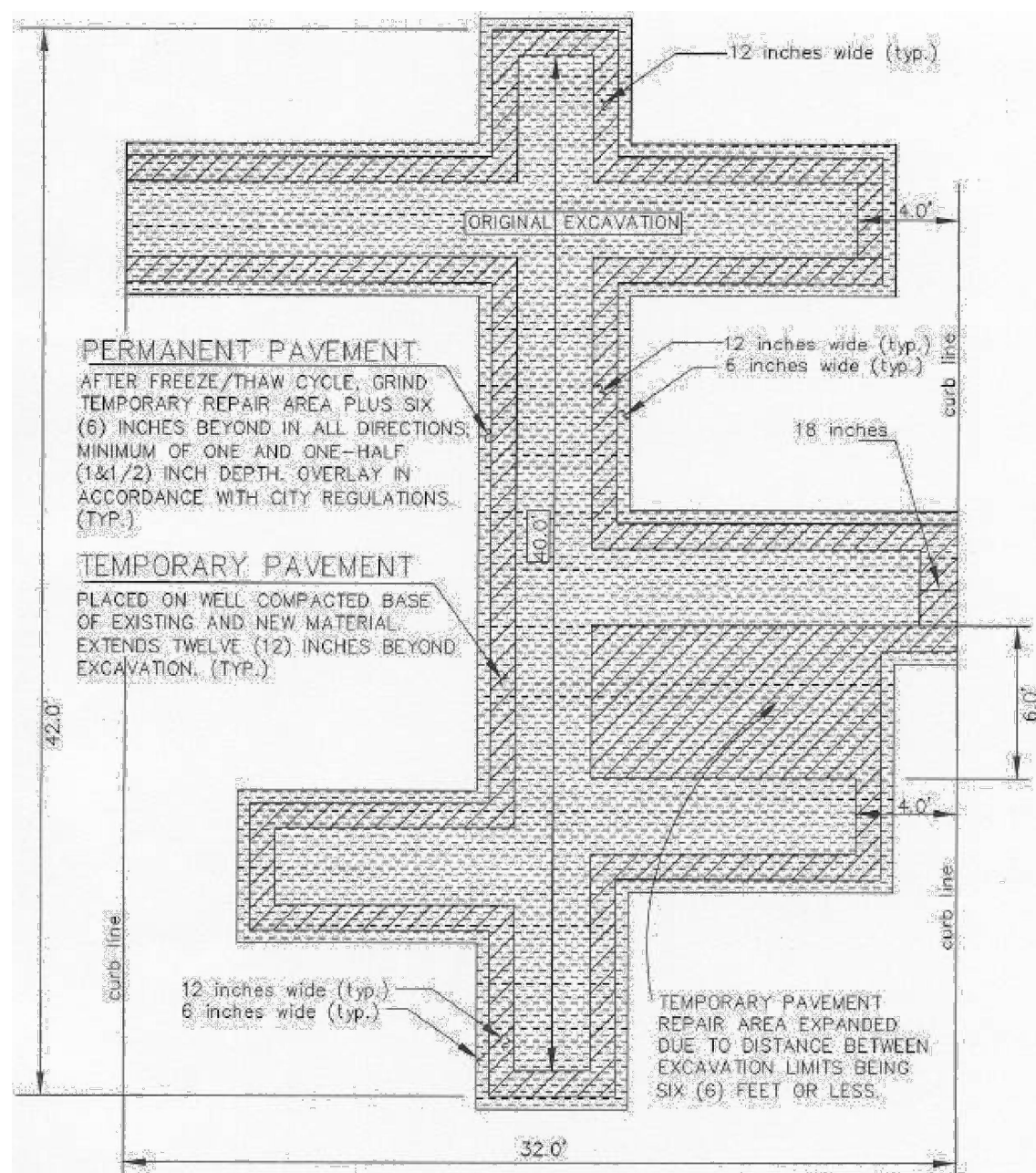
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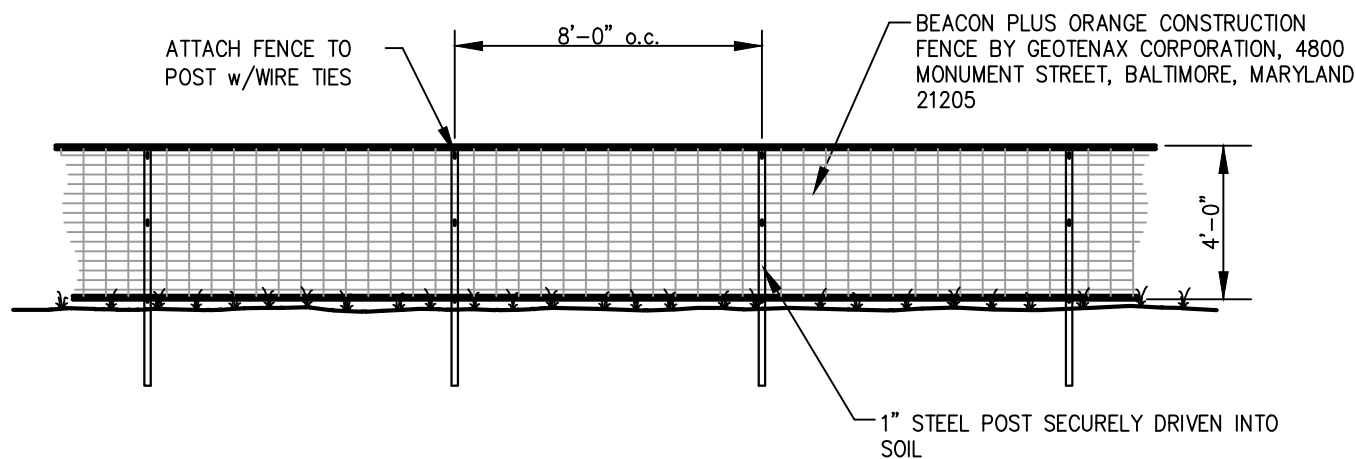
A PLAN VIEW OF MINOR EXCAVATION PAVEMENT REPAIR
AS OBTAINED FROM THE CITY OF PORTLAND "RULES AND REGULATIONS FOR EXCAVATION ACTIVITIES IN THE PUBLIC RIGHT OF WAY"



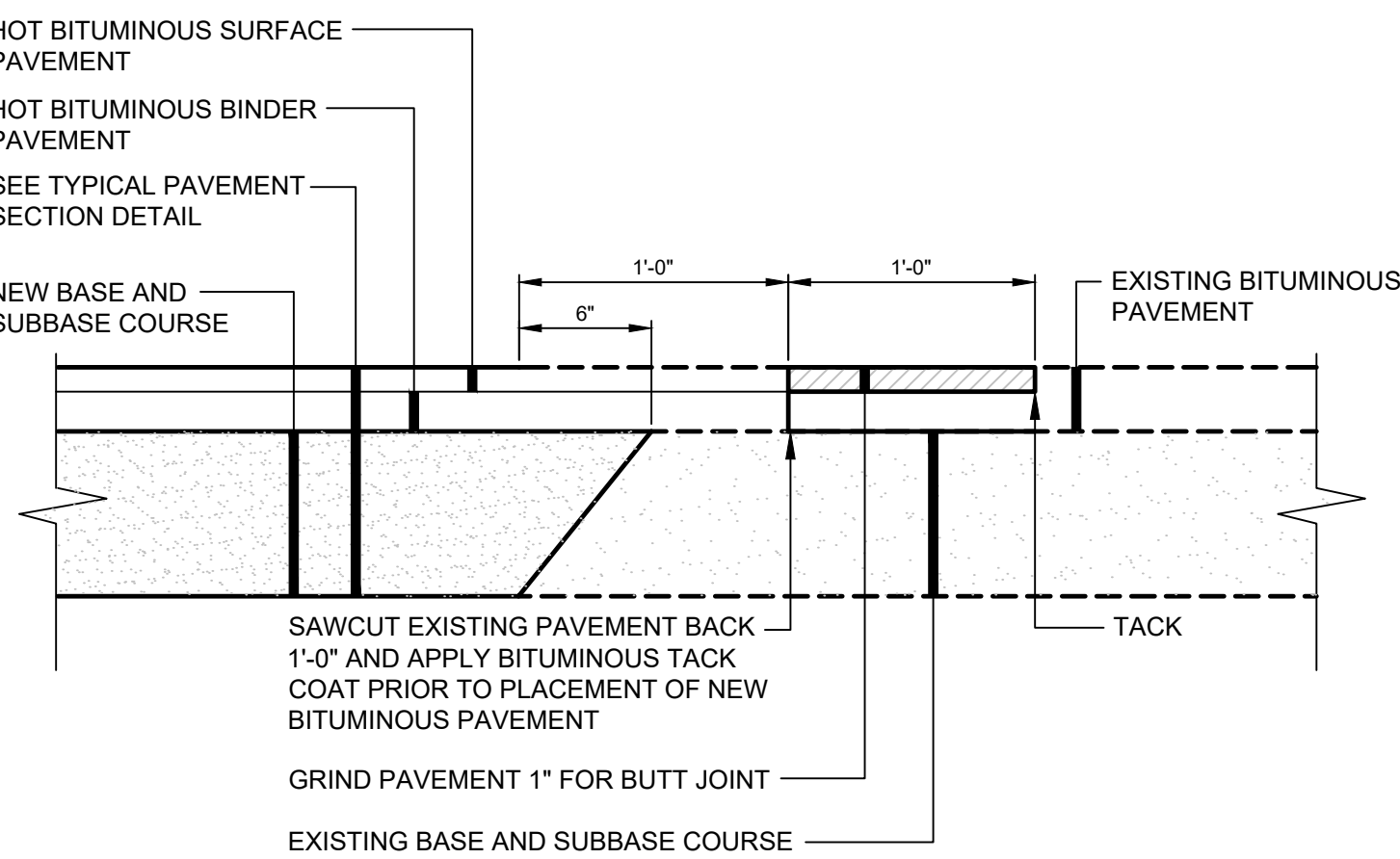
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AS OBTAINED FROM THE CITY OF PORTLAND "RULES AND REGULATIONS FOR EXCAVATION ACTIVITIES IN THE PUBLIC RIGHT OF WAY"



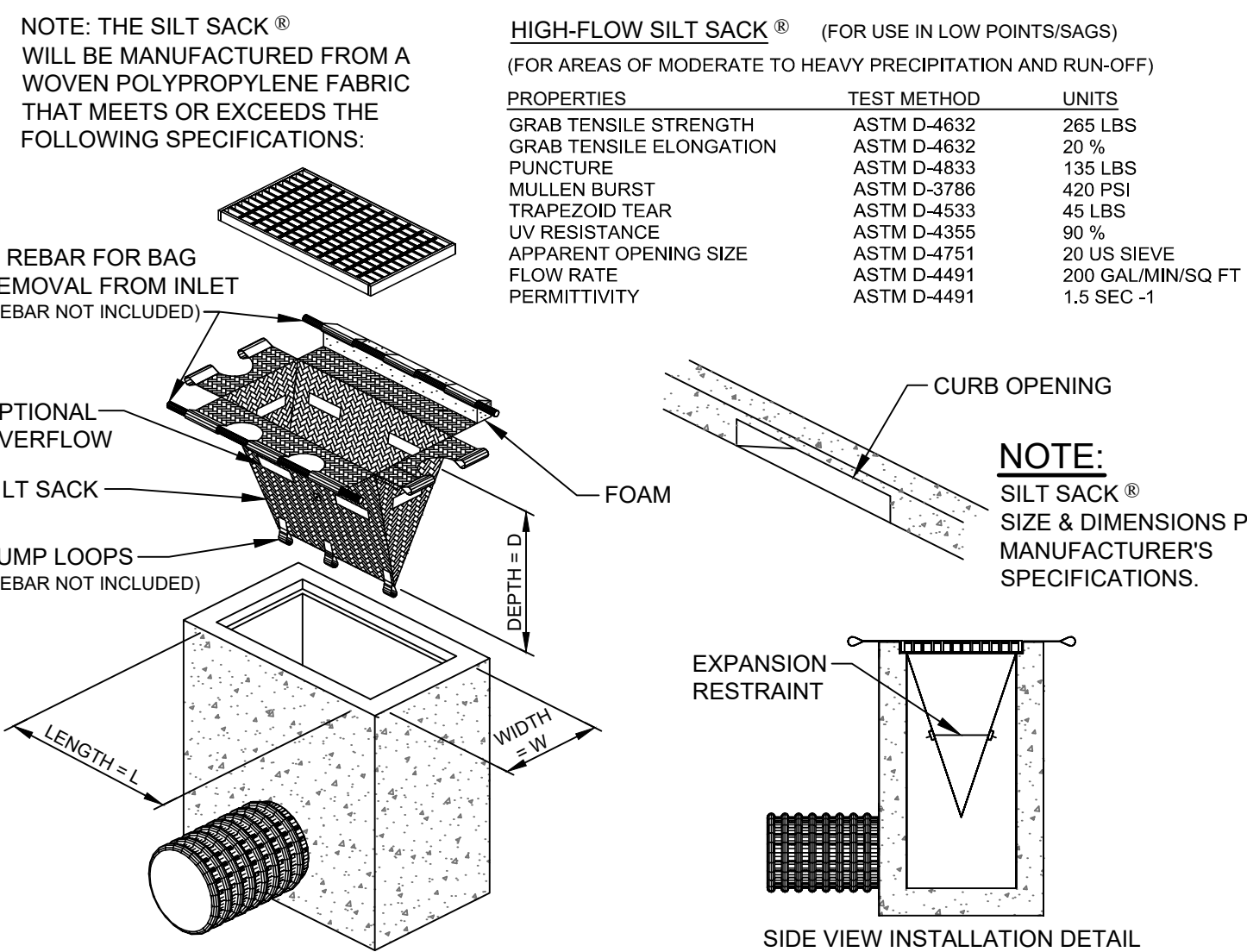
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AS OBTAINED FROM THE CITY OF PORTLAND "RULES AND REGULATIONS FOR EXCAVATION ACTIVITIES IN THE PUBLIC RIGHT OF WAY"



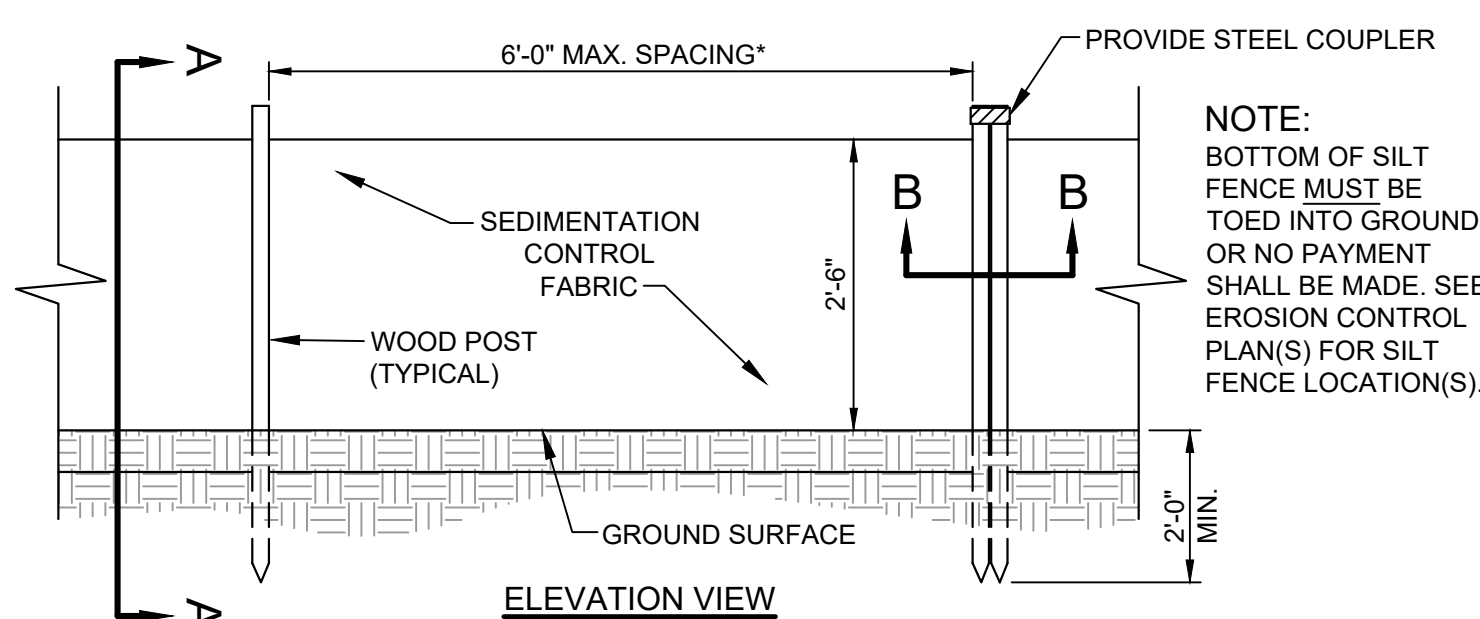
D ORANGE CONSTRUCTION FENCE DETAIL
N.T.S.



E PAVEMENT SAWCUT DETAIL
N.T.S.

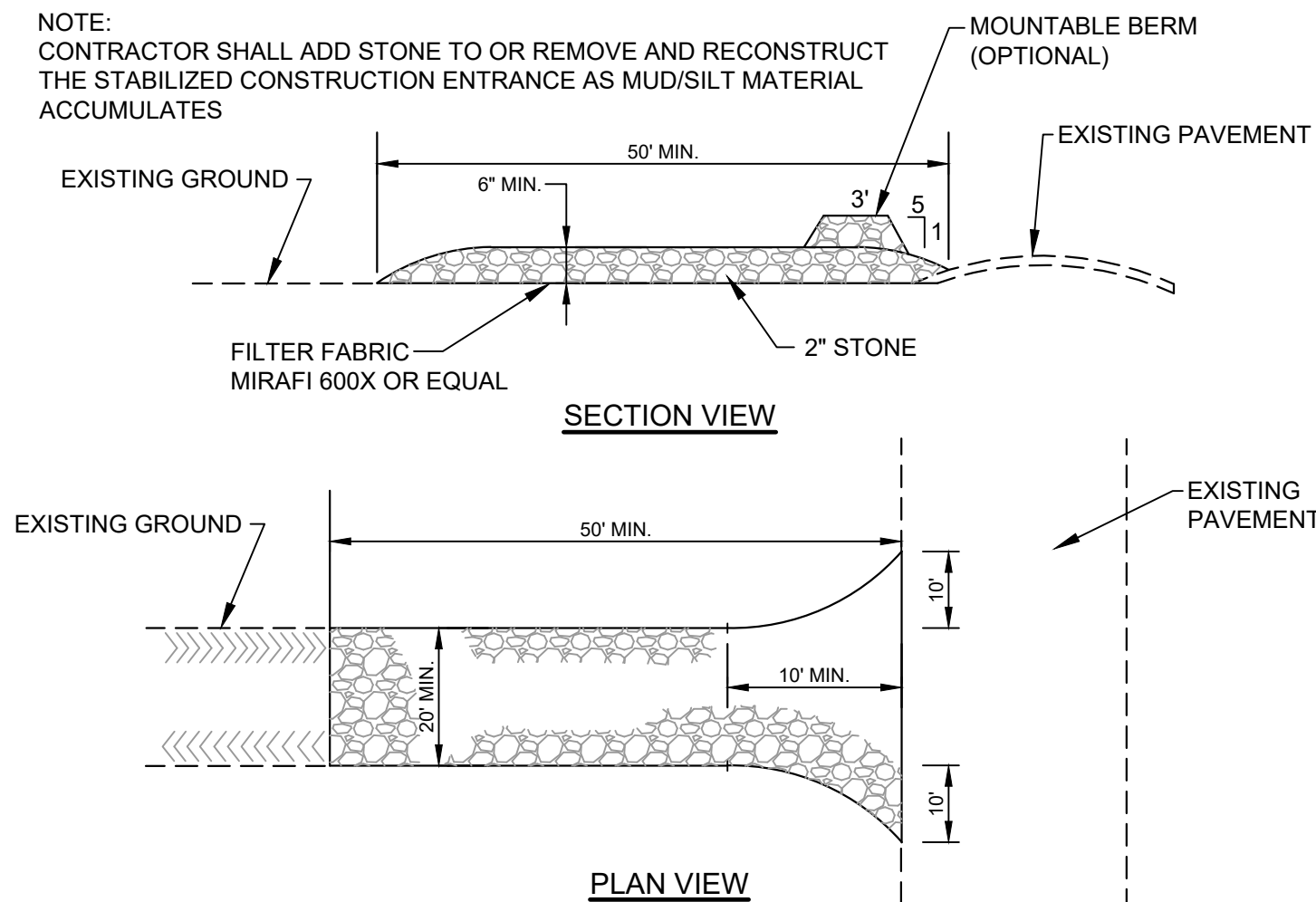


F SILT SACK® DETAIL & SPECIFICATIONS
N.T.S.



*NOTE: THE SILT FENCE SHOULD HAVE A MAXIMUM STAKING DISTANCE OF 6', UNLESS THE FENCE IS SUPPORTED BY WIRE FENCE REINFORCEMENT, A MAXIMUM 14 GAUGE AND WITH A MINIMUM MESH SPACING OF 6".

G SILTATION FENCE DETAIL
N.T.S.



H STABILIZED CONSTRUCTION ENTRANCE DETAIL
N.T.S.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY, P.E.
10.08.24
LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E.
LIC. #7429

Design: SRB Draft: CDD Date: JUNE 2024
Checked: SRB Scale: AS NOTED Job No.: 3904.01
File Name: 3904.01-DETAILS.dwg

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GORRIIL PALMER
An LJB Engineering Company

Gorriil Palmer, an LJB Engineering Company
GorriilPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name: **SITE & MISCELLANEOUS DETAILS**
Project: **Home 2 Suites - 203 Fore Street**
Portland, Maine
Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue- Suite 200, West Palm Beach, FL 33401

Drawing No.
C-6.2

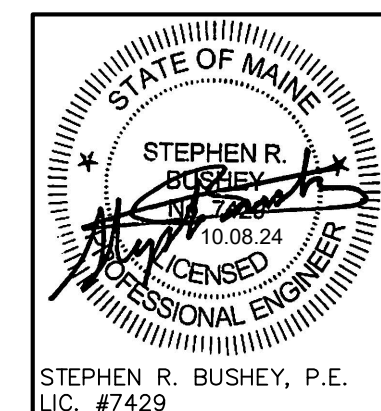
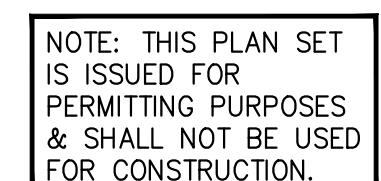
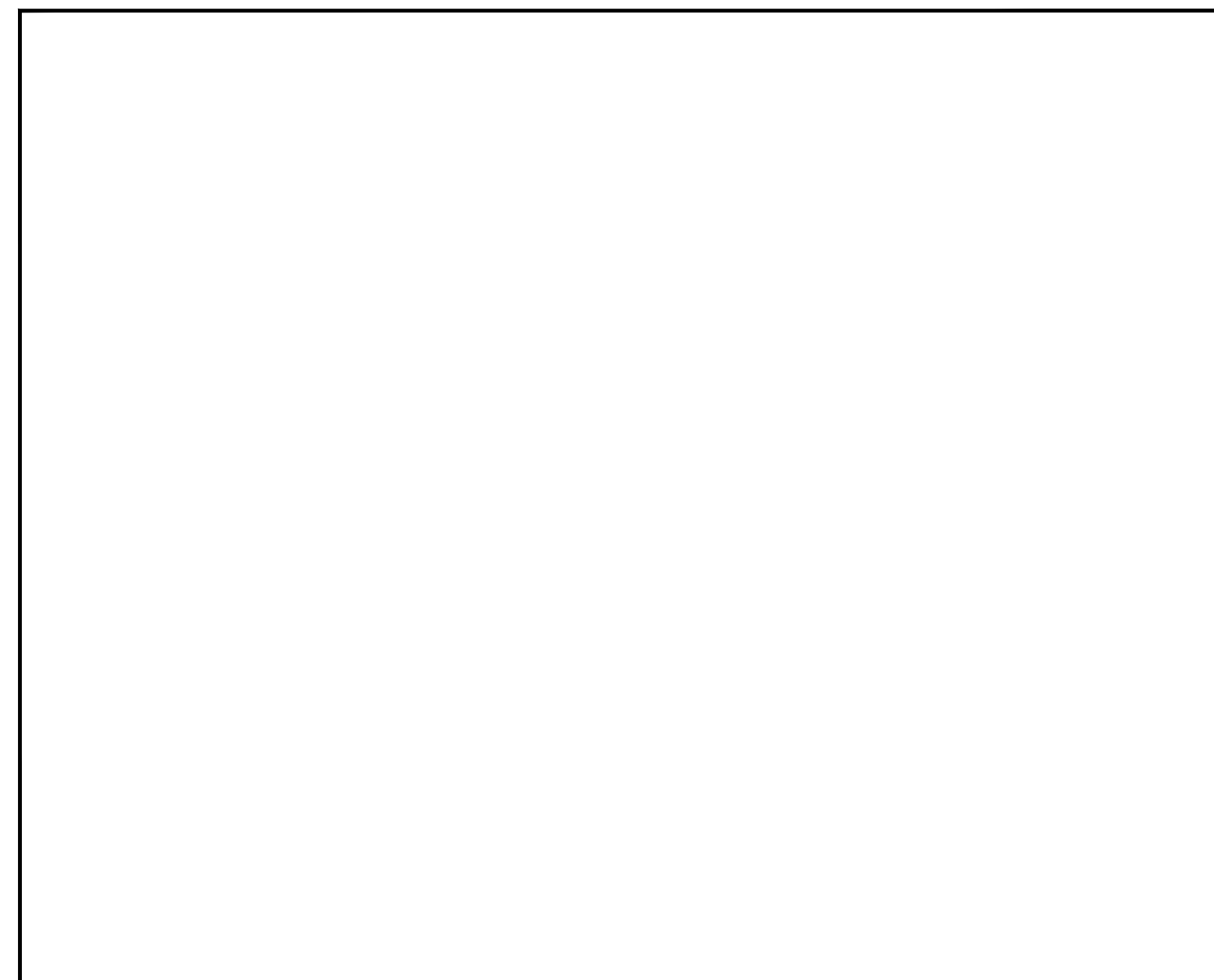
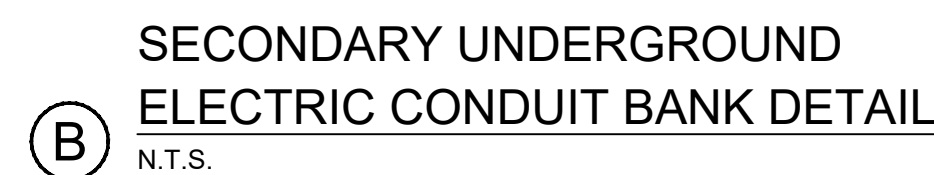


1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 LBS. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. MANHOLES MAY BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
3. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
4. ALL PIPES ENTERING MANHOLES AND CATCH BASINS SHALL HAVE FLEXIBLE PIPE CONNECTIONS WITH STEELLESS STEEL BANDS. FILL ANY ANNUAL SPACE WITH NON SHRINK GROUT.
5. ALL STORM AND SEWER MANHOLE COVERS SHALL BE SOLID
6. ALL SENTRY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/RAIN 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 SENTRY 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



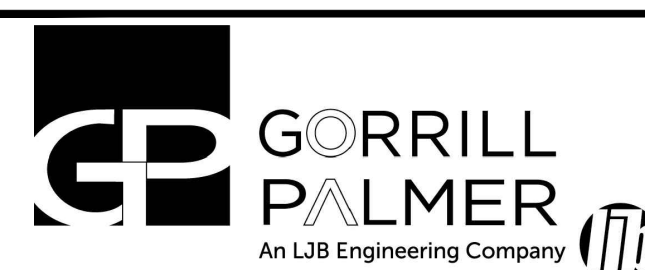
STEPHEN R. BUSHEY, P.E.
LIC. #7429



Rev.	Date	Revision
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2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY
Rev.	Date	Revision

Design: SRB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-DDETAILS.dwg		
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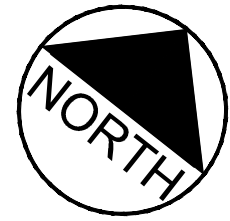


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300 Southborough Drive - Suite 200
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Drawing Name:	UTILITY & MISCELLANEOUS DETAILS
Project:	Home 2 Suites – 203 Fore Street Portland, Maine
Client:	Chatham Portland DT, LLC c/o Chatham Lodging Trust 222 Lakeview Avenue— Suite 200, West Palm Beach, FL 33401

Drawing No.

C-6.4



PLANTING SCHEDULE

	QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	NATIVE
TREES	3	AC	<i>Amelanchier canadensis</i>	Shadbush	6-8" ht.	Multi-stem	X
	7	BP	<i>Betula papyrifera</i> 'Renaissance Oasis'	Paper Birch	10-12" ht.	Multi-stem	X
	4	AR	<i>Acer rubrum</i> 'Karpick' or 'Bowhall'	Red Maple	3-3.5" cal.		X
	7	GT	<i>Gleditsia triacanthos</i> 'Streetkeeper'	Honeylocust	3-3.5" cal.		
	3	PS	<i>Prunus sargentii</i> 'Pink Flair'	Cherry	2.5-3" cal.		
SHRUBS	6	HP	<i>Hydrangea paniculata</i> 'Little Lime'	Hydrangea	#5	Cont.	
	17	HS	<i>Hydrangea serrata</i> 'Tough Stuff'	Hydrangea	#5	Cont.	
	10	IG	<i>Ilex glabra</i> 'Shamrock'	Inkberry	#7	Cont.	X
		MP	<i>Myrica pensylvanica</i> 'Bobee'	Northern Bayberry	#5	Cont.	X
	51	RA	<i>Rhus aromatica</i> 'Gro-Low'	Fragrant Sumac	#5	Cont.	X
	3	RC	<i>Rhododendron</i> c. 'Cunningham White'	Rhododendron	3' ht.	B+B	
PERENNIALS	30	HM	<i>Hakoneclao macra</i> 'Beni kazi'	Japanese Forest Grass	#2	Cont., full	
	78	PA	<i>Pennistum a.</i> 'Hamlin'	Dwarf Fountain Grass	#2	Cont., full	
	40	PV	<i>Panicum virgatum</i> 'Cheyenne Sky'	Switchgrass	#2	Cont., full	
	49	PER	MIXED PERENNIALS	Species TBD	#1	Cont., full	

Phase: PERMITTING	Drawn By: MB	Approved By: PC	Date: JULY, 2024
	Revisions	Date	Description

CARROLL ASSOCIATES
LANDSCAPE ARCHITECTS
217 COMMERCIAL STREET, STE 204
PORTLAND, MAINE 04101
207.772.1552 V. F. 207.772.0712

OWNER/ DEVELOPER:

Chatham Portland, LLC
c/o Chatham Lodging Trust
222 LAKEVIEW AVE, SUITE 200
WEST PALM BEACH, FL 33401

Project:

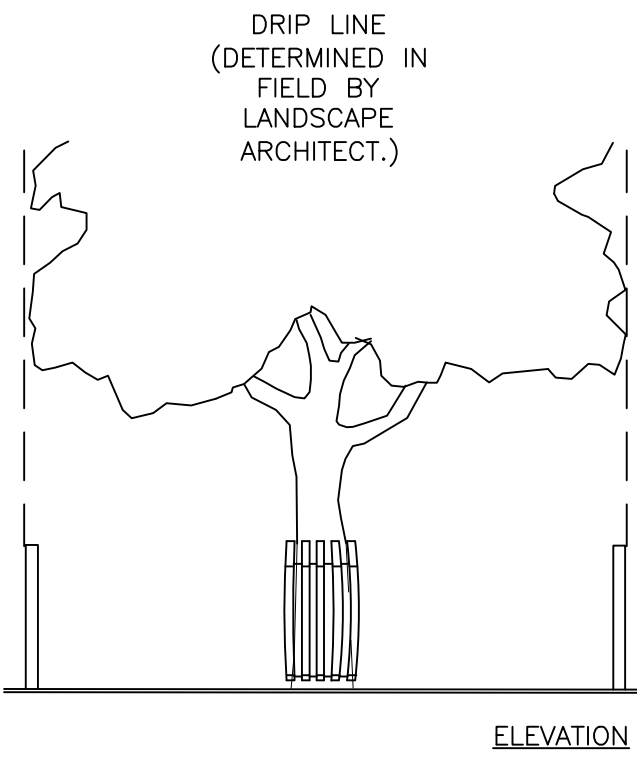
HOME 2 SUITES
203 FORE STREET
PORTLAND, ME

Sheet Title:

LANDSCAPE PLAN

Sheet No:

L-1.0

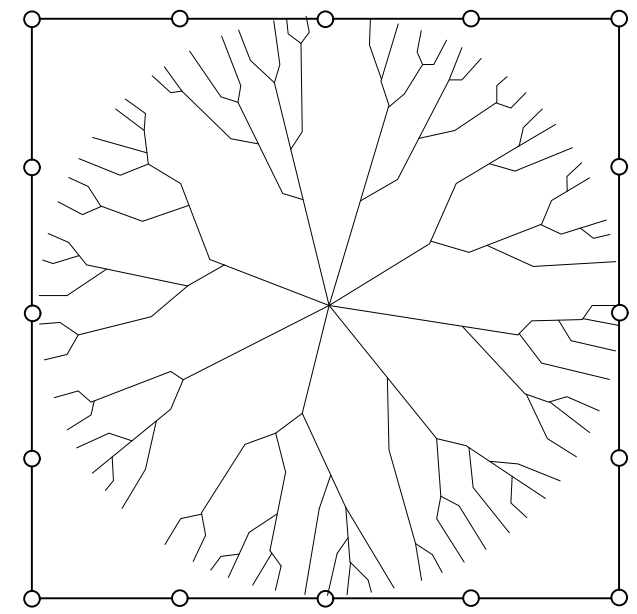


EXISTING TREE TO REMAIN

6' TALL WOOD SLAT FENCING, SLATS TO BE SPACED 2" O.C. MAX.

PLACE 1.5" THICK LEAF BASED COMPOST LAYER THROUGHOUT TREE ZONE. DO NOT STORE ANY MACHINERY OR MATERIALS WITHIN AREA OF THE PROTECTION FENCE.

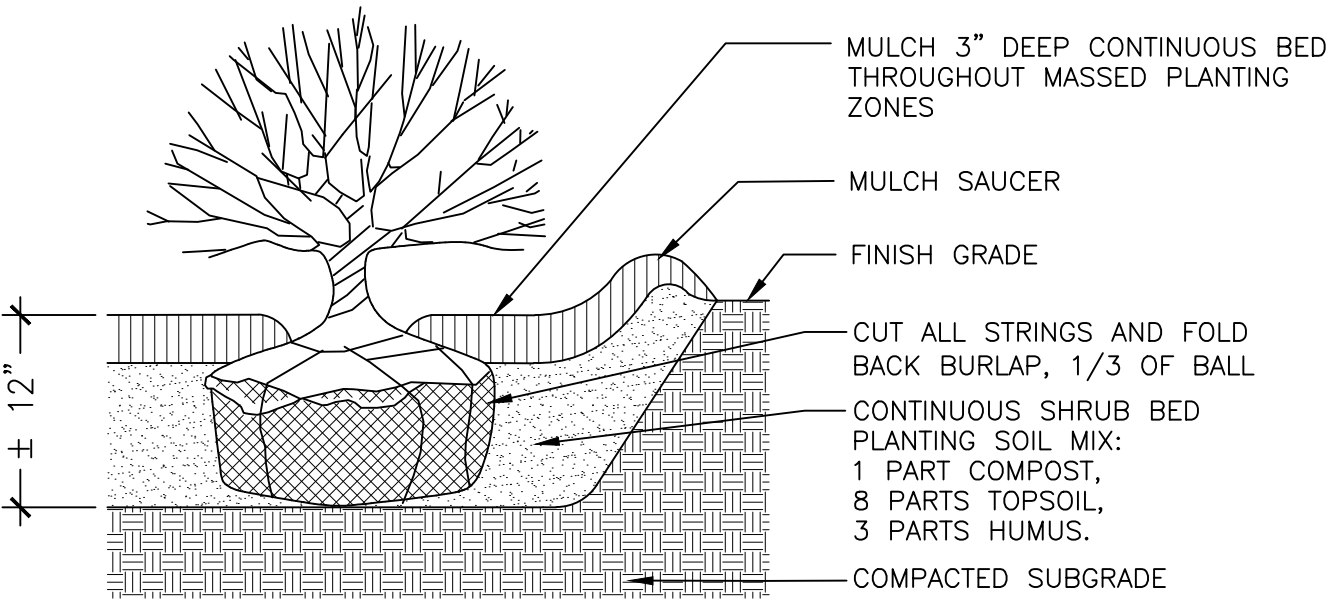
TREE PROTECTION FENCE: 4'-0" SNOW FENCE. METAL POSTS SHALL BE 6' O.C. MAXIMUM.



EXISTING TREE TO REMAIN

4' SNOW FENCE AT DRIPLINE OF TREE.

NOTE:
TREE PROTECTION FENCING TO REMAIN FOR DURATION OF PROJECT UNLESS OTHERWISE DIRECTED BY LANDSCAPE ARCHITECT

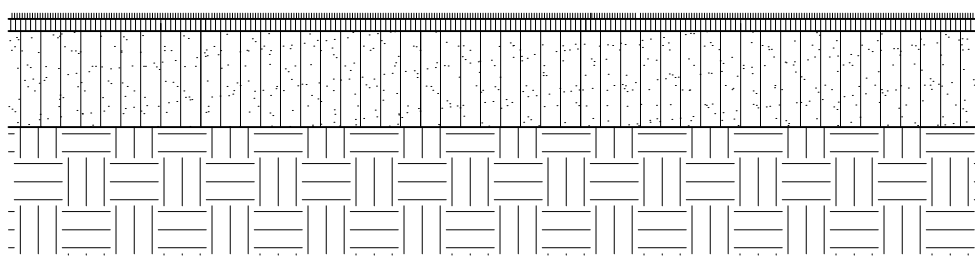


4 SHRUB PLANTING

SCALE: 3/4"=1'-0"

TOPSOIL: FERTILE, FRIABLE, NATURAL TOPSOIL OF LOAMY CHARACTER, WITHOUT ADMIXTURE OF SUBSOIL MATERIAL, FREE FROM CLAY, LUMPS, COARSE SANDS, STONES, PLANTS, ROOTS, STICKS, AND OTHER FOREIGN MATERIALS GREATER THAN 1" IN ANY DIMENSION, PH RANGE 5.0-7.0 , AND SHALL CONTAIN NOT LESS THAN 6% ORGANIC MATTER BY WEIGHT. SANDY LOAM OR LOAM SOIL AS DEFINED BY THE USDA SOIL CONSERVATION SERVICE, AND HAVE THE FOLLOWING MECHANICAL ANALYSIS:

TEXTURAL CLASS	% OF TOTAL WEIGHT	AVERAGE %
SAND (0.05- 2.0 MM)	45 TO 75%	60%
SILT (0.002- 0.05 MM)	15 TO 35%	25%
CLAY (< 0.002 MM)	5 TO 25%	15%



SEED MIX; SEE LANDSCAPE PLAN

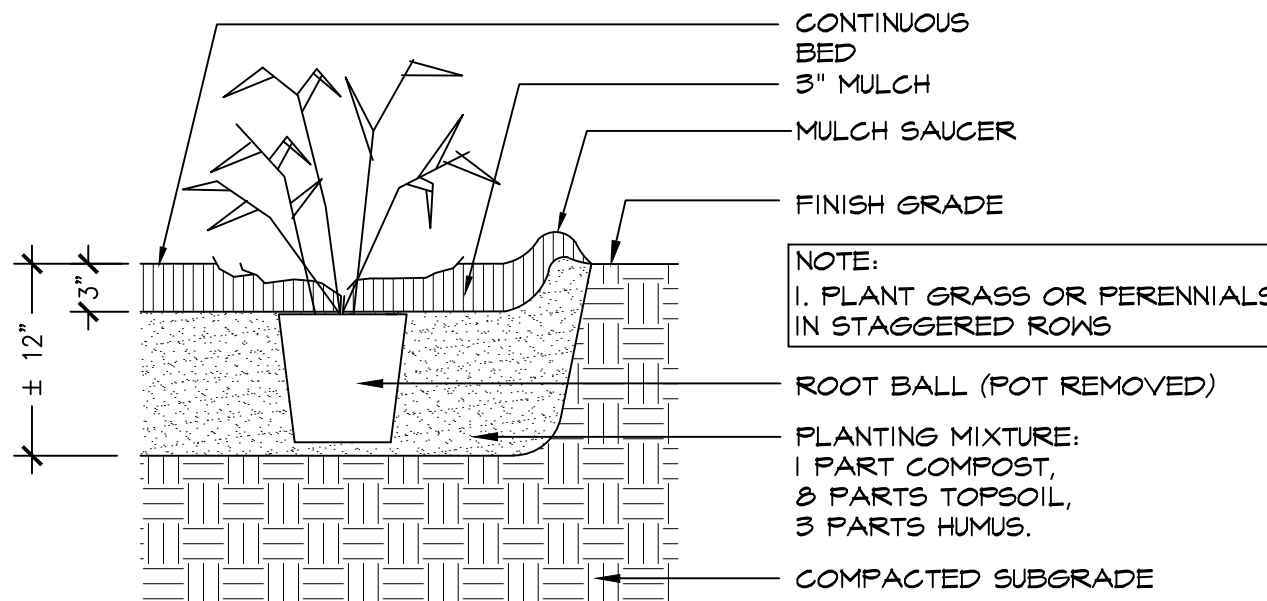
6" MIN. PREPARED TOPSOIL FOR LAWNS, NO STONES OVER 3/4" DIA.

3" MIN. PREPARED TOPSOIL FOR AREAS OF CONSERVATION MIX

COMPACTED SUBGRADE

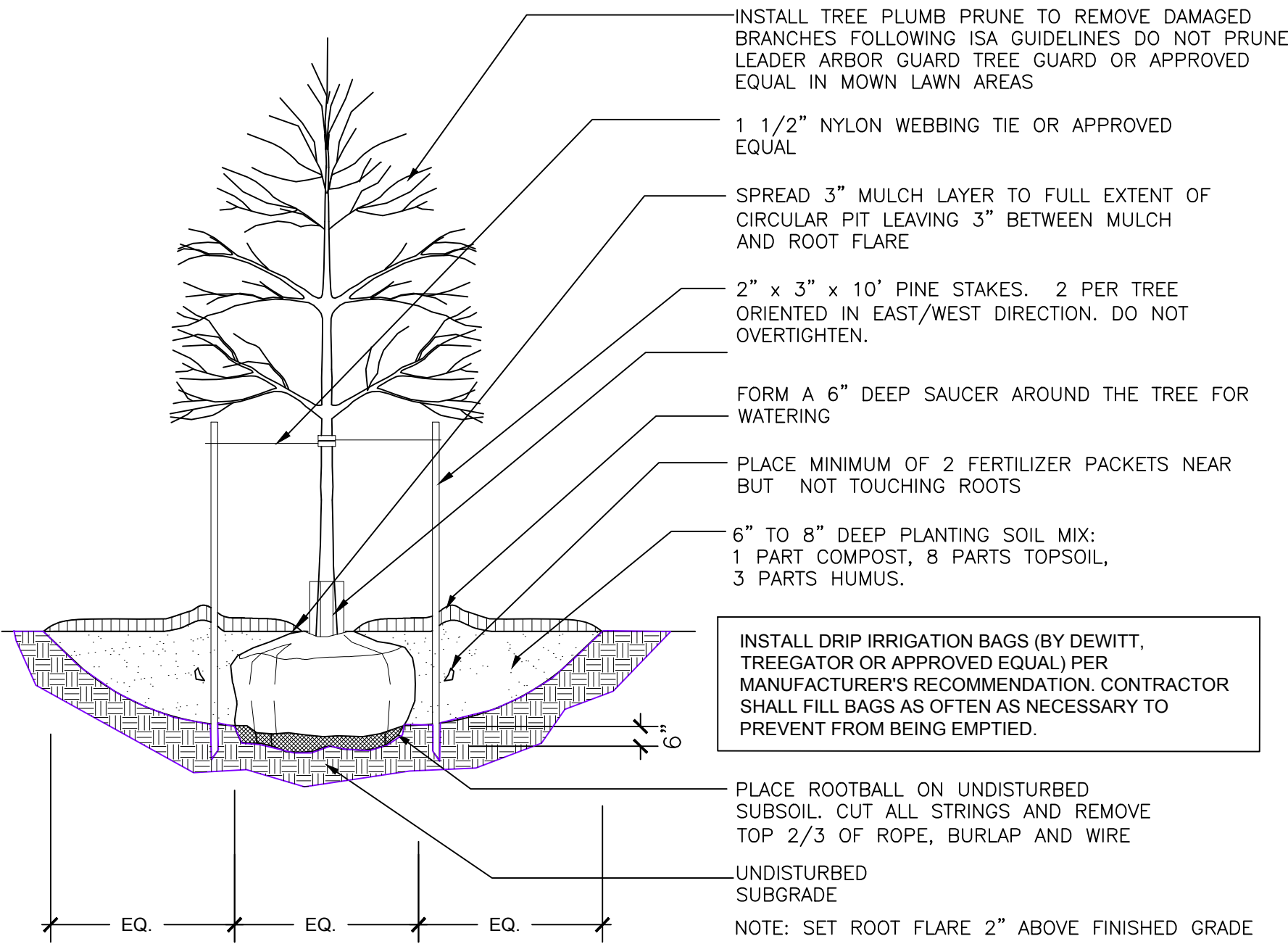
2 SEEDED OR SODDED LAWN

SCALE: 1"=1'-0"



5 ORNAMENTAL GRASS / PERENNIAL PLANTING

SCALE: 1"=1'-0"



1 TREE PROTECTION

SCALE: 1 1/2"=1'-0"

3 DECIDUOUS TREE IN LAWN OR ESPLANADE

SCALE: 1"=1'-0"

NOTES:

- CONTRACTOR SHALL BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTING AND SHALL CONTINUE UNTIL FINAL ACCEPTANCE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS OF WATERING AND MAINTENANCE.
- CONTRACTOR SHALL SUPPLY PLANTS IN QUANTITIES SUFFICIENT TO COMPLETE WORK SHOWN ON THE PLAN. ANY DISCREPANCY BETWEEN THE QUANTITIES SHOWN IN THE PLANT SCHEDULE AND THOSE REQUIRED ON THE PLAN SHALL NOT ENTITLE THE CONTRACTOR TO ADDITIONAL RENUMERATION. ANY DISCREPANCIES SHALL BE CLARIFIED WITH THE LANDSCAPE ARCHITECT PRIOR TO ORDERING PLANT MATERIAL.
- ALL MATERIALS SHALL CONFORM TO SPECIFICATIONS OF THE AMERICAN STANDARDS FOR NURSERY STOCK (LATEST EDITION) AS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISH GRADE AS THE ORIGINAL GRADES BEFORE DIGGING.
- THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR ONE (1) FULL YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
- ALL PLANT MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT AT THE NURSERY AND AT THE SITE.
- ALL PLANT BEDS SHALL MEET MINIMUM TOPSOIL REQUIREMENTS (SEE SPECIFICATIONS) AND NOTE 18.
- NO PLANT MATERIAL SHALL BE INSTALLED UNTIL GRUBBING, BED PREPARATION, AND FINISH GRADING HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
- ALL PLANTS BEDS AND TREE WELLS SHALL HAVE A MINIMUM OF 3" OF UNIFORMLY DISTRIBUTED, DARK, SHREDDED BARK MULCH.
- CONTRACTOR SHALL SUBMIT SOIL SAMPLE AND TEST OF TOPSOIL TO LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. SOIL ADMIXTURE SHALL BE ADDED TO EXISTING SOIL (BY CONTRACTOR) IF DEEMED NECESSARY BY SOIL TEST RESULTS.
- ROUGH GRADING AND BED PREPARATION SHALL BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PLANT INSTALLATION. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT 48 HOURS PRIOR TO REQUIRED SITE VISIT.
- ALL PLANTS SHALL BE BALLED AND WRAPPED OR CONTAINER GROWN AS SPECIFIED. ALL ROOT WRAPPING AND CONTAINER MATERIAL MADE OF SYNTHETICS OR PLASTICS SHALL BE REMOVED AT THE TIME OF PLANTING.
- ALL BROAD LEAF EVERGREEN PLANTS SHALL BE SPRAYED WITH AN ANTI-DESSICANT AT THE BEGINNING OF THEIR FIRST WINTER.
- ALL PLANTS SHALL BE INSTALLED AS PER DETAILS AND THE CONTRACT SPECIFICATIONS. THE LANDSCAPE CONTRACTOR SHALL REFER TO THE CONTRACT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR SHALL STAKE TREES IF DEEMED NECESSARY BY THE LANDSCAPE ARCHITECT.
- THE LANDSCAPE CONTRACTOR SHALL PROVIDE PREPARED SOIL PLANTING MIX AS PER THE CONTRACT SPECIFICATIONS.
- THE LANDSCAPE CONTRACTOR SHALL REFER TO THE PLANT LIST AND PLANTING SPECIFICATIONS FOR SEASONAL REQUIREMENTS AND OTHER RESTRICTIONS RELATED TO THE TIME AND SEASON OF PLANTING.
- PLANTING SOIL MIX: 1 PART COMPOST, 8 PARTS TOPSOIL, 3 PARTS HUMUS.

TOPSOIL: FERTILE, FRIABLE, NATURAL TOPSOIL OF LOAMY CHARACTER, WITHOUT ADMIXTURE OF SUBSOIL MATERIAL, FREE FROM CLAY, LUMPS, COARSE SANDS, STONES, PLANTS, ROOTS, STICKS, AND OTHER FOREIGN MATERIALS GREATER THAN 1" IN ANY DIMENSION, PH RANGE 5.0-7.0 , AND SHALL CONTAIN NOT LESS THAN 6% ORGANIC MATTER BY WEIGHT. SANDY LOAM OR LOAM SOIL AS DEFINED BY THE USDA SOIL CONSERVATION SERVICE, AND HAVE THE FOLLOWING MECHANICAL ANALYSIS:

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SAND (0.05- 2.0 MM)	45 TO 75%	60%
SILT (0.002- 0.05 MM)	15 TO 35%	25%
CLAY (< 0.002 MM)	5 TO 25%	15%

Phase: PERMITTING	Drawn By: MB	Approved By: PC	Date: JULY, 2024
	Revisions	Date	Description



OWNER/ DEVELOPER:

Chatham Portland, LLC
c/o Chatham Lodging Trust
222 LAKEVIEW AVE, SUITE 200
WEST PALM BEACH, FL 33401

Project:

HOME 2 SUITES
203 FORE STREET
PORTLAND, ME

Sheet No:

L-2.0

Sheet Title:

LANDSCAPE DETAILS

SRT2 EDGE-LIT

CEILING/SURFACE/GARAGE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

FEATURES

- Edge-lit optical assembly delivers exceptional uniformity over the entire lens with indirect illumination that reduces glare and improves visual comfort
- Low profile housing intended for 8' - 20' mounting heights for surface, trunnion/yoke or pendant mounting
- Applications include parking garage, walkway or building canopies, corridors, tunnels, large stairwells and other interior applications
- Multiple optical distributions are available making the Beacon Edge-Lit luminaire both versatile and functional
- UL/cUL listed for wet locations, IP65



CONTROL TECHNOLOGY



SPECIFICATIONS

HOUSING

- Die-cast aluminum housing ensures long electrical component life and luminaire performance
- Corrosion resistant powder coat finish both protects and provides architectural appearance
- One piece molded silicone gasket ensures weather proof seal
- Thermally isolated driver mounted to dedicated bracket reduces operating temperatures and increases driver life and reliability
- Torx head screws standard for tamper resistant housing

OPTICS

- Edge-lit acrylic light guide provides blended non-pixelated light for unprecedented visual comfort
- Choice of multiple light outputs with lumen range of 4,000-16,000
- Five distribution types: Type V Square, Type V Rectangular, Type V Concentrated, Type V Wide or Asymmetric (Type 3/4)
- Wide variety of CCT's and CRI's offered: 3000K (70CRI), 3000K (80CRI), 3500K (80CRI), 4000K (70CRI), 4000K (80CRI) or 5000K (70 CRI) CCT

ELECTRICAL

- 120V-277V 50/60Hz with 347V and 480V available
- 0-10V dimming drivers are RoHS compliant and IP66
- Surge protection – Standard 6kA with optional 20kA end of life LED indicator

ELECTRICAL (CONTINUED)

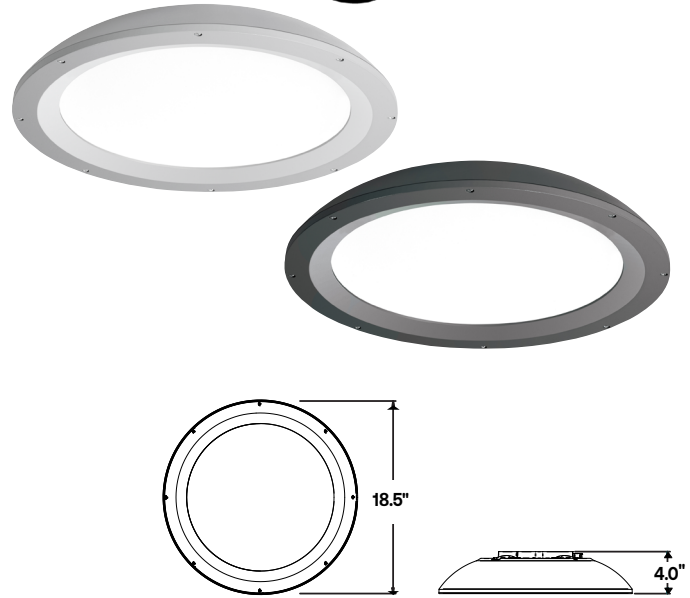
- Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 24" standard

INSTALLATION

- Standard quick mount plate over standard 4" square junction box or octagonal box and allows for simplified fixture installation.
- Standard luminaire accepts a rigid or free-swinging 3/4" NPT stem for pendant mount via wet location j-box (by others)
- Optional bird deterrent shroud available for field installation
- Optional trunnion/yoke mount available for field installation

OPTIONS/CONTROLS

- Standalone occupancy sensor available for on/off or dimming operation
- NX Lighting Controls available with in fixture Zigbee wireless control module, features dimming and occupancy sensor
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor
- UL924 device available for standalone and wireless control override during power interruptions
- Uplight option provides approximately 800 lumens and consumes only 8 additional watts



	Weight
SRT2	15 lbs / 6.8 kg

OPTIONS/CONTROLS (CONTINUED)

- Integral battery backup option available with and without heater. Rated for 0°C (without heater) and -30°C (with heater) and uses 13 Watts of power
- Emergency lighting relay available for generator or central inverter supplied lighting
- Vandal resistant wire guard available as an option for factory installation or as an accessory for field installation

OPTIONS/CONTROLS (CONTINUED)

Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application

CERTIFICATIONS

- Listed to UL1598 for use in wet location, listed for -40°C to 40°C applications
- Meets IDA recommendations using 3000K and warmer configurations at 0 degrees tilt
- IP65
- DLC® (DesignLights Consortium Qualified). Not all product variations on this page are DLC Qualified. Refer to www.designlights.org for the most up-to-date list.
- Emergency battery backup options are California Energy Commission (CEC) Title 20 Compliant

WARRANTY

- 5 year warranty



SRT2 EDGE-LIT

CEILING/SURFACE/GARAGE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ORDERING GUIDE

Example: SRT2-30-3K7-5QW-UNV-BLT-WG

CATALOG #

Series	Engine	CCT	Distribution	Voltage	Color/Finish	Options
SRT2 Edge-Lit Parking Garage Size 2	30 30W Nominal 3800 lm	3K7 3000K, 70 CRI	5QW Type Square Wide ¹⁰	UNV 120V- 277V	BLT Black Matte Textured	WG Wire Guard
	50 50W Nominal 5700 lm	3K8 3000K, 80 CRI	5RW Type 5 Rect. Wide ¹⁰	120 120V	BLS Black Gloss Smooth	UD Uplight Module ⁷
	65 65W Nominal 7000 lm	35K8 3500K, 80 CRI	5C Type 5 Concentrated	208 208V	DBT Dark Bronze Matte Textured	F Single Fuse (120, 277, 347V)
	85 85W Nominal 9500 lm	4K7 4000K, 70 CRI	5W Type 5 Wide ⁴	240 240V	DBS Dark Bronze Gloss Smooth	F Double Fuse (208, 240, 480V)
	100 100W Nominal 11000 lm	4K8 4000K, 80 CRI	ASY Asymmetric (Type 4) ¹⁰	277 277V	GTT Graphite Matte Textured	E EM Battery Pack (0°C) ²
	120 120W Nominal 13000 lm	5K7 5000K, 70 CRI		347 347V	LGS Light Grey Gloss Smooth	EH EM Battery w/Heater (-30°C) ²
	140 140W Nominal 14700 lm			480 480V	PSS Platinum Silver Smooth	DTS Dimming Transfer Switch ¹
					WHT White Matte Textured	LD3 36" Lead Length ⁵
					WHS White Gloss Smooth	LD6 72" Lead Length ⁵
					VGT Verde Green Textured	LD9 108" Lead Length ⁵
					Color Option	SP20K 20kA Surge Protection with End of Life Indicator ³
					CC Custom Color	LMB Less Mounting Bracket

Control Options	Accessories (Order Separately)
NX Networked – Wireless	☐ SRT2-WG Wire Guard for SRT2 version
NXW ^{3,10} NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor	☐ SRT-MB Mounting bracket for pre-installation
NXWS12F NX Networked Wireless Enabled Integral NXSMP2-OMNI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ³	☐ SRT2-BS-XXX Bird deterrent shroud for SRT2 version, not available with uplight or trunnion mount
LightGRID+ – Wireless	☐ SRT2-TM Trunnion/Yoke accessory for SRT2 version
WIR Wireless Controls, LightGRID+	☐ CLEDSJK Whiteway stem and junction box
WIRSC LightGRID+ and occupancy sensor	
Sensor Controls	
SCP-8F Remote control programmable line voltage sensor (8-12' recommended MH) ^{2,3}	
SCP-20F Remote control programmable line voltage sensor (12-20' recommended MH) ²	
BTSO12F Bluetooth Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens ¹¹	

Notes:

1 For applications that must comply with UL924. Can not be combined with E or EH options	7 Uplight Module (UD) will not be controlled by sensors
2 Available for 120 to 277 volts only, not 347 or 480	8 Consult Brand for 480 Volt
3 Not available with uplight (UD)	9 Not available in 30W and 50W
4 100, 120 and 140W light engines only	10 Up to 85W configurations only.
5 Not available with E, EH or DTS options, standard wire length 24"	11 Available for 65W and higher
6 65W and 85W only	

SRT2 EDGE-LIT

CEILING/SURFACE/GARAGE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

CONTROLS FUNCTIONALITY

OUTDOOR LIGHTING CONTROLS OPTIONS

LIGHTGRID⁺



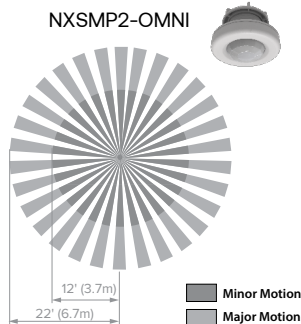
	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height	
NX Wireless	NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor	✓	✓	✓	-	-	✓	✓	✓	-	 NXRM2-H
	NXWS12F	NX Networked Wireless Enabled Integral NXSMP2-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	12ft	 NXSMP2-OMNI-O
LightGRID+	WIR	LightGRID+ In-Fixture Module	✓	-	✓	-	-	✓	✓	Gateway	-	 WIR
	WIRSC	LightGRID+ Module and Occupancy Sensor	✓	✓	✓	✓	✓	✓	✓	Gateway	12ft	BTMSP
Independent	BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	-	-	-	✓	✓	✓	✓	✓	12ft	 BTSMP-OMNI-O

DEFAULT SETTINGS

Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	15 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	0%
Daylight Sensor	Disabled
Bluetooth	Enabled
2.4GHz Wireless Mesh	On
"Passcode Factory Passcode: HubbN3T!"	Enabled

Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	8 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	50%
Daylight Sensor	Disabled

NX WIRELESS COVERAGE PATTERNS



NX LIGHTING CONTROLS FREE APP

CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)



The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminaires and program NX system settings.

Apple App: <https://apps.apple.com/us/app/nx-lighting-controls/id962112904>

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&gl=US



Apple App



Google Play

SRT2 EDGE-LIT

CEILING/SURFACE/GARAGE

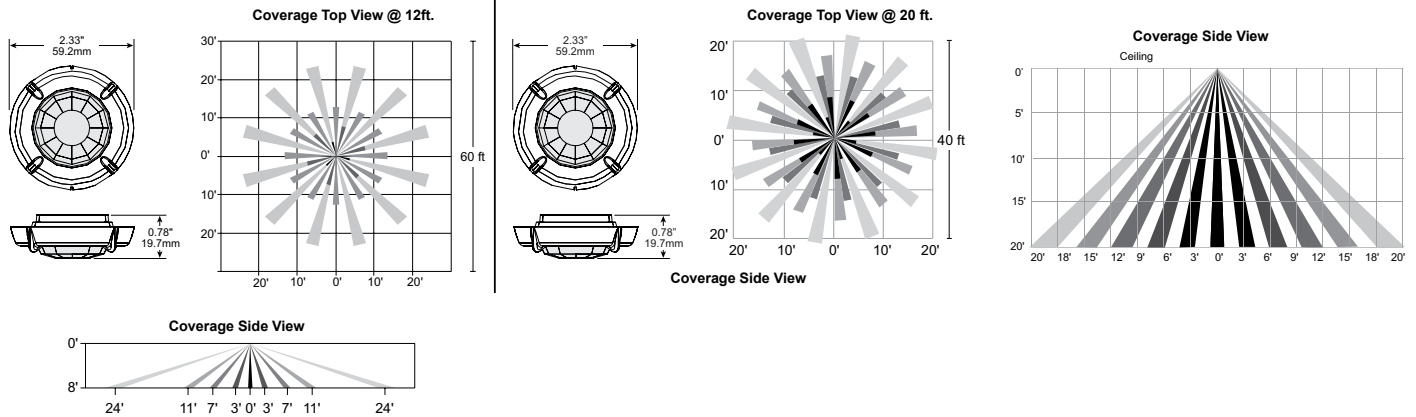
DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

CONTROLS FUNCTIONALITY (CONT'D)

OUTDOOR LIGHTING CONTROLS OPTIONS

Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components		
		Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height			
Independent	SCP_F	Sensor Control Programmable, sensor range, reference product specification for height selections		-	-	-	✓	✓	✓	✓	-	8ft or 20ft	SCP_F

COVERAGE PATTERNS FOR SCP_F





SRT2 EDGE-LIT

CEILING/SURFACE/GARAGE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

PERFORMANCE DATA

# of LEDs	Engine	DRIVE CURRENT (mA)	SYSTEM WATTS	DISTRIBUTION TYPE	5K (5000K nominal, 70 CRI)					4K (4000K nominal, 70 CRI)					3K (3000K nominal, 70 CRI)				
					LUMENS	LPW*	B	U	G	LUMENS	LPW*	B	U	G	LUMENS	LPW*	B	U	G
280	30	35mA	31.0	5C	3789	122.23	2	0	2	3771	121.65	2	0	2	3626	116.97	2	0	2
				5QW	3686	118.89	2	0	1	3668	118.33	2	0	1	3527	113.77	2	0	1
				ASY	2991	96.48	1	0	2	2976	96.02	1	0	2	2862	92.32	1	0	2
				5RW	3604	116.26	2	0	2	3587	115.71	2	0	2	3449	111.26	2	0	2
	50	55mA	48.1	5C	5684	118.17	2	0	2	5657	117.60	2	0	2	5439	113.08	2	0	2
				5QW	5529	114.94	2	0	1	5502	114.39	2	0	1	5291	109.99	2	0	1
				ASY	4486	93.27	1	0	2	4465	92.82	1	0	2	4293	89.25	1	0	2
				5RW	5406	112.40	2	0	2	5380	111.86	2	0	2	5174	107.56	2	0	2
	65	75mA	65.1	5C	7105	109.14	2	0	2	7071	108.61	2	0	2	6799	104.44	2	0	2
				5QW	6911	106.16	2	0	1	6878	105.65	2	0	1	6613	101.58	2	0	1
				ASY	5608	86.14	1	0	2	5581	85.73	1	0	2	5366	82.43	1	0	2
				5RW	6758	103.81	2	0	2	6726	103.31	2	0	2	6467	99.34	2	0	2
	85	100mA	87.2	5C	9473	108.63	2	0	2	9428	108.11	2	0	2	9065	103.96	2	0	2
				5QW	9214	105.67	2	0	1	9170	105.16	2	0	1	8818	101.12	2	0	1
				ASY	7477	85.75	1	0	2	7441	85.33	1	0	2	7155	82.05	1	0	2
				5RW	9011	103.33	2	0	2	8967	102.84	2	0	2	8623	98.88	2	0	2
560	100	55mA	93.2	5C	11090	118.99	4	0	3	11037	118.42	4	0	3	10612	113.86	4	0	3
				5W	10788	115.75	4	0	3	10736	115.19	4	0	3	10323	110.76	4	0	3
	120	65mA	110.9	5C	13012	117.33	4	0	3	12950	116.77	4	0	3	12451	112.28	4	0	3
				5W	12657	114.13	4	0	3	12597	113.59	4	0	3	12112	109.22	4	0	3
	140	75mA	128.5	5C	14786	115.07	4	0	3	14715	114.52	4	0	3	14149	110.11	4	0	3
				5W	14383	111.93	4	0	3	14315	111.40	4	0	3	13764	107.11	4	0	3

Notes:
* Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown. Actual performance may differ as a result of end-user environment, application and inherent performance tolerances of the electrical components.

ELECTRICAL DATA

# OF LEDs	INPUT VOLTAGE (V)	CURRENT (Amps)	SYSTEM POWER (w)
30	120	0.26	31
	208	0.15	
	240	0.13	
	277	0.11	
	347	0.09	
	480	0.06	
50	120	0.40	48.1
	208	0.23	
	240	0.20	
	277	0.17	
	347	0.14	
	480	0.10	
65	120	0.40	65.1
	208	0.23	
	240	0.20	
	277	0.17	
	347	0.14	
	480	0.10	
85	120	0.73	87.2
	208	0.42	
	240	0.36	
	277	0.31	
	347	0.25	
	480	0.18	
100	120	0.78	93.2
	208	0.45	
	240	0.39	
	277	0.34	
	347	0.27	
	480	0.19	
120	120	0.92	110.9
	208	0.53	
	240	0.46	
	277	0.40	
	347	0.32	
	480	0.23	
140	120	1.07	128.5
	208	0.62	
	240	0.54	
	277	0.46	
	347	0.37	
	480	0.27	

PROJECTED LUMEN MAINTENANCE

AMBIENT TEMP.	0	25,000	TM-21-11 36,000	50,000	100,000	Reported L70 (HOURS)	Calculated L70 (HOURS)
25°C / 77°F	1.00	0.97	0.95	0.94	0.89	>60,000	>266,000
40°C / 104°F	0.99	0.96	0.94	0.93	0.85	>60,000	>211,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

AMBIENT TEMPERATURE	LUMEN MULTIPLIER
0°C 32°F	1.03
10°C 50°F	1.01
20°C 68°F	1.00
25°C 77°F	1.00
30°C 86°F	0.99
40°C 104°F	0.98

Use these factors to determine relative lumen output for average ambient temperatures from 0–25°C (32–122°F)

SRT LUMEN MULTIPLIER CHART

SRT Lumen Multiplier		
CCT	70 CRI	80 CRI
3000K	0.957	0.85
3500K	X	0.91
4000K	0.995	0.95
5000K	1	0.95

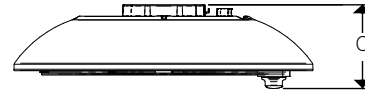
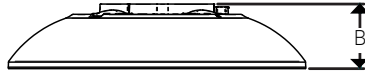
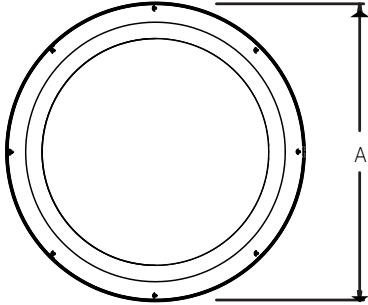
SRT2 EDGE-LIT

CEILING/SURFACE/GARAGE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

DIMENSIONS

SRT2

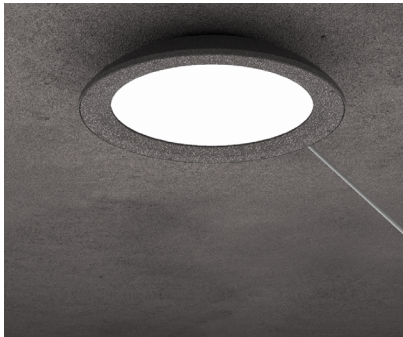


SRT2 with NX Lighting Controls

A	B	C	Weight
18.5" (469mm)	4.0" (1mm)	5.2" (132mm)	15bs (6.8kg)

ADDITIONAL INFORMATION

MOUNTING



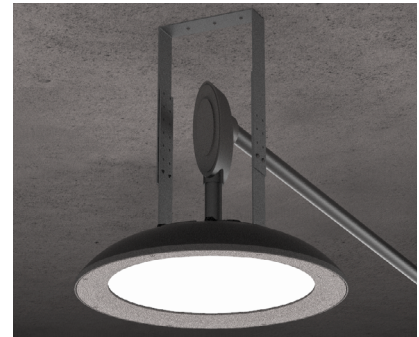
Surface Mount

Mounting plate with "quick mount" hanger for one person simple installation.
(conduit not included)



Pendant Mount

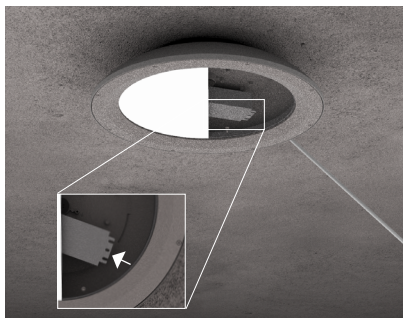
Standard 3/4" threaded entry for pendant applications. (Conduit and pendant not included).
Pendant available as an accessory.



Trunnion/Yoke Mount

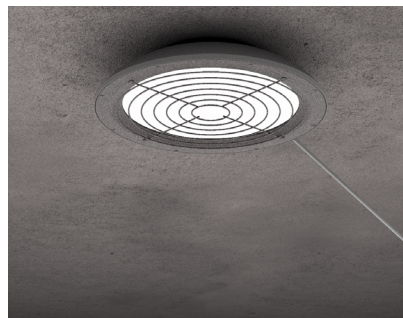
Multiple position trunnion mount adjusts 9" up and down for positioning in 1" increments.
(conduit not included)

ACCESSORIES AND SERVICES



Battery Backup

Integral battery backup option available on SRT2 version.
(conduit not included)



Wire Guard

An optional wire guard can be specified at the factory or as an accessory for field installation.
(conduit not included)



Bird Deterrent

An optional bird shroud deterrent can be specified at the factory or as an accessory for field installation.
(conduit not included)

SRT2 EDGE-LIT

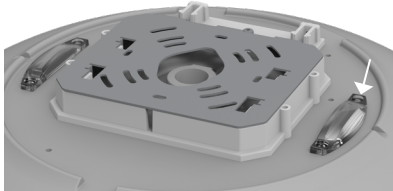
CEILING/SURFACE/GARAGE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ADDITIONAL INFORMATION CONTINUED

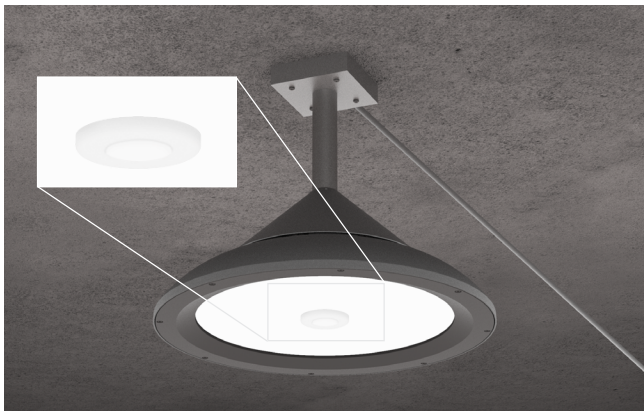
UPLIGHT

Optional uplight module provides 800 lumens of indirect illumination for improved visual quality while eliminating cave effect.

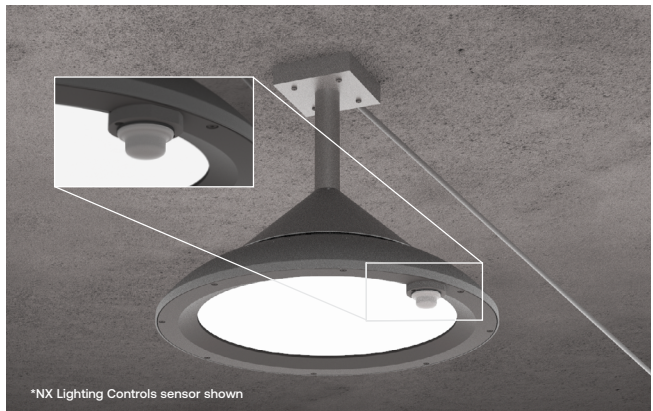


CLEDSJK - Whiteway 6 inch stem and junction box

CONTROLS



Standalone Controls



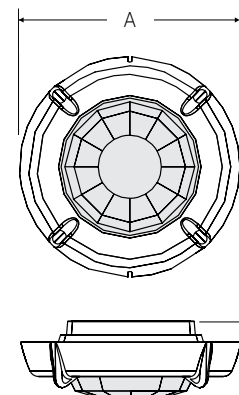
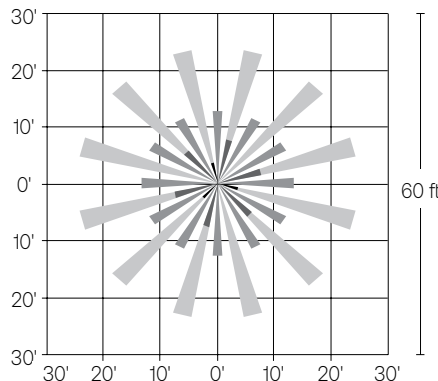
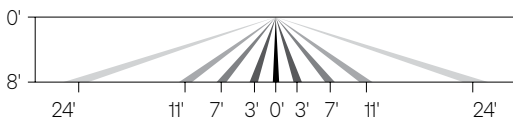
Wireless Controls

Optional passive infrared sensors are available for basic occupancy and daylight sensing. Programmable via remote or Bluetooth® phone app. (conduit not included)



Optional NX Lighting Controls and LightGRID+ wireless controls are available for SRT2 versions (with or without occupancy sensing). (conduit not included)

SCP-8F



A	B
2.3" (59mm)	8" (20mm)

SRT2 EDGE-LIT

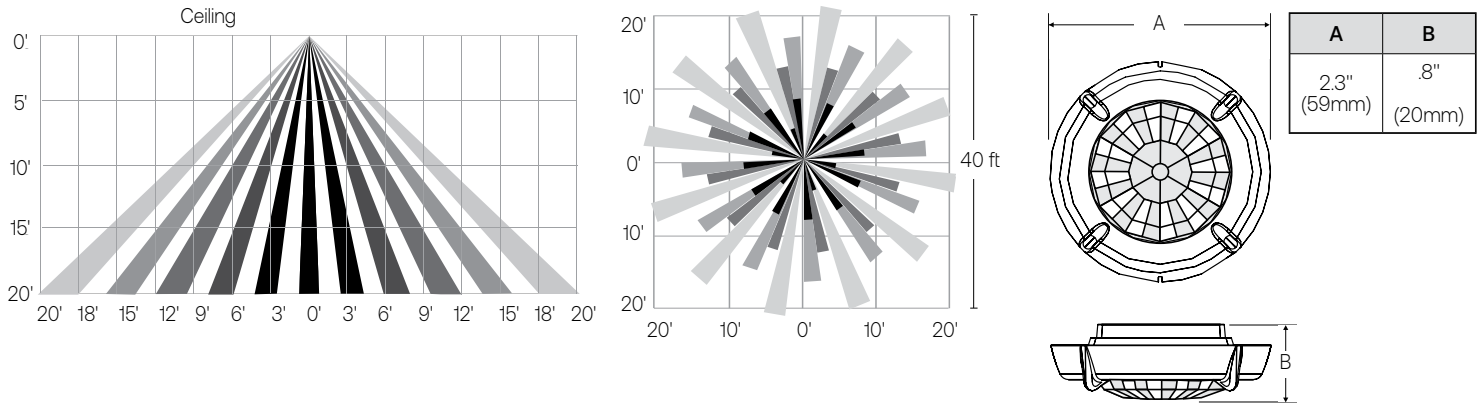
CEILING/SURFACE/GARAGE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

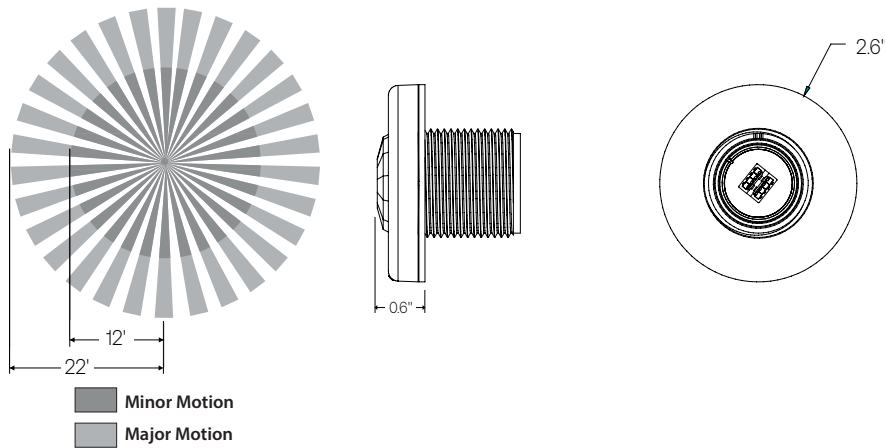
ADDITIONAL INFORMATION CONTINUED

CONTROLS (CONT'D)

SCP-20F



NXWS12F AND BTSO12F



NXSMP2-OMNI Range

FEATURES

- Integral Battery Backup Option
- 360° Light Distribution
- RGBW or Static White Luminous Front Option
- **Multiple Fascia Options and Finishes**
- 4G Vibration Tested



CONTROL TECHNOLOGY



SPECIFICATIONS

CONSTRUCTION

- Main housing shroud is made of fabricated 5052-H32 aluminum alloy
- Housing mounting interface has a stamped silicone gasket
- Luminaire housing is free of any visible heat fins, hardware or fasteners
- Bracketry and hardware is stainless steel
- Luminaire finish consist of a five stage pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester powder coat finish
- Luminaire finish meets the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance

LED/OPTICS

- LEDs are mounted to a metal printed circuit board assembly (MCPCB) with a uniform conformal coating over the panel surface and electrical features
- Optical lenses is clear injection molded PMMA acrylic
- Optical array is recessed in order to shield each LED optic across the length of the aperture
- Optical array is sealed for IP66 rating
- Secondary lens is impact resistant 5/32" tempered glass

INSTALLATION

- JUNCTION BOX: Standard with zinc-plated, quick-mount junction box plate that mounts directly to 4" J-Box
- Mounting plate features a one-piece EPDM gasket on back side of plate to firmly seal fixture to wall surface, forbidding entry of moisture and particulates

INSTALLATION (CONTINUED)

- Fixture attaches by two Allen-head hidden fasteners for tamper resistance
- Optional mounting arrangements utilize a die-cast mounting adaptor to allow for surface conduit and through branch wiring
- Housing is able to hang freely in an open service position for inspection of internal wire connections. Once in service position, the housing shall be able to be removed for service by lifting the assembly up off the rear mounting plate and disconnecting the wiring plugs
- Driver assembly is mounted to a prewired internal tray with quick disconnects for removal

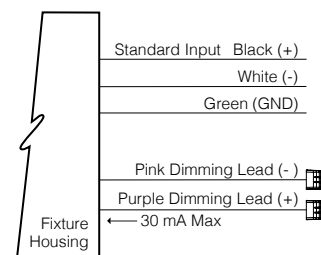
ELECTRICAL

- Drivers are in direct contact with the die-cast aluminum housing across the entire surface area of the widest face for maximum thermal transfer
- "Thermal Shield", primary side, thermistor provides protection for the sustainable life of LED module and electronic components
- Drivers 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
- Luminaires have integral surge protection that shall be U.L. recognized and have a surge current rating of 10,000 Amps using the industry standard 8/20uSec wave and surge rating of 372J. Surge protection device shall be wired in series
- Drivers are 0-10V dimming control with a dimming range of 100%-10%. Drivers are U.L. listed. All luminaires shall accept 120-277 volt input and have integral surge protection."Thermal Shield", secondary side, thermistor provides protection for the sustainable life of LED module and electronic components

CYPHER™



Cypher 14"



ELECTRICAL (CONTINUED)

- Integral battery backup provides emergency path of egress lighting for the required 90 minutes for -20°C ambient environments
- Luminaire are capable of operating at 100% brightness in a 40°C environment. Both driver and optical array shall have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C

CONTROLS

- Button photocontrol for dusk to dawn energy savings
- Photocell is factory installed inside the housing with a fully gasketed sensor on the side wall. For multiple fixture mountings, one fixture is supplied with a photocell to operate the others. Photocell adapter shall include an internal twist lock receptacle. Photocell by others

continued on page 3

KEY DATA	
LUMEN RANGE	1,906–5,083
WATTAGE RANGE	26–52
EFFICACY RANGE (LPW)	67–109
WEIGHT	Refer to page 7

ORDERING GUIDE

CATALOG #

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

Example: CY2-35-3K7-1-2D-UNV-BLS-F-RGBW-FPP-PCU-SF

Series-Output (Base)	CCT-CRI	Model (Light Engine) ¹	Main Distribution (Down)	Secondary Distribution (Up, Sides)	Voltage
CY2-25 25W, 2500 nominal lumens	27K8 2700K, 80CRI	1 DownLight Only	1 IES Type I	1 IES Type I	UNV 120-277V
CY2-35 40W, 3500 nominal lumens	3K7 3000K, 70CRI	2 50/50 Down/Up, Down/Up distributions must match	2 IES Type II	2 IES Type II	347 347V
CY2-45 50W, 4500 nominal lumens	3K8 3000K, 80CRI	3 90/10 Down/Up	3 IES Type III	3 IES Type III	480 480V
	4K7 4000K, 70CRI	4 25/25/25/25 Split, Down/Up/Side Distributions must match	4 IES Type IV	4 IES Type IV	
	4K8 4000K, 80CRI		SP 15° Spot/Column	SP 15° Spot/Column	
	5K7 5000K, 70CRI	5 70/10/10/10 Split, Top/Side distributions must match	WG 60° Wall Graze	WG 60° Wall Graze	
			1D Type 1 Diffused	PB Pencil Beam ²	
			2D Type 2 Diffused	1D Type 1 Diffused	
			3D Type 3 Diffused	2D Type 2 Diffused	
			4D Type 4 Diffused	3D Type 3 Diffused	
				4D Type 4 Diffused	

Base Housing Finish	Fascia Form ¹	Luminous Front ⁴	Fascia Panel ⁵	Control Options ⁶	Options
BLS Black Gloss Smooth	F Flat	Blank Standard None	FPP Full Panel Painted	PCU Universal Button Photocell (120-277V)	EM Battery Backup Unit -20° C ⁸
BLT Black Matte Textured	R Radius/Curved	RGBW RGBW Luminous Front	FPS Full Panel Stainless Steel	SCP Programmable Occupancy Sensor	SF Single Fuse (120, 277, 347)
DBS Dark Bronze Gloss Smooth	T Triangle/Wedge	LFSW Static White Luminous Front	FPC Full Panel Copper	WIR LightGRID+™	DF Double Fuse (208, 240, 480)
DBT Dark Bronze Matte Textured	E Rounded/Edge		OPP Open Panel Painted ⁷	WIRC LightGRID+™ w/ Occupancy Sensor	SCB Surface Conduit Box
GTT Graphite Matte Textured	C Circle/Curved		OPS Open Panel Stainless Steel ⁷		
LGS Light Gray Gloss Smooth	CB Cylinder Balanced		OPC Open Panel Copper ⁷		
LGT Light Gray Matte Textured	CT Cylinder Tall		4PP 4-Square Panel Painted ⁷		
PSS Platinum Silver Gloss Smooth	CBM Custom Building Material Mount Ghost Fascia ⁹		4PS 4-Square Panel Stainless Steel ⁷		
VGT Verde Green Matte Textured			4PC 4-Square Panel Copper ⁷		
WHS White Gloss Smooth			PPP Perforated Panel Painted ⁷		
WHT White Matte Textured			PPS Perforated Panel Stainless Steel		
Color Options			PPC Perforated Panel Copper		
CC Custom Color ³					

Notes:

- Consult factory for custom distributions. See Distribution Matrix on page 4 restrictions
- PB distribution is available for 90/10 and 70/10/10/10 models only. Not all combinations are recommended. See Distribution Matrix on page 2 for restrictions.
- Consult factory for custom color, marine and corrosive finish
- RGBW and LFSW luminous fronts are only available with open, four square and perforated fascia panels
- Flat and Radius Fascia forms only. Painted panels by default match base housing finish/color. Consult factory for custom panel finishes.
- Occupancy sensors not available with CB, T, E or C fascia forms
- Luminous front is required to select the Open Panel and 4-Square Panel fascia panels.
- Consult factory for information on specific configurations with different fascia forms.
- Custom Building Material Mount Ghost Fascia option allows the Cypher to blend seamlessly into the building architecture by matching the finish of the architectural background. See page 7 for dimensions and contact factory for additional information. Custom material provided by others.

SPECIFICATIONS (CONTINUED)**CONTROL (CONTINUED)**

- Each fixture comes equipment with a dual control driver that supports Bluetooth® operation of individual fixtures or DMX control of an entire system of fixtures.

BLUETOOTH®:

- Free Bluetooth® Apps are available for Apple iOS and Google Android mobile devices and are downloadable via the Internet at Apple App Store or Google Play.
- Modular wiring harness in the service area provides user access to the dimming circuitry via DMX.

DMX:

- Fully DMX/RDM Compatible
- Utilizes 4 DMX Channels per fixture

DMX MAP

- Start Address – Red
- Start Address +1 – Green
- Start Address +2 – Blue
- Start Address +3 – White

DMX Addressing is performed by using a compatible RDM handheld unit or via the Bluetooth® App.

- Performed by using a compatible RDM handheld unit or via the Bluetooth® App

DMX WIRING COLOR CODE

- Red Wire – DMX +
- Brown Wire – DMX-
- Yellow Wire – Shield/Ground
- DMX termination must be achieved by adding a DMX terminator to the last fixture in a Daisy-Chain. Fixture does not auto terminate.
- Kim Lighting is proud to offer the Pharos Architectural Controls DMX Controllers and Touch screens. See Pharos Spec Sheet for more details.
- See the Pharos® Spec Sheet for more details.

MOBILE APP:

- Mobile App specification in additional information section.
- Mobile App. dimming range from 0% to 100% through the use of Current RGBW app (available on IOS and Android).
- Color selection and adjustment.
- Camera function for color matching.
- Intensity slider for dimming/ramping up.
- Save and rename up to 10 presets.
- Group and rename fixtures.
- Fixture is password protected, refer to instructions to set unique password.

CERTIFICATIONS

- Luminaire is listed with UL for outdoor, wet location use, UL1598, UL 8750 and Canadian CSA Std. C22.2 no.250
- IP66 rated assembly
- IDA approved, 3000K and warmer CCTs only
- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to <http://www.designlights.org> for the most up-to-date list.
- ANSI C136.31-2010 4G Vibration tested and compliant
- Complies with "Americans with Disabilities Act" or "ADA" on select versions for low mounting height applications (fixtures extend maximum of 4 inches from wall for mounting heights of 80 inches or less)
- Emergency battery back options are California Energy Commission (CEC) Title 20 Compliant

WARRANTY

- 5 year warranty

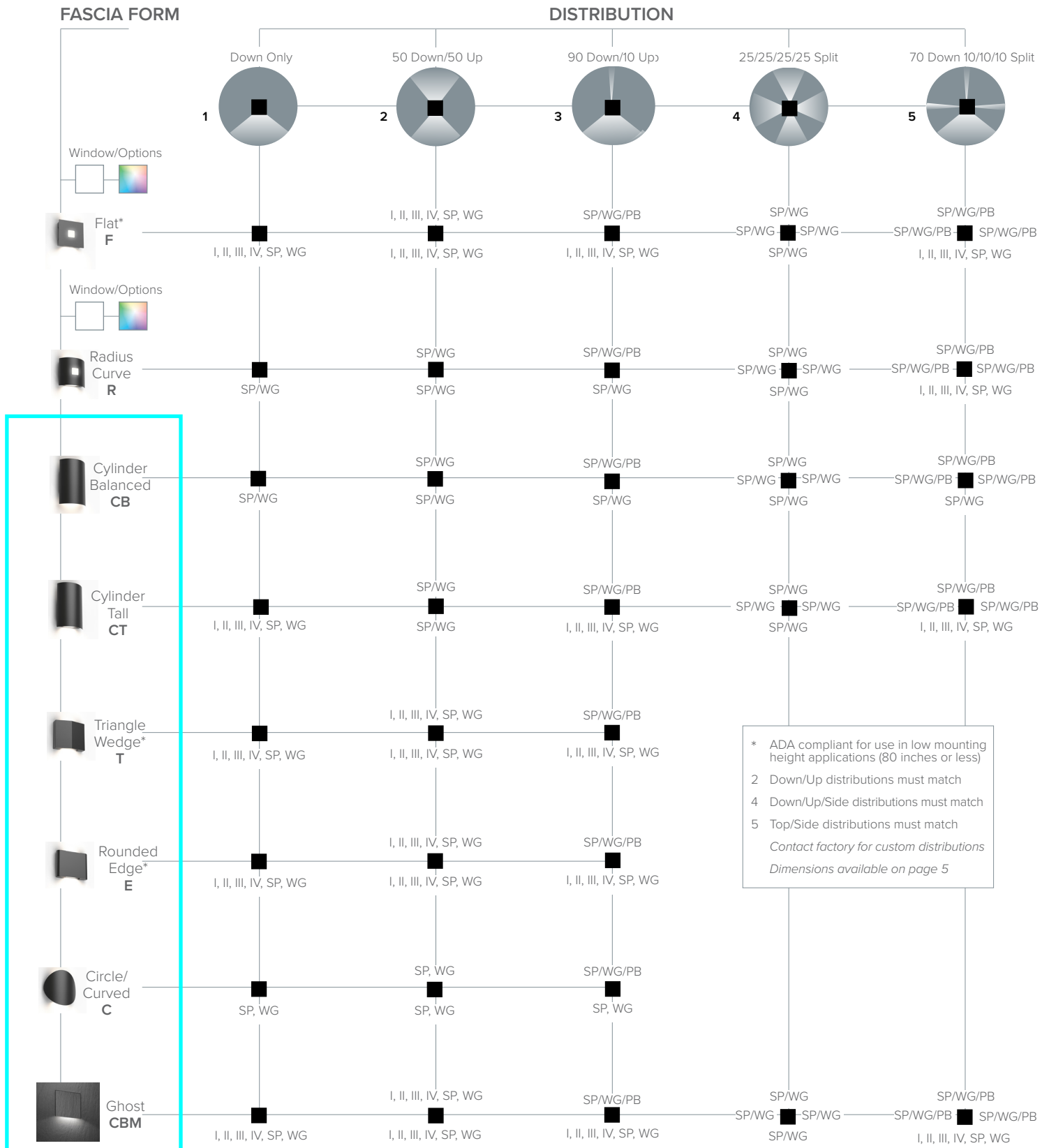


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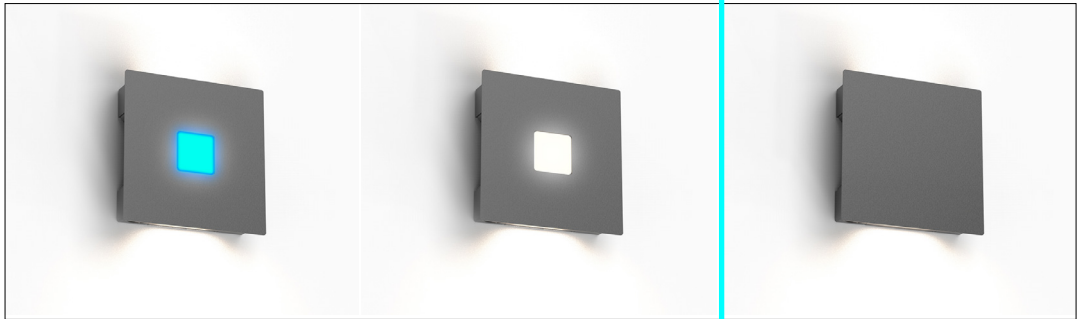
DISTRIBUTION MATRIX

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

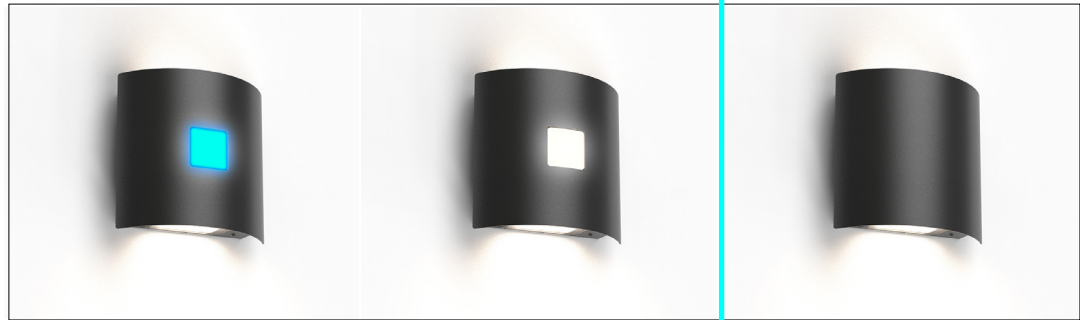


FASCIA

FLAT



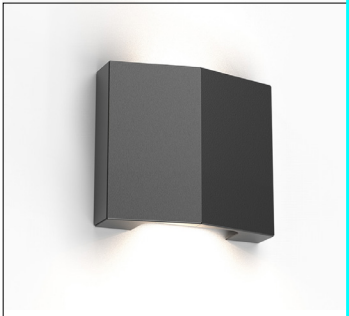
CURVE



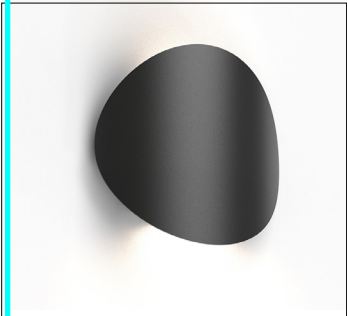
ROUNDED EDGE



TRIANGLE



CIRCLE



CYLINDER TALL



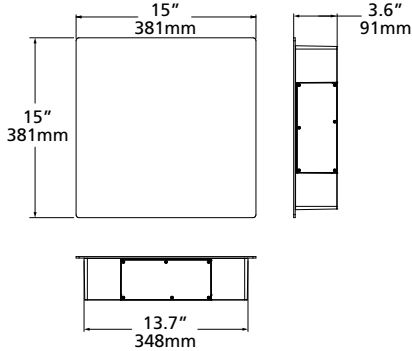
CYLINDER BALANCED



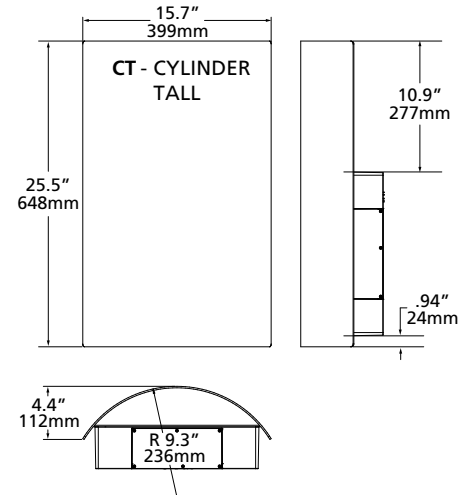
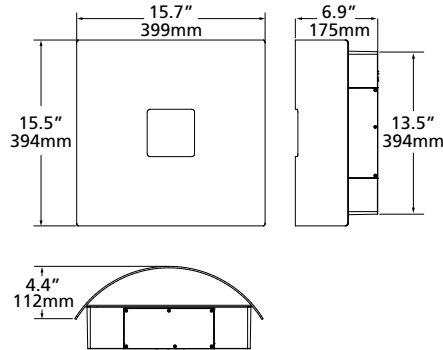
DIMENSIONS

F - FLAT

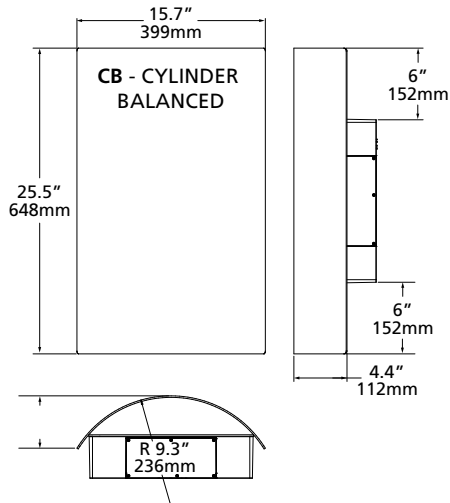
ADA approved.



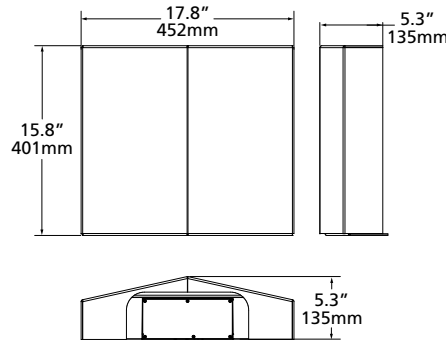
R - RADIUS/CURVED



CB - CYLINDER BALANCED

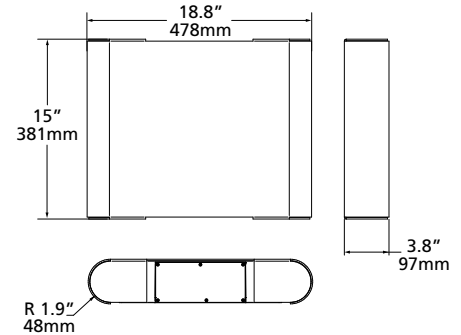


T - TRIANGLE/WEDGE

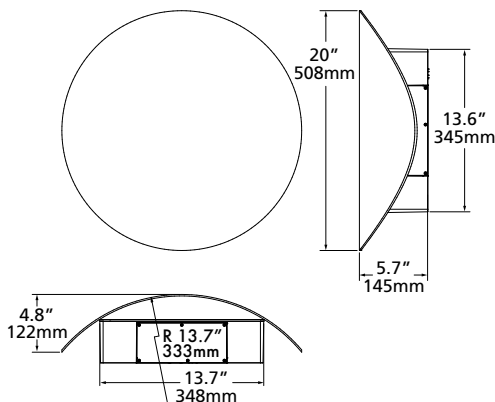


E - ROUNDED EDGE

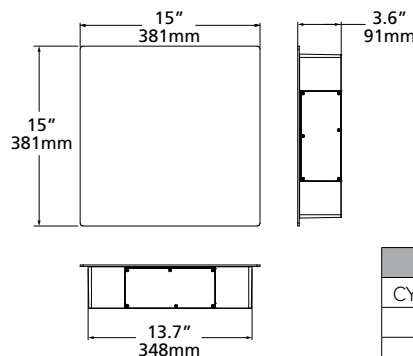
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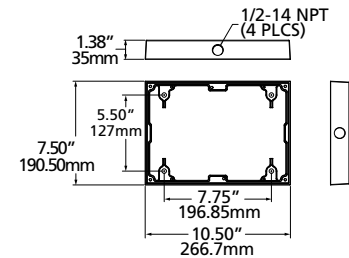
C - CIRCLE/CURVED



CBM - CUSTOM BUILD MATERIAL MOUNT GHOST FASCIA



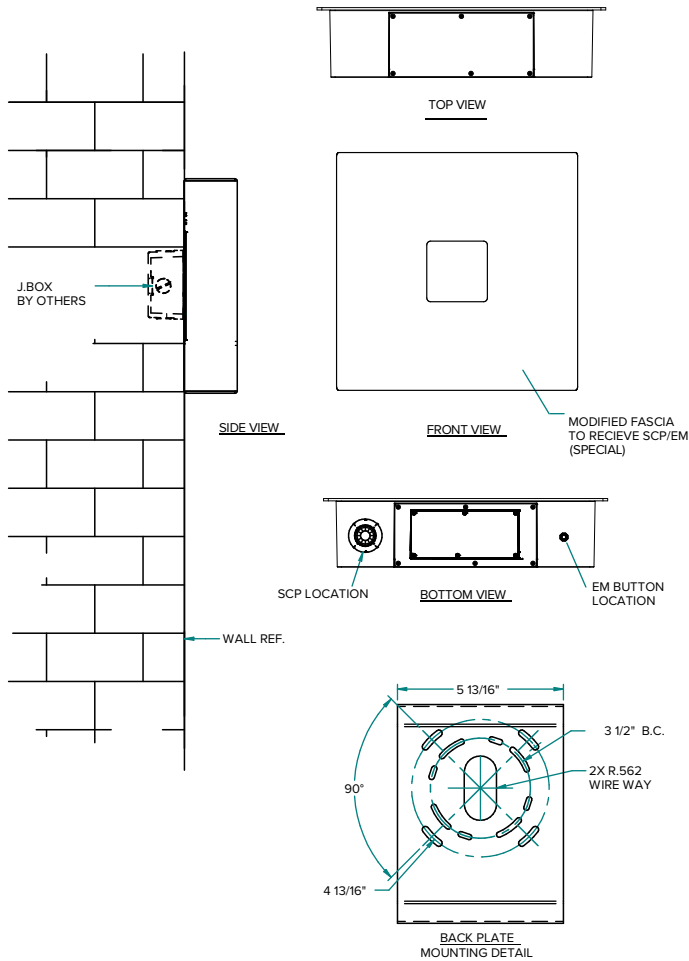
SCB - SURFACE CONDUIT BOX



CY2 WEIGHT		FIXTURE + FASCIA WEIGHT	
CY2 base fixture	20 lb		
F	2.5 lb	CY2 + F	22.5 lb
R	2.5 lb	CY2 + R	22.5 lb
CB	3.5 lb	CY2 + CB	23.5 lb
CT	3.5 lb	CY2 + CT	23.5 lb
T	3.5 lb	CY2 + T	23.5 lb
E	3.5 lb	CY2 + E	23.5 lb
C	2.5 lb	CY2 + C	22.5 lb

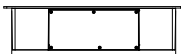
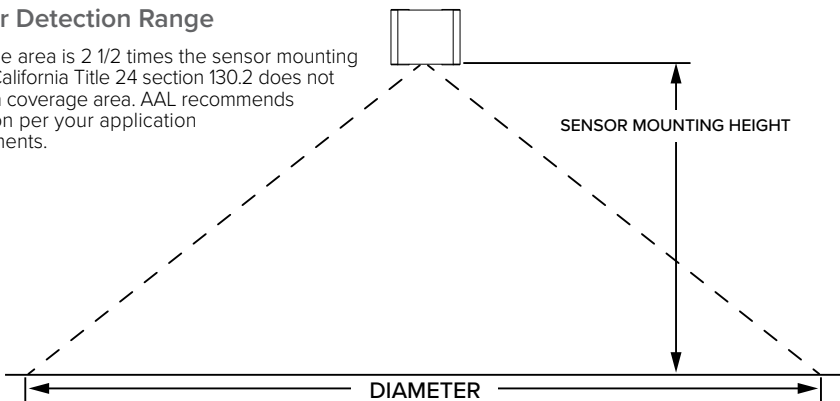
DIMENSIONS (CONTINUED)

Flat Sensor Location



Sensor Detection Range

Coverage area is 2 1/2 times the sensor mounting height. California Title 24 section 130.2 does not specify a coverage area. AAL recommends discretion per your application requirements.



Planning Board

2025 Meeting Schedule



All meetings are held in person at City Hall while also providing Zoom meeting information to those that want to attend remotely. (unless otherwise noted in red below)

Meetings are typically held on the 2nd and 4th Tuesdays of each month with workshops beginning at 4:30 pm and public hearing at 7:00 pm.

Generally, only one meeting is held in August and December. Please refer to the [Agenda Center](#) for any updates.

Meeting Dates for 2025

January 14, 2025
January 28, 2025
February 11, 2025
February 25, 2025
March 11, 2025
March 25, 2025
April 8, 2025
April 22, 2025
May 13, 2025
May 27, 2025
June 10, 2025
June 24, 2025
July 8, 2025
July 22, 2025
August 12, 2025
September 9, 2025
September 23, 2025
October 14, 2025
October 28, 2025
November 4, 2025**
November 18, 2025**
December 9, 2025

** Note: The November meetings are occurring on the first and third Tuesday of the month, due to Veteran's Day.

City of Portland Design Manual Amendments
City of Portland, Applicant

Submitted to: Portland Planning Board Public Hearing Date: December 10, 2024 Date Prepared: December 7, 2024	Prepared by: Kevin Kraft, Director Nell Donaldson, Director of Special Projects
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I. INTRODUCTION

On December 10, 2024, the Planning Board will hold a public hearing to consider adopting revisions to the *City of Portland Design Manual*. These updates are intended to align the Design Manual with recent changes resulting from the City Council’s adoption of ReCode on December 4, 2024.

The revised Design Manual is limited to changes necessary to reflect updates as part of ReCode and will apply to projects under review until a fully updated version of the Design Manual is adopted by the Planning Board. The forthcoming update will include more substantial changes, such as improvements to document organization, graphic design, illustrations, and revised content and standards.

A legal advertisement for the public hearing ran in the November 29 and November 30, 2024 editions of the *Portland Press Herald*.

II. OVERVIEW OF PROPOSED EDITS TO CITY OF PORTLAND DESIGN MANUAL

The draft document before the Planning Board incorporates minor changes resulting from the recent adoption of ReCode. The key updates can be summarized as follows:

- Zones have been updated to reflect the introduction of new zones, such as the two Transit-Oriented Development (TOD) zones, TOD-1 and TOD-2.
- Reorganization of existing zones: The mainland residential zones have been reorganized and renamed the “Residential Neighborhood” RN zones. The design standards where applicable have been updated to reflect the reorganization and renaming as described in Figure 1 below.

	R-1/R-2/R-3	R-4	R-5	R-6	R-5a/R-6a	R-7
New	RN-1	RN-2	RN-3	RN-4	RN-5	RN-6

Figure 1: Adopted Residential Zones - ReCode December 4, 2024

- Zone references have been updated to reflect consolidation of zones. Particularly the existing sub-zones (such as the B-1b, B-2c, B-3b and B-3c), have been eliminated in favor of simplifying use permissions and dimensional standards. The parent zones for each of these remain. (B-3b defaults to B-3, for instance.) The mixed-use zones have also been refined to ensure that each is serving a distinct purpose, and consolidated where purpose statements, use permissions, and dimensional

standards align. For instance, the B-7 zone has been consolidated into the B-3 zone within the ReCode, therefore the B-7 design standards are being removed from the Design Manual.

- Elimination of zone and use references: Design standards tied to zones or uses that have been discontinued, such as Residential Professional (R-P) zone, PRUD, and multiplex, have been removed.
- New Development Typologies: Cottage court residential development and conservation residential development have been incorporated into existing design standards.
- Updated Residential Development Terminology: References to “small” residential lot development have been revised to simply “residential” development, aligning with changes to use and dimensional standards adopted as part of ReCode.
- Removal of Shadow Study References: References to shadow studies have been removed, as these are covered under site plan standards in Article 13 of the Land Use Code.

A complete clean version of the revised *City of Portland Design Manual* is included as Attachment A. A complete redline is included as Attachment B.

III. STAFF ANALYSIS

Section 2.1.10(P) of the City’s land use code grants the Planning Board the authority to review and approve the *City of Portland Design Manual* standards, provided that such standards shall be additional to and consistent with the provisions of this Land Use Code, necessary and reasonable, and in accordance with sound engineering and urban design practice. The proposed changes are intended to align the Design Manual with recent changes resulting from the City Council’s adoption of ReCode on December 4, 2024 and therefore staff recommends that the Planning Board find that the proposed changes are consistent with the requirements of Section 2.1.10(P).

IV. PROPOSED MOTIONS

On the basis of material provided in this report dated December 7, 2024, public testimony, and other information provided during the Planning Board’s review process and at the December 10, 2024 public hearing, the Planning Board finds that the proposed revisions to the City of Portland Design Manual **[are / are not]** consistent with the requirements of Section 2.1.10(P) and **[approves/approves with conditions/ or does not approve]** such revisions.

V. ATTACHMENTS

- A. Final Draft City of Portland Design Manual
- B. Final Draft City of Portland Design Manual - redline

DOWNTOWN & TOD URBAN DESIGN GUIDELINES

These Downtown Urban Design Guidelines are a component of the City of Portland's Downtown Plan entitled Downtown Vision: A Celebration of Urban Living and a Plan for Portland's Future and of the City's Comprehensive Plan. They are supporting reference documents for the City's B-3 Downtown Business District Zoning Ordinance and Site Plan Standards, and a companion to the Technical and Design Standards and Guidelines for the City of Portland.

The **Signage, Awnings and Canopies** section contained herein supercede the Signage requirements of the Urban Renewal Plan for Maine Way (pages 9-11 of Planning Report #29-76: Urban Renewal Plan for Maine Way, amended May 1976.)

Introduction

Downtown Portland is the center of the region's business, governmental, cultural, and residential communities. It is also a physical environment comprised of a variety of individual buildings, streetscapes, parks, and districts in which people carry on with day-to-day interactions. As a physical environment, it should be designed to facilitate these uses in a setting that has beauty, is comfortable and secure, which provides amenity and interest for the pedestrian, and which celebrates the coming together of people in a concentrated pedestrian world. It is important that incremental changes to the physical environment through development or rehabilitation proposals continue to enhance the physical environment.

These guidelines are provided for the use of individual property owners and the development community in understanding the expectations of the greater community for the development of the Downtown and TOD zoned areas. This represents a documentation of concerns which have been central issues within project reviews of proposed development in the past, and is an attempt to make the review process more understandable and predictable for the development community. These Guidelines are also intended to provide guidance and consistency for City staff and Planning Board development review. Finally, these Guidelines are intended to provide the public with a clearer presentation of important design issues to assure they reflect public concerns while providing a framework for public comment and involvement in the development process.

These Urban Design Guidelines are not intended to restrict the creativity of developers or designers in responding to the challenges of a given site. Rather they provide a framework of issues with which to be concerned in assuring that a creative design solution is compatible with the character of Portland's Downtown environment and is sensitive to pedestrian needs. These Guidelines are presented as a discussion of issues that specific site plan standards are intended to address. Unless otherwise provided for within the City Ordinances, these are guidelines only, a framework not to be ignored but flexible enough in intent, interpretation, and application to allow and encourage the developer and associated designers to come forward with creative and distinctive design solutions.

Purposes

The underlying purposes of the Urban Design Guidelines are as follows:

1. Aesthetic - To respect and build upon the human-scaled and historic building fabric of the Downtown while creating a more attractive, desirable, high quality, rich and diverse environment.
2. Pedestrian Use - To increase pedestrian activity through the enhanced character, comfort, and interest of the pedestrian environment.
3. Accessibility - To assure accessibility to all.
4. Culture - To increase and support the integration of arts and culture throughout the Downtown environment.
5. Economic - To recognize the fundamental relationships between property values, livability, and the character and quality of the physical environment; to protect and enhance public and private investments throughout the Downtown by assuring respectful and compatible new development; and to minimize development costs by providing specific guidelines at the outset of the development process.

**DOWNTOWN URBAN DESIGN GUIDELINES
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I. RELATIONSHIP TO PEDESTRIAN ENVIRONMENT

A. Distinguish the lower 35 feet of building facades

Standard: "The exterior design of portions of buildings within the first thirty-five (35) feet of height shall enhance the character, attractiveness, comfort, security, and usability of the street level pedestrian environment . . ."

The most significant features of a building which are perceived at street level by the typical pedestrian moving through the Downtown are storefronts and building facades within immediate view and reach. While one's peripheral view encompasses considerably more of a given façade and in fact draws in the context of other nearby buildings and open spaces, the focus of attention for each building is usually the first approximately thirty-five feet of building height. This portion of each building is readily perceived as an individual composition but allow more broadly as a component of the series of street facades and elements of a continuing streetscape involving all such facades along a given block or street. Throughout Downtown Portland, it is typically this first thirty-five feet or so, or the first two to three stories of buildings which are the most heavily articulated, create and sustain the greatest pedestrian interest, and in fact present themselves as the base of larger buildings.

Building entrances and display windows are typically the predominant elements of this Downtown street-level environment. The character and design of these elements are vital in assuring that frequent pedestrian access to and from buildings is provided or maintained, and that the excitement of walking about the Downtown is supported by a rich, varied and interesting environment.

1. Storefronts and building facades

- Relationship to Context: In general, the design of storefronts and the facades of lower portions of buildings should relate to the architecture of the rest of the building and should demonstrate a unified overall building design.

Where alterations are made to existing buildings facades and storefronts, such alterations should respect and be compatible with the specific features and characteristics of the building of which it is a part. Characteristic elements of traditional storefront design relating to specific styles of building, including such prominent features as entrances (generally recessed) and display windows, the storefront bulkhead, piers and framing, transom windows corresponding to typically tall interior first floor space, and a sign panel often topped by a cornice, are common points of reference for both rehabilitations and for contemporary design solutions.

Where alterations to designated historic structures and within designated historic districts are involved, standards and guidelines found in the City's Historic Preservation Ordinance will be the basis for review. For other existing structures, existing original or significant features or evidence of such that might be found through historical research or physical evidence can provide a basis for storefront restoration or for contemporary design which is compatible with the rest of the building.

Where signage is provided on or adjacent to a storefront, the signage should generally be incidental to the storefront and should not overwhelm the building façade. Specific signage, awning and canopy guidelines are provided elsewhere for proposed installations in the Pedestrian Activities District (PAD) and PAD encouragement areas, as well as where such installations involve historic properties.

- Pedestrian-character: The design of storefronts should complement the pedestrian activity being accessible and visible from the public sidewalk.
- Materials and detailing: The design of storefronts and lower building facades should include the selection of high quality materials and detailing which relate to the rest of the building and to the surrounding context, and which convey a sense of permanence, durability, and richness in character. Ease of maintenance and a commitment to continuing upkeep are important considerations.
- Transparency: A predominance of glass which assures transparency between interior activities or products and pedestrian activity on the streets and sidewalks is very important to the vitality of the pedestrian environment. Glass should be used on the street level which assures visibility for pedestrian interest and, to the extent feasible, assures that there are obvious "eyes on the street" or a sense of security as a result of indoor and outdoor activity being readily visible. The placement of landscaping or other exterior features immediately adjacent to entrances and window openings can enhance the attractiveness of a property but should be careful not to substantially diminish visibility into or out of such openings.
- Contemporary design: Where creating a new façade through construction of an infill building within an existing building context, storefront design and building facades should respect the general pattern of storefront and façade design found in that surrounding context. Such design should draw from those surrounding buildings which themselves meet the guidelines presented herein. Contemporary design is encouraged where it reflects an understanding and respect for traditional patterns of storefront composition and design.

2. Building entrances

The traditional pattern of development in Downtown Portland resulted for the most part in incremental construction of individual buildings over extended periods of time. Typically, these buildings each had individual building entrances providing immediate access to street-fronting shops and businesses. Street level access also was provided to upper story activities through a separate entry. This pattern of frequent building entrances serving a large number of street-level businesses provided for considerable street-level pedestrian activity and encouraged pedestrian circulation. New development in the Downtown and rehabilitation or alterations of existing buildings should continue this pattern of frequent access.

- Compatibility with the building façade: Entrances are one of several building components which collectively comprise the overall base of a building. The design of building entrances should be considered as an integral component of a building's façade and should relate to the overall façade in terms of its style and scale, quality of design, and selection of materials and detailing.

- Prominence along the street: The placement and design of entrances to buildings and businesses should be readily identifiable and have a prominence on the building's street façade. Such entrances should not overpower the façade but should be designed so to complement the character and features of the building façade and storefront while clearly announcing the point of entry. The traditional method of recessing entrances, of utilizing signage, canopies and awnings, and of thoughtful and directed lighting can all help to define an entrance's prominence.

- Access to the street: Access to each street-level business should be maintained directly from the street wherever possible. Where buildings may contain multiple street-level tenants which are served by interior access or circulation, prominent access directly from the street should be provided as well to the extent feasible. In addition, building facades fronting on publicly accessible open space should provide access in the same manner as street-fronting facades. Consideration in satisfying this guideline will be given to situations where changing topography may make direct access (particularly accessible for special needs) difficult or impractical. Every effort should be made to make these portions of buildings accessible, as well as attractive and of interest to the pedestrian.

- Accessibility: All buildings should be barrier-free and accessible to the physically handicapped and to others who find themselves with special needs. The range of special needs typically encountered in the Downtown includes such situations a negotiating a baby carriage or stroller, ushering small children, accommodating physical and visual limitations of the elderly or handicapped, and others. Access for everyone should be provided in a manner which provides an interesting and positive pedestrian experience and which preserves human dignity.

3. Blank facades

The placement of street-level building facades which contain expanses of wall area with no windows, no entrances, and no other elements or features providing pedestrian interest and supporting pedestrian circulation and activity represent a serious detriment to the vitality and viability of a pedestrian-oriented street environment. The continuity of lively, inviting and visually appealing street-level facades is extremely important in encouraging pedestrian movement. When blank facades are located in mid-block areas, they tend to create gaps in this continuity which the average shopper or tourist will find at least disheartening and at most a deterrent to proceeding further along a particular street. When such facades are located at corners of blocks, they effectively can isolate entire blocks or areas of the Downtown from lively and frequent pedestrian circulation.

Blank facades located along pedestrian-oriented streets or along publicly accessible open space are discouraged. The maximum length of blank or undifferentiated facades should not exceed thirty feet generally throughout the Downtown, and should not exceed 15 feet within the Pedestrian Activities District. The preferred manner for differentiating a façade is to incorporate additional storefronts or with display windows and entrances as frequently as possible. For interior uses which require large volumes of windowless space, every effort should be made to contain these uses within the central portion of a site away from street fronting facades of the building. Having such uses on the interior of a site allows the perimeter of the property to retain pedestrian-oriented use.

In some cases, due to topographic change or windowless interior uses which cannot be located in any other portion of a site, building entrances and large windows may not be feasible. In such situations, it is important that the design of such facades incorporate significant features of visual

interest which will maintain the interest of the pedestrian. Such features might include relatively shallow display cases or display windows, substantial three-dimensional architectural ornamentation or artistic treatment, the incorporation of some special water or landscape feature, or some combination of thereof. Any such special feature should relate positively to the character of the remainder of the building, and to surrounding buildings.

4. Special features

A variety of special building and street features have been explored in cities across the country in attempts to address sometimes adverse climatic conditions while providing enhanced pedestrian comfort. Incorporation of any of these features requires extreme care first in understanding the impact such a feature might have on the character and quality of street-level pedestrian activity, and second on the relationship such features have to a historic building context and to special qualities such as view corridors and prominent gateway entrances to the City.

- Arcades: Arcades are roofed passages with shops on one or both sides. The most common situations find arcades placed along a street frontage, with the first floor retail space set back beneath an overhang created by the upper floors of the rest of the building. Arcades, by virtue of the overhang, provide protection from rain, snow, and direct sunlight. Such arcades are not generally found today in Downtown Portland, although historically such protection from the elements was often found as a result of an extensive use of retractable awnings placed on many commercial buildings. Issues which should be considered when incorporating such features include: preserving existing street walls while comfortably integrating these features into an existing streetscape; assuring that active uses are placed along the recessed street level; assuring that an adequate but not excessive pedestrian circulation area is provided; and assuring that ample lighting and pedestrian interest is maintained. Arcade lighting should thoroughly light the interior of the arcade, with no dark areas or shadowy corners within the arcade. Any attempts to incorporate arcades on existing buildings should take care not to detract from the existing building's character nor remove or obscure significant features of historic properties.

A second type of arcade is the through-block connection, where a passageway is created linking one street typically with another parallel street. Particularly in long blocks, such connections should encourage pedestrian circulation between active pedestrian-oriented streets and between such streets and specific activity generators such as hotels, major office or retail buildings, and convention or cultural facilities. In a few selective instances, there may be an opportunity to expand such a through-block connection into a galleria, or larger pedestrian open space which becomes a major pedestrian destination in itself. Dead-end arcades, or arcades which may make a connection to a single destination anchor, such as an art museum, must be carefully considered to assure that the pedestrian connection can remain safe, pleasant, and viable at times when activity at the anchor is low or non-existent.

For this second type of arcade to be successful, the level of activity anticipated must be carefully examined and the character and quality of design must be exceptional. Special care must be taken in the siting of all such interior connections to provide active uses along the arcade while assuring that existing street-fronting pedestrian uses are not diminished in their attractiveness to pedestrian circulation and activity.

Where all of the above issues have been carefully addressed, these various types of arcades can be a positive contribution to the pedestrian streetscape.

- Skywalks and elevated walkways: The introduction of covered or fully enclosed walkways bridging over streets and connecting the second stories of buildings have been implemented in a variety of cities and situations around this country and in Canada. The extent of such systems can range substantially, from a relatively simple connection between a hotel or office building to a parking garage, to an extensive system tying together large portions of downtowns through interior climate-controlled passageways. Studies of those skywalk systems reveal a number of critical issues which must be addressed before any such program, large or small, is undertaken in Downtown Portland. Consideration must be given to the following:

- i. the impact of such an upper level system on existing street-level activity and businesses, respecting the principle that the character and liveliness of the street-level pedestrian environment is of utmost importance and should be reinforced at every opportunity;

- ii. the potential segregation of users who might frequent the walkway system versus the street, respecting the principle of *Downtown Vision* that for Portland to take the greatest advantage of its urban character, all people regardless of social or economic status must come together to share in a common experience;
- iii. the potential impact of such a system on the visual character of Downtown Portland, with concerns over the integration of such construction with a largely historic building environment and the potential visual obstructions which could detract from the character of the Downtown or eliminate significant views to natural or building landmarks; and
- iv. the need for a coordinate program of provision and maintenance of any such system, assuring universal participation of property owners along a particular route, common levels of maintenance and hours of access, and adequate levels of pedestrian activity, supporting pedestrian-oriented uses, and pedestrian interest and amenity.

Downtown Vision, the Plan for Portland's Downtown, does not incorporate a comprehensive network of skywalks due to the numerous critical issues cited above. In special circumstances, however, the provision of skywalks may be desirable. The provision of any such system should not be approved until the Planning Board and the City Council determine that all issues are suitably addressed and resolved in favor of an enhanced pedestrian environment. Easements and site plans should not be approved until these issues are suitably resolved.

- Street closings and pedestrian malls: The closure of public streets to create pedestrian malls has been tried with mixed success in a variety of situations around the country and abroad. The range of possibilities intended to encourage pedestrian activity on key streets runs from total prohibition of vehicles, to access for public transit and high ridership vehicles only, to closure only on special occasions (i.e. street fairs or carnivals) or for weekend shopping and entertainment (at a time when deliveries and service access demands are at a minimum). The trend in recent years has been to re-open those streets once completely closed to vehicular traffic. In any of the possible scenarios, consideration must be given to the following:

- i. the relationship of vehicular traffic, visibility from vehicles, on-street parking, and drop-off areas to the businesses and institutions along the streets that would be closed or restricted;
- ii. the effect of closure on maintaining necessary access for service and deliveries; and
- iii. the design and dimensions of the street, focusing on the scale and character of the space to be devoted to pedestrian circulation. The expected number of pedestrians must be related to the amount of space to be provided to assure that adequate space is provided. Interaction and face-to-face contacts are important to lively pedestrian space therefore it is also important that excessive space does not create a sense of low activity or diminish the interpersonal contacts. The quality, quantity, and character of pedestrian amenities, including such features as paving materials, lighting, benches and other seating, public art, landscaping, and street entertainment are all important design and programming issues vital to a lively pedestrian environment.

In general, the permanent closure of streets in the Downtown is discouraged. A proposal for any such pedestrian mall should not be approved until the Planning Board and City Council have determined that all such issues have been suitably addressed and resolved in favor of a viable business and cultural economy and an enhanced pedestrian environment. For proposals for extensive closures or for closure of significant streets, a trial period or portion of closure should be instituted prior to committing permanent alterations and improvements.

B. Pedestrian Activities District (PAD)

Standard: "In addition to subsection 1 (a through d), proposed development and substantial building alterations located within the Pedestrian Activities District (PAD) overlay zone . . . shall be designed and constructed to accommodate pedestrian-oriented uses at the street level."

Factors that should be considered include:

1. Exterior design of street level building façade

The design of the exterior street-level façade should consider the visual relationship of proposed or potential entrances, window, and display openings to the overall design of the building. The introduction of new window or door openings or the shifting of openings should be considered in the initial façade design to assure that what may initially be a balanced and appropriate design for a façade is flexible over time and that future changes might be anticipated to assure future compatibility.

2. Design and placement of impenetrable exterior building features

In portions of buildings where street-level pedestrian-oriented uses are required or encouraged, it is important to locate impenetrable features (i.e. columns, piers, bearing walls, retaining walls, and mechanical/h.v.a.c. equipment) in such locations that do not create obstacles to accessible and viable pedestrian uses. Such features, by their very presence and by the difficulty and associated expense with which they might be modified, can become impediments to street-level uses or to future renovation which will accommodate such uses.

3. Orientation and accessibility to the street

The design and construction of street-level facades along pedestrian oriented streets should assure that street-fronting uses would be oriented to and accessible from the street wherever feasible. Orientation to the street should involve significant and prominent entrance opportunities, significant visibility of interior uses from the street, and prominent signage, awnings, or other identification of interior uses. Such orientation should not have the appearance of a service entrance or “back door”, but rather should appear as a primary, inviting pedestrian entrance to the building.

Accessibility from the street should be provided wherever feasible. Finished floor elevations and entrance elevations relative to sidewalk topographic elevations should be established with the intention of maximizing opportunities for building entrances along street

4. Adequacy of interior layout

Just as impenetrable exterior building features can be an obstacle to use of street-level building floor area, the interior layout of such space can impact its viability for pedestrian uses. The first forty (40) feet of floor area along specified street frontages in the Pedestrian Activities District should be laid out to accommodate retail or other pedestrian oriented uses. Placement of exterior building features as in (b) above, as well as the placement of interior features such as columns, bearing walls, stairs, elevators, and mechanical systems should support the layout of pedestrian oriented uses rather than divide a space into areas which can be difficult to utilize effectively or with flexibility.

5. Continuity of street level uses

Continuity of pedestrian-oriented uses along designated street frontages is important to encourage pedestrian interest, movement and safety. Wherever possible, service entrances and vehicular entrances to parking lots, parking garages, drive-thru services, or other similar uses which interrupt the continuity of street-level uses should not be located along pedestrian oriented streets. Where such uses are unavoidable, extraordinary care should be taken to assure that the pedestrian environment remains both attractive and safe, and such interruptions should be kept to a minimum in both numbers and lengths. In such instances, the pedestrian should clearly have priority. Pedestrian paving patterns should continue across driveway entrances and should remain flush, with no steps or significant ramping introduced in order to accommodate vehicular access. Vehicular speeds should be kept to an absolute minimum. Lighting should assure both pedestrian comfort and safety.

C. Sidewalk Areas and Open Space

Standard: "The design of publicly accessible sidewalk areas and open space shall complement the general pattern of the Downtown pedestrian environment, conform with special City of Portland streetscape programs described in the Technical and Design Standards and Guidelines, and enhance the attractiveness, comfort, security, and usability of the pedestrian environment."

1. Sidewalk, crosswalk, and street paving materials

- Sidewalk: The design and construction of sidewalks and open space paving are important components of the pedestrian environment. Historically, the Downtown has been characterized by brick sidewalks and the City's general sidewalk maintenance and reconstruction program calls for brick sidewalks. Important factors which must be of concern in the installation and maintenance of brick sidewalks include the compatibility with adjoining or nearby paving surfaces, the appropriateness of the paving material in relation to proposed or existing buildings which are adjacent to the sidewalk, appropriateness during all seasons, and the character, durability, and ease of maintenance of the proposed material.

Prevalent problems found on many existing sidewalks are the uneven surfaces and excessive joints between bricks, both of which create hazardous walking conditions. These problems usually result from improper installation techniques or design including an inadequate base on which the brick is set or excessive spacing of pavers and inadequate maintenance (repointing). These issues can be addressed through careful design and installation of new surfaces, and a program of rehabilitation directed toward existing sidewalks.

Concern must also focus on Portland as a winter city, with frequent snow and ice conditions through an extended season each year. Maintenance of sidewalks becomes an imperative for assuring safe and comfortable pedestrian circulation throughout the Downtown. The use of brick as a surface material can result in a surface more slippery than alternative surfaces such as concrete pavers or poured concrete with a rough surface. Adequate sloping and drainage can aid in avoiding some problems. The use of concrete pavers in patterns and colors that replicate brick, and the combination of poured concrete and brick in attractive and practical paving patterns can also serve to address concerns over the potentially slippery nature of brick while retaining the historic character of brick sidewalks.

There is growing interest both in this country and in northern cities abroad in the use of heated sidewalks to maintain a clear and comfortable walking surface during colder months. The consideration of heating elements within the sidewalk construction is encouraged. The relation of such a system to underground utilities, the impact of such a system on the appearance of paving surfaces, the energy efficiency of providing and maintaining such a system relative to more conventional sidewalk maintenance, and the benefits such systems present in preserving street trees and other landscaping relative to other snow melting or snow clearing techniques should all be considered.

Open spaces such as parks and plazas offer special opportunities for creative and specialized paving patterns. The introduction of alternative patterns, colors and materials such as granite, brick, and concrete can create distinctive elements within these open spaces and are encouraged. Where such open spaces meet the public sidewalk, the specialized paving pattern should transition to the prevailing pattern of the public sidewalk so that sidewalk paving within the street right-of-way retains a consistent

unifying pattern along an entire street frontage and to assure that sidewalk paving forms a layer of commonality throughout an area. As a related issue, the design of publicly accessible open spaces should balance the provision of pedestrian paving surfaces with ample soft surfaces including landscaping and grass. Where pedestrian circulation will occur on such surfaces, these areas should be designed to prevent compaction and should be stabilized against erosion due to weather or use.

The provision of all sidewalks shall conform to the specifications and details contained within the City's *Technical and Design Standards and Guidelines*.

- Crosswalk: The design of street crosswalks which provide distinctive and clearly visible patterns on the walking surface offer both visual amenity and safety to the pedestrian. The use of painted crosswalks and thermally applied markings are techniques commonly endorsed by the City. In a few special instances, the City has permitted the installation of carefully designed crosswalks comprised of granite borders with a brick walking surface. While alternative crosswalk designs add amenity to the pedestrian environment and are encouraged under special situations or for special effect, the design and construction of any such special alternative must be carefully considered. Issues of durability, particularly as impacted by snow plowing, visibility, and ease of walking should be addressed. The provision of crosswalks across all City streets shall conform with the specifications and details contained within the City's *Technical and Design Standards and Guidelines*.

- Street: The design and construction of City streets shall conform to the specifications and details contained within the City's *Technical and Design Standards and Guidelines*. Where driveway surfaces on private property serve dual purpose as pedestrian circulation paths, the applicant or property owner is encouraged to explore creative alternative finish surfaces which provide greater pedestrian interest and amenity.

2. Landscaping, planters, irrigation, and tree guards and grates

- Landscaping: The use of landscaping, including overhead/canopy trees, ornamental trees, shrubs, ground cover, and flowers, is encouraged to enhance the character and livability of the Downtown. The use of plants with attractive flowers, colorful and changing foliage, distinctive bark, and prominent or unusual shape all serve to enrich the visual environment. The environmental benefits of providing shade, filtering noise, and cleansing the air are all vital properties of an attractive and healthy urban landscape.

- Compatibility: The coordinated use of landscaping serves as one method for providing distinctive character to different streets and areas of the Downtown. The selection of the primary plant materials (in particular the larger materials such as street and ornamental trees) and their location on a particular site, should be considered in coordination with public streetscape improvements which occur or are planned for the immediate area. Private improvements also should be compatible with other adjacent or nearby private improvements.

- Use and placement: The use of landscaping to provide visual interest, color, variety, and an ever changing and growing environment is an important element in support of an active pedestrian streetscape. The placement of street trees and planters within the public right-of-way should complement and enhance the pattern of similar features on adjacent and nearby properties and be consistent with planting programs established by the City. The use of landscaping also can be incorporated with or in place of fencing to screen or buffer otherwise objectionable or unsightly uses or building features such as building service areas, mechanical equipment, and surface parking lots.

- Plant selection: Consideration during the selection of all plant material should be given to the plant's tolerance to urban conditions which include poor drainage, litter and salt problems, vandalism and abuse, shade conditions, and disease and insects. Plant materials recommended for use within the Downtown are identified, along with appropriate sizes and installation specifications, within the *Technical and Design Standards of the City of Portland*. Where a developer or property owner wishes to deviate from this recommended plant list, such substitutions should be reviewed for approval by the City Arborist.

- Lighting: The illumination of plant materials can have a very pronounced impact on the character of the evening street environment. Whether providing accent lighting for individual specimen plant materials, general lighting for an area with distinctive plant materials, or illumination for special displays, celebrations or seasonal decoration, the added color and life provided by such lighting is encouraged. Wherever such illumination is proposed, care should be taken to assure that such lighting is complementary of existing City programs for street and sidewalk lighting, and that such proposed lighting enhances the pedestrian environment. Such special illumination, whether on private or public property, should generally be maintained by the owner of the proposed development, and the failure to maintain or a decision to remove such illumination should not result in an unattractive landscape.

- Planters, irrigation, and drainage: The manner in which landscaping is provided, watered, and drained is important to the viability and durability of the plant materials. In general, the larger the area in which plant material is located, the healthier it will be and the longer it will remain vigorous. Where individual tree wells are located along streets, the wells should be as large as possible to allow adequate water and air to the soil and root system. Where the dimensions of the sidewalk area permit, planting strips or portions of brick sidewalk set on sand should be considered to allow even greater area of permeable surface.

The provision of planters raised above the sidewalk surface provides plant material additional protection from compaction due to foot traffic, as well as providing some protection from salts and de-icers placed on icy sidewalks during the winter months. The introduction of such raised planters, particularly in situations where increased area of plant materials is viable, are encouraged. Care must be taken to assure that there is consistency in the style and character of planters provided within distinctive areas of the Downtown.

The adequate provision of a water source and method of drainage for planted areas is important to the continued viability of plant material. In areas such as small parks and plazas, the provision of an irrigation system is encouraged to assure adequate moisture. Such areas should also have drainage systems designed to prevent excess water accumulation or runoff onto pedestrian walk areas. Individual tree wells should be designed to allow adequate drainage, tying into curb line drainage systems wherever possible.

Specific planters, irrigation devices, and drainage methods recommended for use within the Downtown are identified within the *Technical and Design Standards of the City of Portland*. Where a developer or property owner wishes to deviate from these recommended specifications, such substitutions should be reviewed for approval by the City Arborist.

- Tree grates and guards: Generally throughout the Downtown, the provision of tree grates and guards are encouraged in order to assure adequate air and water access and to provide protection for trees located within pedestrian activity areas. In certain areas, where wide sidewalks exist and ample pedestrian circulation area is available, the use of granite pavers as a substitute for tree grates may be acceptable where such use

complements the character of the general area and is consistent with a City program for existing or proposed tree wells. Specific tree grates and guards recommended for use within the Downtown are identified, along with appropriate sizes and installation specifications, within the *Technical and Design Standards of the City of Portland*. Where a developer or property owner wishes to deviate from these recommended products, such substitutions should be reviewed for approval by the City Arborist.

- Maintenance: Continued maintenance of landscaping is an important ongoing effort vital to assuring the continued health of plant material and the continued effectiveness of landscaping as an attractive part of the pedestrian environment. A regular program of feeding, watering, pruning, damage repair, pest and weed control, and replacement of declining plant material should be established at the time of initial design and installation, and maintained thereafter.

3. Lighting

Downtown lighting by design should not only serve its functional purposes but also contribute to the attractiveness and aesthetic quality of the streetscape. Illumination of the sidewalks, storefronts and building facades improves the attractiveness and security of the downtown at night.

- Sidewalk lighting: Sidewalks should be amply lit with attractive and warm white light, using a combination of pole mounted, building mounted, soffit, and window lights. Care shall be taken to provide proper illumination levels, avoid glare from lighting sources, and avoid excess lighting spilling onto private property or skyward.

Frequent placement of lower wattage lights achieving a relatively uniform level of lighting is preferable to fewer brighter lights. The placement of lighting fixtures should be in relation to the scale of the pedestrian, downwardly directed, and shielded or reflected so as to avoid direct line of sight from pedestrians to the light source unless the light source is very low wattage and issues of glare do not exist.

- Building lighting: Lighting from store windows, entryways, marquis, canopies, awnings, soffits, and other integral building features is encouraged to integrate with and enhance sidewalk lighting.

- Building Facades: Prominent building facades should be lighted by carefully designed downwash systems of appropriate color and intensity. Generally only historic landmarks and civic buildings should be fully illuminated as well as buildings which substantially contribute to the character of the street and have sufficient ornamental detail to provide visual interest.

- Street Lighting: Street lighting shall comply with the *Technical and Design Standards and Guidelines*. Where street and sidewalk lighting are intended to be provided by the same luminaire, the guidelines presented herein are applicable as well.

- Luminaire: Lighting fixtures for both pedestrian and street lighting conditions should be selected for their visual interest as well as illumination qualities. The selection of lighting fixtures, or luminaries, represents an important decision in establishing a sense of identity and orientation within the pedestrian environment. Just as different areas within the Downtown vary in general activities, land uses, and architectural character which result in their own identities, selection of luminaries should contribute to the identity of those distinct areas within the Downtown. The selection of luminaries should provide an attractive addition to the streetscape in both daylight and evening hours.

Specifications for luminaries along sidewalks and within plazas adjoining sidewalks should conform to the luminaire standard designated in the *Technical and Design Standards and Guidelines*. A lighting program has been established for the following general areas within the Downtown:

- i. Old Port Generally;
- ii. Old Port Wharf Street;
- iii. Waterfront;
- iv. Congress Street;
- v. Gateway entrance routes to the Downtown; and
- vi. Other public streets.

Areas not designated, such as privately owned publicly accessible plazas and public open space, may select a different luminaire style which complements the standard for the area in the above schedule if the design of the space commands a special, unique, and equally distinctive luminaire feature. Consideration should be given, however, in the design of such spaces to coordination with the surrounding area by incorporating the standard luminaire.

- Special Lighting: The introduction of special lighting can provide an especially festive Downtown environment. Seasonal decorative lighting, most notably for the holiday season from Thanksgiving to New Year's Day, greatly contributes to the festive spirit by including decorative lights on buildings, in windows, and on trees and other landscape features. Such seasonal special lighting efforts are encouraged and should be coordinated with both City and privately-based community seasonal lighting programs wherever feasible.

In some additional circumstances, special lighting might be designed and installed either on a temporary or permanent basis as a decorative feature or object in and of itself. Other special lighting features might be proposed for illuminating sculpture, murals, fountains, extraordinary landscape features, or other such features. Special lighting such as these are encouraged, subject to careful design and installation consistent to the general guidelines for lighting described elsewhere in this section.

In all instances, selection of luminaries should consider durability and ease of replacement and maintenance. Desired lighting intensities should be achieved without glare, generally with downwardly directed luminaries, with design features and intensity levels which assure comfortable pedestrian line of sight to the luminaire.

D. Pedestrian Amenities

The character and comfort of pedestrian open spaces such as parks, plazas, and sidewalk areas is greatly affected by the quality, character, and quantity of amenities provided for the use of people who visit those spaces. Specific requirements and specifications for each of the following amenities (except where noted) can be found in the City's *Technical and Design Standards and Guidelines*.

1. Benches and other seating

Pedestrians enjoy opportunities for pausing and resting, watching other people and activities, and eating lunch. Regular and frequent placement of benches or other seating along heavily used pedestrian routes is encouraged to accommodate these activities and thereby make the street environment more comfortable and inviting. Placement of seating should not interrupt or obstruct pedestrian circulation, and should assure maintenance and appropriate use. A variety of seating elements are encouraged, including benches, planter and retaining walls, steps or broad stairways, and individual fixed or moveable seats.

Within publicly accessible open space, adequate seating is a critical element which affects the use and success of that space. A general rule of thumb for the provision of seating applicable to a typical Downtown plaza is to provide one linear foot of seating for each thirty (30) square feet of open space. A balanced combination of seating types is usually encouraged.

2. Bus shelters and bus stops

The provision of clearly designated bus stops and comfortable amenities serving bus patrons are important elements of a successful public transit system. For development and public improvements along designated bus routes, the placement of standard bus shelters or the incorporation of sheltered waiting areas along building frontages is encouraged. The placement of shelters should not obstruct pedestrian circulation. Wherever feasible, shelters should provide a heated waiting area. All bus stops and shelters should be adequately illuminated and provide adequate seating, signage, and schedule/route information. Their design should complement the character of surrounding buildings and of the sidewalk or open space in which they are located.

3. Trash receptacles, mailboxes, newspaper boxes, public telephones

The provision of these traditional elements of the pedestrian environment serve very important needs and are encouraged. Their placement should avoid a visual appearance of clutter, should not obstruct pedestrian circulation, and should effectively support pedestrian activity. Their design should complement the character of surrounding buildings and of the sidewalk or open space in which they are located.

4. Directional and informational signage

In order to assure the greatest possible use of the Downtown by pedestrians, it is important that adequate orientation be provided. Carefully designed and sensitively sited directional and informational signage can enhance the accessibility of different districts, cultural facilities, special amenities or activities, and historic resources found within the Downtown. All such signage should be consistent with guidelines for signage established within this document, with signage requirements of the City Land Use Code, and with other applicable City signage programs.

5. Kiosks, fountains, and other special features

The introduction of informational kiosks and special features such as water fountains can provide informational amenity, excitement, or variety in the pedestrian environment and are encouraged. The location of such features should not obstruct pedestrian circulation and should complement the character of surrounding buildings and open space.

6. Artwork

The provision of artwork in publicly visible locations on private property, along pedestrian paths and sidewalks, and within publicly accessible open space is encouraged. The provision of artwork adds visual interest, a sense of creativity; and elements of discovery and surprise that greatly enhance the pedestrian experience. The provision of art also provides visible support to the local arts community. Artwork may be of a temporary or changing nature or permanent. The location of artwork should not obstruct pedestrian circulation nor interfere with normal Downtown maintenance efforts. The provision of artwork should be coordinated with applicable Public Arts programs.

7. Walls and fences

The use of walls and fences in the Downtown should enhance, rather than detract from, the character of the pedestrian environment. Ornamental fencing and creatively designed walls can add visual amenity while fulfilling often utilitarian functions. Such features should be kept as low as possible and integrated wherever adequate space allows with plant materials or other pedestrian amenity. Where the purpose is to screen views, care should be taken to retain pedestrian interest and not create, in effect, blank facades as discouraged elsewhere in this document. Exposed chain link fencing and fencing which suggests a rustic or rural setting are discouraged. Such features should complement the character of surrounding buildings and open space.

E. Sidewalk Vendors and Sidewalk Cafes

The character and sense of liveliness of the pedestrian environment along sidewalks and within public open spaces can be greatly enriched by a diversity of activities. In addition to encouraging the use of street-level building frontages for retail and other pedestrian-oriented uses, an opportunity exists for activities which spill into the public right-of-way or which occur outside of buildings on private property immediately adjacent to pedestrian areas.

The provision of opportunities for a diversity of sidewalk vendors offering perishable wares such as food or flowers is encouraged. Such vendors should not obstruct pedestrian circulation, therefore the design of pedestrian paths and publicly accessible open space should assure that there are ample opportunities for the location of sidewalk vendors. The creative design and continual upkeep of vending carts and adequate maintenance of surrounding areas are encouraged. Such features are subject to City licensing provisions.

The establishment of outdoor sidewalk cafes is encouraged. The design, location, and construction or installation of such features must be carefully considered to assure that the proposed café does not obstruct pedestrian circulation, is appropriate in character with the surrounding buildings and open space, is comprised of durable and attractive materials, and is consistent with any related City streetscape programs.

F. Urban Open Space

The design of publicly accessible open space is extremely important to the future desirability and use of that space. Variety in the size and character of Downtown open space offers opportunities for varying activities and uses, and accommodates differing preferences and needs of the Downtown population. Opportunities should be created wherever possible for varied activities ranging from sitting quietly reading a book to joining together with large numbers of people engaged in or observing some performance.

Publicly-accessible parks, plazas, and other open space should be readily accessible from both sidewalks and surrounding buildings to assure maximum pedestrian circulation. Further, open space should be so located and designed to readily allow views from the sidewalk, street, and surrounding buildings into the open space as well as outward views from within the space. Such viewing should not create the impression of being under a spotlight, but rather should be adequate to allow casual people watching, create visual interest, and maintain a sense of personal safety.

The provision of varied, high quality, creatively designed, and comfortable pedestrian amenities including seating, lighting, artwork, trash receptacles, and more as described elsewhere must be carefully considered and be compatible with the overall program of amenities both within the open space and along adjoining streets. Solar access, wind protection, and landscaping should combine to enhance pedestrian comfort and provide a variety of sunny and shaded areas.

II. RELATIONSHIP TO EXISTING DEVELOPMENT

The physical development of the Downtown has been incremental over the last century. For much of this period, a fairly limited palette of available building technology and materials combined with a generally consistent approach to architectural character and building form. This has resulted in an existing building fabric noteworthy for its comfortable and consistent scale and compatibility of building materials. A closer look at buildings throughout the Downtown supports this consistency of general character while also revealing an extremely rich diversity in architectural styles and detailing which collectively provide a rich visual experience and a sense of the evolving history of the City. Where markedly different buildings deviated from the prevalent character, those that remain today tend to be noteworthy public buildings such as the Customs House and City Hall, or buildings that introduced a new era of design such as the Fidelity Trust Company Building.

Any development within this context, whether an infill or an individual building lot at mid-block or the redevelopment of an entire vacant block, should look to the character and prevailing pattern of development as an important frame of reference for new construction or substantial alteration.

In recognition of the intimate, pedestrian scale of the Downtown area, a premise of these guidelines is that large buildings (either exceptionally tall or massive) should be built differently in a small-scaled city than they might be built in a City of larger size or different character. Care must be taken to assure that new buildings be so composed and sited to reinforce and respect the scale and composition of existing building fabric while striving to meet the evolving functional needs and aesthetic interests of contemporary society. Care must also be taken to encourage diversity, an essential quality in creating an interesting and lively Downtown.

A. Integrate with, respect and enhance:

Standard: "Proposed development shall respect, enhance, and be integrated with the existing character of the general pattern of development in the Downtown, surrounding building environment and streetscape."

The development of new buildings, building additions, and other improvements such as publicly accessible open space should be responsive to the character of existing buildings and open space, achieving a creative integration of past, present and future building design and construction. Throughout this discussion, it is important not only to respect and integrate with the existing fabric of the City, but also to enhance that fabric. Where existing structures are of high quality and in themselves positive examples of the concerns identified in these guidelines, they provide an important reference for nearby new construction. Where existing buildings are not responsive to the concerns described herein, proposals for new construction in their vicinity have the opportunity to creatively enhance that portion of the Downtown. Factors to be considered in meeting this standard include:

1. Street walls and building setbacks

Downtown Portland is characterized by a very consistent pattern of buildings located at the street line that provide very clear definition and character to the street. The street is the counterpoint to the built environment, and can be perceived as rooms and corridors in the fabric of the City. Buildings give spatial definition to the street, and the street provides relief in the form of light, air, and a viewing vantage for the buildings. A continuous street wall gives emphasis and meaning to open plazas and squares. Street walls assisting reinforcing the unique and irregular street pattern, maintaining the density of the urban fabric, and through contrast, enhancing the significance of open spaces. The most obvious examples are Congress and Exchange Streets, where very little variation in street wall occurs.

Along the Downtown's principle streets, it is particularly important to maintain this continuity by assuring that new development maintains the street wall condition by building to the street line. Subsection 2 of this Section II provides for some flexibility in this regard for special situations.

2. Open Space

The Downtown open space network is comprised of a variety of publicly-accessible parks and plazas, and the many public sidewalks and private interior corridors and arcades which tie these open spaces together.

The design of buildings adjacent to these various types of open space should strive to complement and reinforce the vitality of these areas for pedestrian activity. At the ground level, frequent points of access into the open space, pedestrian-oriented uses, and ample visibility between interior and exterior enhances and supports the viability of the open space. At upper stories, the generous provision of window area supports the security of the open space through increased supervision and visibility, while also providing substantial visual amenity for those surrounding buildings.

The massing of new buildings or building additions around open space should provide a sense of definition and enclosure to the open space, while not overwhelming the space either in scale or in impact on solar access or comfort within the park. The character of the exterior facades of buildings developed adjacent to open space should be of significant interest and detail to enhance the experience of park users. Unarticulated, blank facades are discouraged.

Proposals for the introduction of additional open space should look to the prevailing pattern of open space as it relates to building form and density throughout the Downtown. For example, Congress Street is characterized by a very consistent building wall established along the street, punctuated at only a limited number of locations by setbacks which provide for publicly accessible open space (i.e. City Hall and Maine Savings Plaza). Any proposal to introduce additional open space along Congress Street should consider any detrimental visual or pedestrian use impacts a break in the street wall might have, and should assure an enhanced pedestrian environment and not duplicate or detract from existing open space. Each street environment should be similarly considered as the placement of open space relative to each individual street or sub-area differs from one street or area to the next.

Other open spaces in the Downtown have occurred at points where significant changes in the street pattern occur (or once occurred). Congress Square, Monument Square, and Boothby Square each are at a point where the streets bend or streets merge or intersect at abrupt angles. Opportunities for future open space may present themselves at other similar kinds of locations Downtown.

3. Building form, scale and massing

Portland is a small-scaled city. Yet as a dynamic and growing City, the Downtown needs to accommodate a variety of changing uses and building tenants have requirements for interior floor areas that exceed, sometimes considerably, the prevailing supply of existing or available space. In some cases, tenants have outgrown their current space. In other instances, new tenants or new uses require larger space. If such needs are to be accommodated within the Downtown, larger buildings must be integrated into the fabric of the Downtown.

- Structure of the City: The character of the built environment results from incremental growth, development and redevelopment over an extended period of time. This incremental growth accommodated individual buildings of relatively small and discreet interior space demands while responding to the Downtown's changing topography by stepping buildings and entrances along sloping streets. The resulting pattern of building form and massing along the street is characterized by multiple, relatively narrow and discreet building facades.

Continued development Downtown should recognize and reinforce this character and pattern. The design of infill buildings as well as the design of larger buildings should provide a massing which is visually broken into both horizontal and vertical elements that reflect the scale and massing of buildings within the surrounding context.

The prevailing pattern of streets running parallel and perpendicular to the waterfront is expressed in relatively short blocks, reasonable walking distances between blocks, and frequent opportunities to turn corners or move from one street to parallel streets. This street and block pattern reinforces the preceding discussion of the historical development of the Downtown involving multiple buildings with relatively small footprints and relatively narrow building facades. Even blocks where larger buildings have been created, such as the 500 block of Congress Street, frequent opportunities exist to pass through the interiors of street-level businesses to reach paralleling streets. This important aspect of the structure of the Downtown is important to the liveliness and accessibility of retail businesses and cultural amenities.

The development of redevelopment of larger sites, and the potential assembly of more than one block or parcel through the discontinuance of intervening streets, should carefully consider this characteristic pattern of pedestrian circulation. Such development is encouraged to reinforce this pattern of pedestrian circulation by development of relatively small building footprints or by incorporating regular opportunities for building access and through-block connections.

- Skyline of the City: Building height and form contribute to a sense of order and image of the Downtown. Historically, the skyline was characterized by a regular pattern of commercial and residential structures punctuated by landmark structures such as church steeples or the cupolas and towers of prominent civic buildings. Over time, larger commercial buildings were constructed initially at the lower elevations of the waterfront and then more prominently throughout the Downtown. Most recently, the development of office buildings reaching a somewhat uniform maximum height of between 125 and 150 feet is creating a skyline dominated not by individually distinguishable landmark structures but progressively by less individually distinctive, box-like background buildings. At the same time, because of the scale of these office structures, previous visual landmarks are becoming less visible on the skyline. Collectively, the resulting skyline toward which the current pattern leads will diminish a sense of order and orientation presented on the Downtown skyline.

The pattern of building heights established through the zoning ordinance is intended to reinforce the changing topography of the peninsula, recognize the characteristic scale of historic areas and residential neighborhoods, and provide a clear sense of visual orientation with the tallest buildings along the central high spine of the peninsula. Moreover, tall buildings within the Downtown, those which exceed the prevailing height of the most recent office construction, are encouraged once again to provide distinctive elements on the skyline, to reinforce opportunities for establishing points of reference for visual orientation, and to create a more interesting and distinguishable city skyline.

- Massing: The overall volumetric relationships, or massing, of major architectural elements contributes to the building's overall appearance and sense of scale. Buildings, particularly larger buildings, should be designed to lessen the appearance of excessive bulk in order to maintain a scale and pattern comfortable to the pedestrian and to integrate with the prevailing pattern of existing buildings throughout the Downtown. While encouraging original design responses and distinguished architecture, the appearance and visual impact of a building's mass and bulk can be diminished in a variety of ways, such as the following:

- i. varying the planes of exterior walls through setbacks, recesses, or changes in direction;
- ii. varying building height so that the upper portions of larger buildings appear divided into distinct massing elements;
and

- iii. articulating different components of a building, such as the overall building composition (base, middle, and top), the arrangement of façade elements and openings, and the choice and variation of building façade materials.

Generally, dimensional requirements of the Zoning Ordinance stipulate setbacks to prevent taller structures from overwhelming the pedestrian scale of the street-level environment and to prevent canyon-like impressions at the street edge. Location and massing of larger and taller structures within the central portions of a building lot make for a graduated transition from street wall to tower, and from the modest scale of existing buildings to the larger scale of such new buildings.

These techniques also can be used to relate the scale and massing of proposed buildings to existing buildings. The perception of scale from the pedestrian level is of primary interest. Further, the use of compatibly scaled building elements can establish relationships between new and existing buildings while allowing considerable latitude for distinctive and creative architectural design solutions. Where the prevailing context is dominated or distinguished by prominent horizontal building elements, the incorporation of significant horizontal elements such as window treatment, belt coursing, cornices and building setbacks can demonstrate a sensitivity to the surrounding context.

4. Building façade proportion and composition

The design of new buildings, in particular the proportion and composition of the building's façade, should be responsive to the architectural context of buildings that surround the particular development site. These two aspects of a building's design relate closely to the manner in which scale and massing are perceived. A respectful integration of contemporary design within the existing context is encouraged and should complement, reinforce, and enhance the prevailing patterns and proportions of adjacent buildings without requiring imitation or repetition.

- Composition: The composition of a proposed building façade, that is the organization of its parts, should be carefully considered. Traditionally throughout the Downtown, buildings have been designed and constructed with a clearly identifiable three-part composition including a base, middle, and top. The base provides a portion of the building with a scale and level of ornamentation and articulation that is related directly to the pedestrian. The middle portion of the building generally provides a pattern of fenestration and detail that lends a sense of rhythm and scale to a building both horizontally and vertically. The top portion of the façade typically receives special treatment that terminates the building in an ornamental or distinctive manner.

Further, buildings Downtown frequently have a horizontal composition characterized by regular window openings set within distinctive bay spacings (often incorporating such elements as piers or pilasters). In some cases, the end bays of larger buildings are distinguishable from interior bays through additional ornamentation or a change in window pattern or some other feature expressed along the building's façade.

It is important that these different overall components of a façade relate to one another on each building to assure an integrated composition. It is equally important that these elements respect corresponding elements of adjacent buildings to assure that abrupt differences do not overwhelm existing buildings but rather reinforce prevailing patterns. In the design of larger buildings, it is particularly important to examine opportunities to compose the building both horizontally and vertically, respecting the character of buildings nearby through a contextually sensitive design while creating an interesting and creative individual building.

- Proportion: The proportion of building facades including the overall relationship between height and width of the complete façade and of components of the façade are related aspects of building composition and significant in assuring a contextual design response. Dramatic changes in proportion from one building to the next or in the character or proportion of façade elements along a given street often result in an inconsistent or ambiguous street character. The design of new buildings and substantial façade rehabilitations should strive to respect the character of building and façade proportions of surrounding development. Departure from prevailing patterns should be carefully considered to assure that the order and cohesiveness of a given street environment is not disrupted. The careful integration of the building into its surroundings, whether very similar or where creatively related but dissimilar, help to form "layers of commonality" which provide distinctiveness to different areas of the Downtown.

5. Pedestrian circulation and building entrances

There are strong patterns of pedestrian circulation and frequent building entrances that characterize the Downtown. The Downtown Open Space Plan identifies primary pedestrian circulation paths. Proposed development throughout the Downtown, and especially along these routes, should maintain and enhance these areas. Frequent building entrances, which have resulted in part from incremental development over time, are characteristic of the Downtown and support an active pedestrian environment. Proposed development should reinforce this pattern of providing frequent building access.

Section I, Relationship to Pedestrian Environment, provides further discussion.

6. Parking garages and surface lots

The provision of parking within the Downtown for the foreseeable future will be a continuing component of new development. It is important that the placement and design of new parking garages and surface parking lots be compatible with and enhances the character of the pedestrian environment Downtown while providing as well for the functional needs of such utilitarian facilities.

While it is of significant benefit to have parking, particularly turnover parking, in close proximity to retail storefronts and cultural activities parking areas should not create significant breaks in the continuity of businesses and activities which support pedestrian circulation and interest. Wherever feasible, priority should be given to maintaining pedestrian uses along street frontages and placement of parking should be shifted away from those street frontages and placed at the interior of sites and at upper stories in parking garages. Similarly, parking should be discouraged along the frontage of publicly accessible open space where pedestrian uses are important to the function of that open space.

- Parking Garages: Where parking garages are located along streets with significant pedestrian activity, the street-level uses of such parking facilities should be dedicated to pedestrian-oriented uses wherever feasible. Where initial conditions preclude the establishment of pedestrian-oriented uses along the street, parking garages should be designed and constructed so as to readily accommodate conversion to such ground floor uses at a later date. In addition, parking garages often have frontages or provide access from more than one street. In such situations, every effort is encouraged to incorporate through-block pedestrian connections which are clearly designated and which allow convenient pedestrian circulation along paths separate and distinct from vehicle travel lanes.

The design of parking garage facades should attempt to create a positive aesthetic solution that supports the interest of pedestrians nearby. While it may not be necessary to go to the extreme of masquerading the garage façade as some other type of use, the façade should fit comfortably with the other guidelines described throughout this document. Thoughtful detailing and screening of direct line of sight to vehicles and lighting contained within the garage is important, as well as providing additional landscaping or other site amenities at the facility's edges near public sidewalks.

- Surface parking lots: In general, surface parking areas within the dense Downtown setting are discouraged except on a temporary or interim basis. Where such facilities are proposed, care should be taken to assure that the character of these surface areas are attractive to the pedestrian walking nearby. The provision of adequate landscaping and/or ornamental fencing to help screen one's view of large areas of vehicular parking, the provision of appropriate lighting for pedestrian safety and comfort adjacent to such facilities, and the introduction of artwork or other pedestrian amenities along the pedestrian path can make such a facility more attractive.

Vehicular access such as driveway entrances or curb cuts to parking facilities should balance the needs for vehicular convenience with the priority for maintaining a safe and attractive pedestrian environment. The placement of such access should strive not to disrupt the continuity of pedestrian circulation. The design of these areas should give a clear indication to drivers that they are crossing a pedestrian area and that the pedestrian has the right-of-way. Pedestrian sidewalk materials should not be interrupted to accommodate an asphalt driveway, but rather the pattern of pedestrian paving material might change only to the degree that a clear indication is made to both driver and pedestrian that vehicles are present.

For example, where sidewalks are brick, the driveway entrance might be characterized by the placement of brick in a soldier coursing pattern or in some substantially distinctive brick pattern than is clearly part of the pedestrian sidewalk, but also recognizable as a vehicular path. Just as the sidewalk surface should not be interrupted to accommodate a driveway entrance, nor should sidewalk tilt-downs be the preferred solution to allowing smooth pedestrian circulation, but wherever possible the vehicular surface should be raised to meet the sidewalk. All such details must comply with the *Technical and Design Standards and Guidelines*.

- Signage: Adequate signage to attract and direct the motorist must be so designed, constructed and located so as not to overwhelm the pedestrian environment nor obstruct pedestrian vision or circulation. The design of signage for parking available to the general public should be consistent with a Downtown-wide program of signage for parking described in the *Technical and Design Standards and Guidelines*.

- Shared use: The design and management of Downtown parking facilities should consider opportunities for shared-use. Parking facilities are encouraged to consider extended use including day-time parking for office, retail, and cultural needs and “after-hours” (evening, weekend, and overnight) parking supporting retail, cultural and residential parking needs. Participation in the City’s clearinghouse program for residential parking is encouraged as well. Participation in a shared-use policy suggests a few issues that should be considered in the design and layout of parking facilities. In developing pedestrian and vehicular access patterns serving the parking facility, the presence of nearby residential units and adequate accessibility become important. The placement and design of street-level retail or other pedestrian-oriented uses should consider off-hour activities as well. Lighting and signage which support extended hours of use and possibly different pedestrian circulation patterns should be considered.

7. Areas within the downtown

Within distinctive areas of the Downtown, dissimilar buildings or greatly varying architectural designs can be linked by common elements that recur at regular intervals. Similarity of such things as paving materials, lighting standards, and exterior building materials or distinctive building features form layers of commonality that help to establish the identity of a particular area. Multiple layers within an area provide a richer and more identifiable character. When a new building is constructed without regard to existing layers within an area, the sense of identity of the area is lessened.

Areas within the Downtown which exhibit to some significant degree these layers of commonality include the Old Port Exchange, Commercial Street, Congress Street, and the area surrounding Lincoln Park identifiable as the Civic area. Development within each of these areas should enhance and reinforce those common features.

B. Standards for increasing setback beyond street build-to-line:

There are special exceptions to the predominant street wall condition described in the preceding guideline. The most notable of these are the public open spaces that have been created along the length of Congress Street. Congress Square Plaza, Maine Savings Plaza, and the City Hall Plaza are clearly exceptions to the pattern where public open space created in the heart of the Downtown provide welcome stops along an otherwise consistent street frontage. Monument Square and Longfellow Square represent other special and unusual situations where a change in the street grid or pattern have created opportunities for publicly accessible open space that reinforce prevailing street walls.

In order for proposed exceptions to this pattern of predominant street wall to be acceptable, the applicant must demonstrate to the Planning Board that the introduction of additional setbacks at the street level satisfies the following:

1. Open space and amenity

Provide substantial and viable publicly accessible open space or other amenity at the street level that supports and reinforces pedestrian activity and interest (such amenities might include plazas, outdoor eating spaces and cafes, or similar public amenity);

2. Prevailing character and continuity

Does not substantially detract from the prevailing street wall character by introducing such additional setback at critical building locations such as prominent form-defining corners, nor create a sense of discontinuity in particularly consistent or continuous settings;

3. Support for existing open space

Does not detract from existing publicly accessible open space by creating an excessive amount of open space in one area or by diminishing the viability or liveliness of that existing open space; and

4. Quality and orientation

The area of setback is of superior quality and character of design and of acceptable orientation to solar access and wind impact as to be attractive to pedestrian activity.

In addition to meeting the above exception criteria, such an additional setback may be appropriate where such setback provides a special setting for prominent civic buildings.

III. ROOF-TOP APPURTENANCES

Standard: "All mechanical equipment, ventilating and air conditioning and other building systems, elevators, stairways, radio or television masts or equipment, or other roof top elements not intended for human occupancy shall be fully enclosed in a manner consistent with the character, shape and materials of the principal building."

The character of the skyline of the Downtown is defined in part by the character and profile of the tops of buildings. Evolutionary in nature, this skyline is rich with a diversity of steeples, towers and ornamental parapets that have been constructed as integral architectural components of individual buildings. At issue here are the various roof-top appurtenances such as mechanical, ventilating, or air conditioning systems, or

television or radio masts or equipment which have been located atop both recent and historic structures typically in order to provide contemporary conveniences or accommodate up-dated systems to those structures. Many of these appurtenances are seen as intrusions on the skyline where no attempt has been made to make an otherwise foreign and visually incongruous element fit comfortably within the architectural composition of individual buildings.

In addition, as building heights in part of the Downtown are increased, substantial numbers of Downtown employees and visitors will be experiencing views of the Downtown from upper stories of buildings. Such views, in a relatively small and pedestrian-scaled City, typically include a considerable number of rooftops and are impacted by the character and clutter of such rooftop appurtenances.

Wherever feasible, rooftop appurtenances should be located and designed so to appear as an integral part of the architectural character of the building on which they are located. The exterior appearance of these features should incorporate a scale, shape and choice of materials that is consistent with the principle building. In many cases, the simple placement of such features can go a long way toward making them indiscernible from pedestrian vantage points. The use of exaggerated parapet walls or architectural ornamentation can serve a similar function. Enclosing such features within a skin of materials which complement other materials on the building can help to integrate the feature with the rest of the building.

IV. SHADOW IMPACT ON OPEN SPACE

Standard: “The location, massing and orientation of portions of buildings in excess of sixty-five (65) feet in height shall be such that substantial shadow impacts on public plazas, parks, and other publicly accessible open space are avoided.”

In a City with an extended period of cool autumn and spring seasons and a cold winter season, the availability of direct sunlight to areas of pedestrian activity plays an extremely important role in extending the use of those pedestrian areas. Frequently during these seasons, the availability of the sun’s warmth makes sitting or standing within a park or plaza quite tolerable and often inviting whereas a shaded portion of the same park may be uncomfortable.

Of permanent and continuous impact on the availability of direct sunlight within an open space is the shadowing caused by the placement particularly of tall and massive structures immediately adjacent to publicly accessible open space. Even relatively short structures adjacent to a pedestrian open space can have a significant shadowing impact during the colder months when the sun is relatively low in the sky. In an effort to balance the needs for development opportunity, the importance of enclosing and defining open space with the building fabric adjacent to that open space, and the importance of maintaining sunlight in a given open space, substantial shadow impacts created by new construction or building additions which exceed 65 feet in height should be avoided.

Placing building height and mass at the center of sites or generally away from any such open space is encouraged.

Factors which should be considered and carefully evaluated in determining whether a shadow impact is substantial include:

1. the amount of area of publicly-accessible open space that is shadowed;
2. the time and duration of the shadow impact within the open space; and
3. the importance of sunlight to the utility of the type of open space being shadowed.

As a general reference, new development should not increase the area in shadow by more than 10 percent during the period from March 21 to September 21 during the critical hours of use for the following open spaces:

Longfellow Square	9 am to 3 pm	Congress Square	10 am to 3 pm
Monument Square	10 am to 3 pm	Lincoln Park	10 am to 2 pm
Lobsterman Plaza	9 am to 2 pm	City Hall Plaza	10 am to 2 pm
Tommy's Park	10 am to 2 pm	Post Office Park	10 am to 2 pm

A particularly important and somewhat unique condition can be found on certain streets within the Downtown. Key pedestrian streets that run the length of the peninsula, such as Congress Street, enjoy direct sunlight on sidewalks along the northern side of the street for much of their length during the mid-day hours of heaviest pedestrian activity. Design and massing of new development along these streets should strive wherever feasible to minimize any shadow impacts on these sidewalks particularly during the mid-day hours.

V. WIND IMPACTS

Standard: "The location, massing, orientation and architectural design of a new building or a building addition shall be such that no significant adverse wind impacts are created."

Portland is a coastal city with gusty wind patterns and winds coming primarily from the northwest (winter), west, and southwest (summer). The average wind speed at pedestrian level is approximately 4.5 miles per hour.

The location, massing, height, and design of buildings and the placement of site features can all have a dramatic effect on the comfort level of pedestrian space as it is impacted by wind. In general, the taller the building, the stronger the wind potential is at the building's base. Monolithic buildings, those that do not change shape with height, almost invariably will be windy at their base when they are significantly taller than most of the surrounding buildings. When there are a lot of buildings of similar height in an area, the buildings tend to shelter one another.

The introduction of building setbacks, and pronounced architectural features such as projecting cornices, awnings and canopies, or other elements which give a three-dimensional relief to a structure all tend to help mitigate the potential impact of increased winds. The placement of site features such as walls, berms, and landscaping similarly can help to mitigate the wind impact by reducing speed or creating sheltered areas that might be most appropriate as seating or standing areas.

Consideration of wind impact as relating to new construction should have as its objective the establishment and maintenance of a comfortable pedestrian environment. Comfort levels for pedestrian use are related to wind speed, reflect the type of pedestrian activity that might be acceptable, and can be categorized (Melbourne's Criteria) as:

1. unacceptable and dangerous
2. uncomfortable for walking
3. acceptable for walking
4. acceptable for short periods of standing or sitting
5. acceptable for long periods of standing or sitting

In evaluating whether adverse wind impacts are created, the following factors should be considered:

1. Pre-development and projected post-development wind speeds and their impact on pedestrian movement; and
2. Impact of projected wind speed on the use of and comfort within existing and proposed pedestrian seating areas and other adverse impacts on the surrounding area.

VI. SETBACK FROM EXISTING STRUCTURES

Standard: "The location and design of proposed structures shall not create a detrimental impact on the structural integrity or safety of adjacent structures or the safety of occupants thereof."

In general, the Downtown zoning ordinance does not require specific minimum setbacks from existing structures. The intention is to recognize that this is the most intensive urban environment where buildings sharing party wall conditions and property lines represent a positive and traditional development pattern encouraging a dense and vital urban fabric.

It is important, however, to assure that the location or design of proposed structures does not create a detrimental impact on either the structural integrity of adjacent existing structures or on the safety of occupants within those adjacent structures. The following examples are illustrative of the possible situations where the location and design of proposed structures might result in such a detrimental impact and which should be avoided.

1. The design of a proposed structure should not create a situation where resulting snow loading might occur on an adjacent structure that would threaten the structural stability of that structure. Alternative approaches to the design and location of the proposed structure might avoid such a snow-loading condition by introducing a setback or step-back from the existing structure or by modifying the design of the proposed structure to avoid a snow-loading condition. With agreement from all parties concerned, another alternative could involve the structural reinforcement of the existing structure or some design modification to the existing structure that would mitigate any potential problem.
2. The design or placement of a proposed structure should not render floor area in an existing adjacent structure unsafe by virtue of eliminating or obstructing means of egress which is required under fire or life safety codes. Alternative approaches for such possible situations might include the creation of suitable alternative means of egress for the existing structure either within or adjacent to the new structure or, with agreement of all parties concerned, on the premises of the existing structure.

It is important to assure that developers of new structures Downtown and owners of existing structures understand that buildings constructed at the property line are susceptible to development on adjacent properties without a minimum yard requirement or setback. New structures should be so designed and constructed wherever feasible so as not to burden adjacent properties with conditions where any such subsequent development would be restricted due to potential structural or safety problems.

VII. BUILDING TOPS

Standard: "Buildings or structures which exceed one hundred fifty (150) feet in height shall be designed so as to provide a distinctive top to the building which visually conveys a sense of interest and vertical termination to the building."

Historically, Portland has been a relatively small-scaled City with a fairly consistent pattern of building height punctuated by landmark structures such as church steeples, turrets or slender towers which provided visual interest and a sense of orientation. Over the last several decades, the character of recent development has been such that the pattern has evolved into a fairly consistent building height of approximately 125 to 150 feet in height, with fairly consistent and box-like building profiles becoming the norm. With the introduction of opportunities for significant increases in building height, there is an opportunity once again to provide a distinctive and exciting skyline composed of lower "background" buildings punctuated by taller landmark structures.

For taller buildings, those that exceed 150 feet in height, the design of the building top should visually convey a sense of slenderness and vertical termination while creating visual interest on the skyline. The introduction of sloped, conical, stepping, or otherwise distinctive and ornamental tops can generally make squat buildings seem more slender, provide a distinctive skyline to the City, and emphasize the height of landmark structures.

VIII. VIEW CORRIDORS, VISUAL LANDMARKS, AND GATEWAYS

A. View Corridors

Standard: “The placement and massing of proposed development shall not substantially obstruct public views to landmarks and natural features from those locations identified on the View Corridor Protection Plan.”

View corridors play a large role in determining the visual character of the City by revealing destinations and assisting pedestrians and motorists to orient themselves to the layout of streets and to the Downtown. Distant views provide visual and psychological connections to the world surrounding the City. Views may also make connections to the past by juxtaposing the old and the new. Portland’s relationship to the water is an important part of its unique character and identity. Key views to the harbor, Back Cove, and landmark buildings are a community resource to be preserved and protected. They create the sense of place that defines Downtown Portland as well as providing orientation to the public moving about Downtown.

The View Corridor Protection Plan identifies significant view corridors in the Downtown. The Plan also identifies the portions of those view corridors from which views along the corridor are important. Generally, the width of the view corridor is established by the width of the particular public right-of-way that is the principal component of the corridor, and the focus of the view is identified. Because of the substantial variation in topography on the peninsula, some level of development may be acceptable within the right-of-way width that does not effectively obstruct views from higher elevations.

With the pre-development view as a basis for reference, the placement and massing of new structure or other development along or within the designated view corridors should not substantially obstruct views to the water or landmark. To accommodate these view corridors, development on individual parcels may need to step taller portions of structures back out of the view corridor or so plan the layout of a development proposal so to site structures on other portions of a site. In some situations, low buildings could be constructed which would not block the particular view corridor. In other cases, parking or site amenities such as open space might be so placed to relate to the view corridor.

B. Visual Landmarks

Landmark buildings in Downtown Portland help give the Downtown a sense of identity and history, and are important elements for providing orientation to both pedestrian and motor vehicle. The most recognizable landmarks, important symbols of the City and its institutions, are:

- Portland City Hall
- Custom House
- Cathedral of the Immaculate Conception
- Munjoy Hill Observatory
- First Parish Church

The spirit of this policy could be extended to a variety of other important buildings in the peninsula area. Elements such as church spires, towers on schools and fire stations, and unique architectural roof features should be respected and viewed against the sky.

Presently, the distinctive profile of each of the five identified landmarks can be seen against the sky from important streets and squares. This quality contributes to their visual prominence. Typically, they are surrounded by structures of similar or lower height, so they seem an integral part of the areas in which they are located. When landmark buildings are dwarfed by structures of considerably larger scale, they appear as remnants of some bygone era. Development adjacent to these visual landmark structures is encouraged to be considerable of their importance and should assure wherever feasible that the landmarks be read against the sky from important streets and view corridors, and that they be surrounded by structures of similar scale.

To accommodate the protection of views to these landmark structures, it may be encouraged on individual sites to limit building heights or reconfigure building massing through setbacks or stepbacks to ensure that landmark structures can be seen and are not overwhelmed.

C. Gateways

Downtown Portland today has a diverse set of gateway entrances characterized by water, air, and land approaches. The 1983 **Gateways to Portland** study provided an overview of the opportunities presented by gateways in general, including:

- a. Create a newcomer's *first impression* of the city;
- b. Provide a clear *orientation and guiding symbol*;
- c. Opportunity as a *pass-by-route* (such as I-295) where the passing view of Portland may be one's only impression of the City;
- d. Provide unique areas for residents and commuters to observe and relate to their city, *broadening an understanding of their city*.
- e. Provide pleasure of experiencing an attractive and more livable urban environment.

- f. Image and potential *economic impact*.

The following list identifies existing significant Gateways:

I-295: From the Portland Jetport to Tukey's Bridge, I-295 offers a succession of dramatic and changing panorama views of the Downtown as one passes by the Downtown along the interstate highway system.

Franklin Street Arterial: The northernmost of two immediate Downtown exits from I-295, the Arterial provides perhaps the most dramatic opportunity to sense the changing topography of the saddle area of the peninsula and reveals the dramatic views to both the Back Cove and Portland Harbor that flank the Downtown.

Forest Avenue from I-295 to Congress Street: Forest Avenue provides the southernmost of two immediate Downtown exits from I-295 and is a major artery serving northwestern Portland neighborhoods and as Route 302 serving western communities. Forest Avenue brings the motorist into the heart of the Downtown near Congress Square. Both the Portland Performing Arts Center and the YMCA are major cultural facilities immediately found on this street.

State Street/High Street: This one-way pair provides access from the northern (Forest Avenue and I-295) along State Street through Longfellow Square, and from the south (primarily the Million Dollar Bridge) along High Street to Congress Square.

Preble/Elm Streets, Baxter Boulevard: Preble and Elm Streets comprise another one-way pair connecting Marginal Way, Forest Avenue, and Baxter Boulevard/Route 1 to the Downtown in the vicinity of Monument Square.

Portland Street: The approach to Downtown along Park Avenue, past historic Deering Oaks Park, and along Portland Street to Preble Street and Cumberland Avenue offers an opportunity for creating a more attractive Gateway entrance through an area that has potential for continued redevelopment. A dramatic view of the landmark City Hall Tower, particularly as illuminated at night offers visual amenity to this corridor.

Washington Avenue to Cumberland Avenue and Congress Street from the east: Washington Avenue serves as an entry for traffic approaching Downtown from the north with an exit from I-295 and a connection as an arterial along Washington Avenue from Falmouth, and from Munjoy Hill. This approach, bringing traffic through a portion of Munjoy Hill, has the potential to be substantially enhanced and to provide a sense of the mixed-use character of Portland's East End.

Congress Street from the west: This approach ties the Portland jetport, the Stroudwater neighborhood, and areas westerly to the Downtown connecting at Longfellow Square. This area has undergone considerable change over the last thirty years, and presents an important approach that would benefit greatly by gateway improvements.

Commercial Street: This approach ties I-295, across the Fore River at Veterans Memorial Bridge to West Commercial Street, along the industrial and marine-related mixed use waterfront, connecting to the Downtown in the vicinity of the Old Port.

The Million Dollar Bridge to York Street: After excellent views of the Portland waterfront and Downtown skyline as one crosses the bridge, this entry to the Downtown provides an opportunity to get a sense of the residential and evolving commercial districts which surround and are so important to the Downtown. This path has two branches, one leading up High Streets to Congress Square and the other continuing along York Street to Gorham's Corner and the Old Port.

Harbor Approach: With the islands of Casco Bay serving as residential communities of the City, and with a considerable summer population based on the islands or approaching the City by water, the approach to the Downtown from the water side is quite important. The dramatic views of the waterfront and the City's skyline are important and quite unique opportunities for Portland. The Casco Bay Ferry Terminal, International Ferry Terminal and public or private landings and docking facilities all serve as entry points for residents and visitors alike.

Air approach to Jetport over Harbor: The dramatic air approach over Casco Bay, the Portland Harbor and Downtown Portland offer a spectacular and ever changing introduction to the City.

While each of these entrances to the Downtown is unique, collectively there are opportunities to enhance these entrances by preserving view corridors and panoramic skyline views along or from these corridors, reinforcing and enhancing the scale, character and placement of buildings along these entrance routes, and by encouraging development which reinforces the unique positive aspects and opportunities for each particular Gateway.

At the scale of the streetscape, consistent street tree planting and landscape improvements, consistent sidewalk paving patterns, distinctive informational and directional signage, and lighting programs can reinforce the character and positive impression of each Gateway entrance. The provision of landscaping, paving materials, and other pedestrian amenities should all be of the highest quality and be compatible with and enhance the Gateway experience for both vehicle and pedestrian. Service yards, storage areas, and parking lots should be suitably screened from view along all designated Gateway entrances to the City.

Proposals for development along Gateway entrances to the Downtown are encouraged to examine and reinforce the unique character and opportunity of that gateway entrance to the Downtown in terms of the design and siting of buildings, land uses, and streetscape improvements.

IX. SIGNAGE/AWNINGS/CANOPIES

A. General

Signs, awnings, canopies and other similar devices are among the most noticeable visual elements of the urban environment. These devices are not only a practical business requirement for a property owner or tenant but also can significantly enhance a storefront, building façade and street environment. Signage designed, constructed, and installed throughout the Downtown should be executed and placed in a manner which is respectful of the character of the building on which it will be located and the character establishing the appropriateness of a proposed sign will be the character and design of those other existing signs which would meet the guidelines presented herein.

Signs, as components of a building façade, are relatively temporary as businesses or tenants change with some frequency over time. The design and installation of signage should recognize this temporary nature of signage and should always be approached with an attitude of reversibility. All signs should be designed and installed in a manner that upon their removal, the character defining features of the building remain intact and that the exterior materials of the building are not permanently or irreparably damaged.

B. Design

1. General

- The design of signage should be respectful of the building on which it is located, carefully designed to fit a given façade complementing the building's architectural features. Signage inconsistent with the architectural style of a building, such as providing "colonialized" signs on a Victorian storefront, is not appropriate.
- The design of signage should be oriented and scaled to reflect the scale and character of movement of people around the building, with an emphasis primarily on the pedestrian and slow-moving traffic.
- Design, selection of materials, and workmanship shall be of high quality in appearance and character, complementary to the materials and character of the building, and convey a sense of permanence and durability.
- In addition, the design of signage on historic structures should consider historic signage that was previously or is currently incorporated on the building. Where clear documentation exists as to the character and design of original or historically significant signage found on that building, every effort should be made to meet contemporary signage needs with a sign designed in keeping with the building's historic signage.

2. Size

- The size of proposed signs should be compatible with the scale of the overall building, with the scale and character of the building's architectural features, and with the character of the specific sign location.
- The size of the sign should relate comfortably in size and scale to pedestrians moving about in the vicinity of the sign.
- No sign shall extend greater than four feet into any public right-of-way or beyond a vertical plane two (2) feet inside the curb line (face of curb).

3. Communication

- Signage is most effective when it is simple and limited in subject matter to the name of the business or property, a street address, and the incorporation of a logo, symbol, or other graphic display that is central to the primary tenant or use of the property. Signage should clearly be incidental to the tenant or use of the property. General commercial advertising unrelated to the principal use is discouraged. Signs advertising businesses or products not found on the property (off-premises signs) are not permitted.
- Lettering typefaces and words should be selected which are simple, easy to read, and scaled appropriately for both the sign and building. Logos or symbols are encouraged where integrated with the proposed sign. Pictographs (such as the creation of a projecting sign in the shape of a key for a lock shop) should be carefully considered and can be an interesting and appropriate feature in some situations.
- Colors on signage should be selected which complement the character and color pattern of the building. A sign should not, by virtue of its color, be distracting from the design and character of the building on which it is located. Signs tend to be most effective when there is a contrast in color between the lettering/symbols and the background of the sign.

4. Illumination

- Generally, flashing or moving lights are not appropriate. Special situations, such as the design of marquees or features relating to special uses such as cultural events or public activities may be appropriate exceptions where sensitively designed and where no safety hazard is created.

- Illumination of signage should be compatible with the character of illumination already existing on the building and on surrounding buildings, on existing appropriate signs in the vicinity, and the character of illumination along the pedestrian areas adjacent to the building. Where internal illumination of a sign causes the scale of the sign to become excessive in relation to architectural features of the building due to the sign thickness necessary to accommodate internal devices, alternative lighting should be considered. Backlighting of individual letters may be an acceptable alternative.
- External illumination of signage should be concentrated evenly on the sign itself, with no significant glare or spillover onto adjacent buildings. The light source should be concealed from the direct view of the pedestrian.
- All electrical conduit, transformers, raceways, and wires must be concealed within or behind the sign or face of the building, or be designed as an integral element of the building façade, or be substantially disguised or hidden so as to be unobtrusive to the appearance of the building and sign. The attachment of such devices to the structure should not permanently damage any significant architectural features or the architectural fabric of the building.

C. Placement and Location

1. The placement of signage on all buildings should be carefully considered, taking into account the scale, character and design of the building, the traditional location of signage on Downtown buildings, the location of existing or designed sign boards, lower cornices, lintels, and piers, and the opportunity to use signage as an element to reinforce building entrances.
2. The placement of signage should not visually obscure architecturally significant features of the building. The method of attachment for new signs should not permanently alter or destroy significant features or materials of the building.
3. Where signage is proposed on window surfaces, such signage should not substantially obscure visibility through the window.

4. Generally, the placement of signage should occur below the sill of the second story windows. Where the design of the base portion of the building establishes some higher location as an appropriate location and where such location complements the character of appropriate signage on adjacent buildings or architectural features of adjacent buildings, alternative locations should be considered. Where unusual site characteristics exist or where exceptionally well-designed and integrated signage is proposed, placement elsewhere on a building will be considered. Painted signs on upper story windows, such as stenciled names of professional firms, are acceptable provided they do not detract from the character of window design.
5. In addition to placement criteria above, the minimum height of projecting signs, awnings, canopies, and marquees above the sidewalk shall conform to the current BOCA National Building Code. Further, projecting signs should be placed high enough to prevent vandalism.
6. No signs should extend or be placed above the roof or parapet line of any building. The development of taller buildings Downtown provides an opportunity for significant impact on the character and attractiveness of the City's skyline. Through other design guidelines dealing with rooftop appurtenances and ornamental building tops, the design of taller structures is encouraged to create architectural design rather than through a corporate logo or name emblazoned at the top of tall structures. Therefore, no signage should be placed on portions of buildings or structures exceeding 125 feet in height.
7. No private signs should be placed in the public way without specific license by the City.
8. Freestanding signs, excluding public information signs, are discouraged. Signage should be incorporated with building features or with integral site features such as planter walls.
9. The placement of signs shall not disrupt or obstruct the vision of drivers or pedestrians so as to create a hazardous situation. No signs should be so located as to significantly obstruct pedestrian circulation.

D. Number of Signs

1. The proliferation of signs within a dense urban environment can lead to visual confusion and a sense of clutter. The number of signs for each tenant or building should be kept to a minimum while recognizing the need for identification and visibility. Building signs and projecting signs should be limited to one per building street frontage for each business or tenant.

2. Where multiple signs occur on a single building, there should be a common pattern and character between such signs. Signs need not all be identical, but there should be a common pattern of placement, general design, and illumination.
3. Where multiple tenants are served by one sign or a grouping of signs, the signs should be treated as a building directory with the building name and/or address most prominent and the names of individual businesses or tenants subservient in the directory design. Such directories should be located at or near building entrances and should be scaled so that individual names are visible to the pedestrian.

E. Guidelines for Special Categories of Signs

In addition to the guidelines described above, certain types of signs require special guidelines that relate to their special character or purpose.

1. Awnings, Canopies and Marquees

These signs serve both as decorative and multi-functional devices. In addition to the color and character they can add to the visual environment, these features serve to protect pedestrians from adverse weather conditions, entice pedestrians to pause and view merchandise on display in storefronts, can protect displays from intense sunlight and can provide visual relief to otherwise flat or unarticulated facades. The shape and size of these devices should correspond to the shape, character, and size of the opening over which they will be installed, and should fully fill the width of the individual window or door opening. These devices should be designed and located to be compatible with other appropriate and similar features on the same building or on buildings in the vicinity. These devices should not obscure architecturally significant elements of the building.

2. Public Information Signs

This category of signage includes informational signage such as traffic regulations, transit information, public announcements or community activity information, and historic markers, as well as directional signage such as street signs and directions to major civic, arts or cultural facilities. Wherever possible, these signs should be designed and located so that they complement the character of the environment in which they are placed. Such signs may be free-standing as necessary to effectively serve their purpose. These signs may be located off the premises to which they refer.

3. Painted Wall Signs

Painted wall signs such as murals should be used only to enhance the environment or streetscape. They should not be developed for advertising purposes. Such wall signs should not disrupt the setting of an historic building or of an otherwise distinctive environment. Painted wall signs such as business names may be appropriate and should be reviewed according to other applicable guidelines. Where painted wall signs are appropriately located, the surface of walls used for such wall signs should be properly prepared so to reduce the need for maintenance and to assure long-term attractiveness. In a few instances, old painted wall signs of a commercial nature still are discernable on the facades of some buildings and serve as reminders of former businesses and activities found therein. These signs should be examined on an individual basis and, where they reflect a significant period of the Downtown's history, restoration of the most significant of these should be encouraged.

4. Address Signs

Address signs indicate the street address of a business or building. The location of these signs generally should occur above or on the entrance, and should be coordinated with adjacent establishments with the objective of making building identification easier.

5. Portable/Movable Signs

Portable sandwich board signs commonly found throughout the Downtown are the only portable freestanding signs (other than special temporary signs and public information signs) which are encouraged Downtown. All portable signs placed within the public way require special permitting through the City. In addition to requirements of that process, all such signs should be designed and located in a manner that does not detract from the character of the pedestrian environment, nor create obstacles to pedestrian circulation or visibility.

6. Temporary Signs

This category of sign is exhibited for a limited time to advertise special events or sales and is removed following the event. Included within this category are "For Sale or Lease" signs, construction signs, sale or promotional signs, and special events signs.

7. Banners, Flags and Pennants

Colorful flags, pennants and banners add color and movement into the streetscape. The incorporation of such elements into the streetscape or the placement on buildings should complement the character of the building fabric. While the flag or banner is relatively temporary in nature, the brackets or poles from which these elements hang tend to remain for extended periods. Attachment of such support devices to buildings or other structures should not cause irreversible damage to significant architectural features or fabric.

8. On-Site Service Signs

On-site service signs for such needs as identifying parking entrances and exits, handicapped parking spaces or handicapped access, drive-thru teller signs, and other similar directional signs should be considered as a whole system, coordinated in size, materials, design, and character within a single property and with adjacent properties.

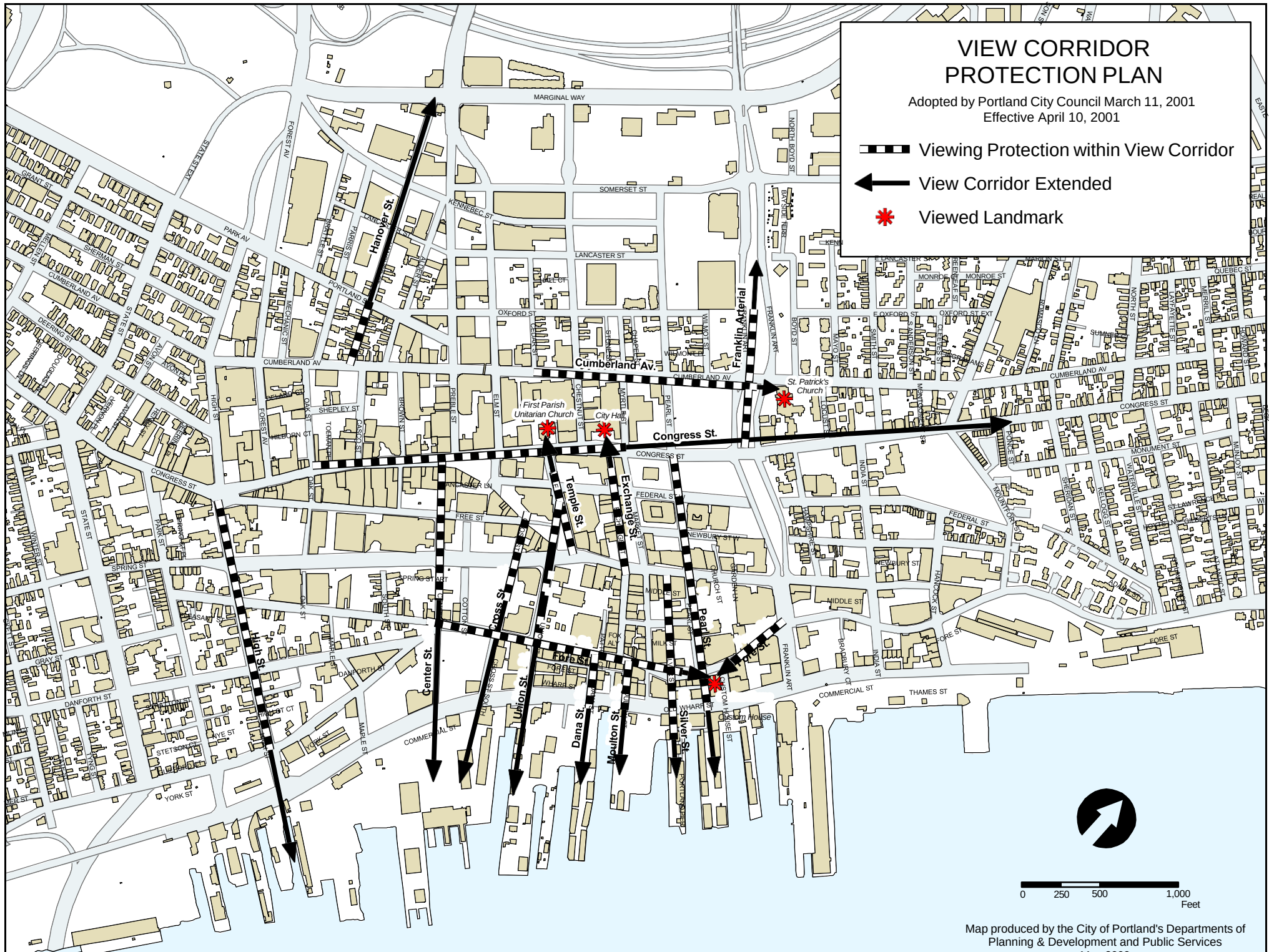
F. Maintenance

All signage should be maintained in good visual and structural condition.

VIEW CORRIDOR PROTECTION PLAN

Adopted by Portland City Council March 11, 2001
Effective April 10, 2001

-  Viewing Protection within View Corridor
-  View Corridor Extended
-  Viewed Landmark



Pedestrian Activities District Overlay Zone

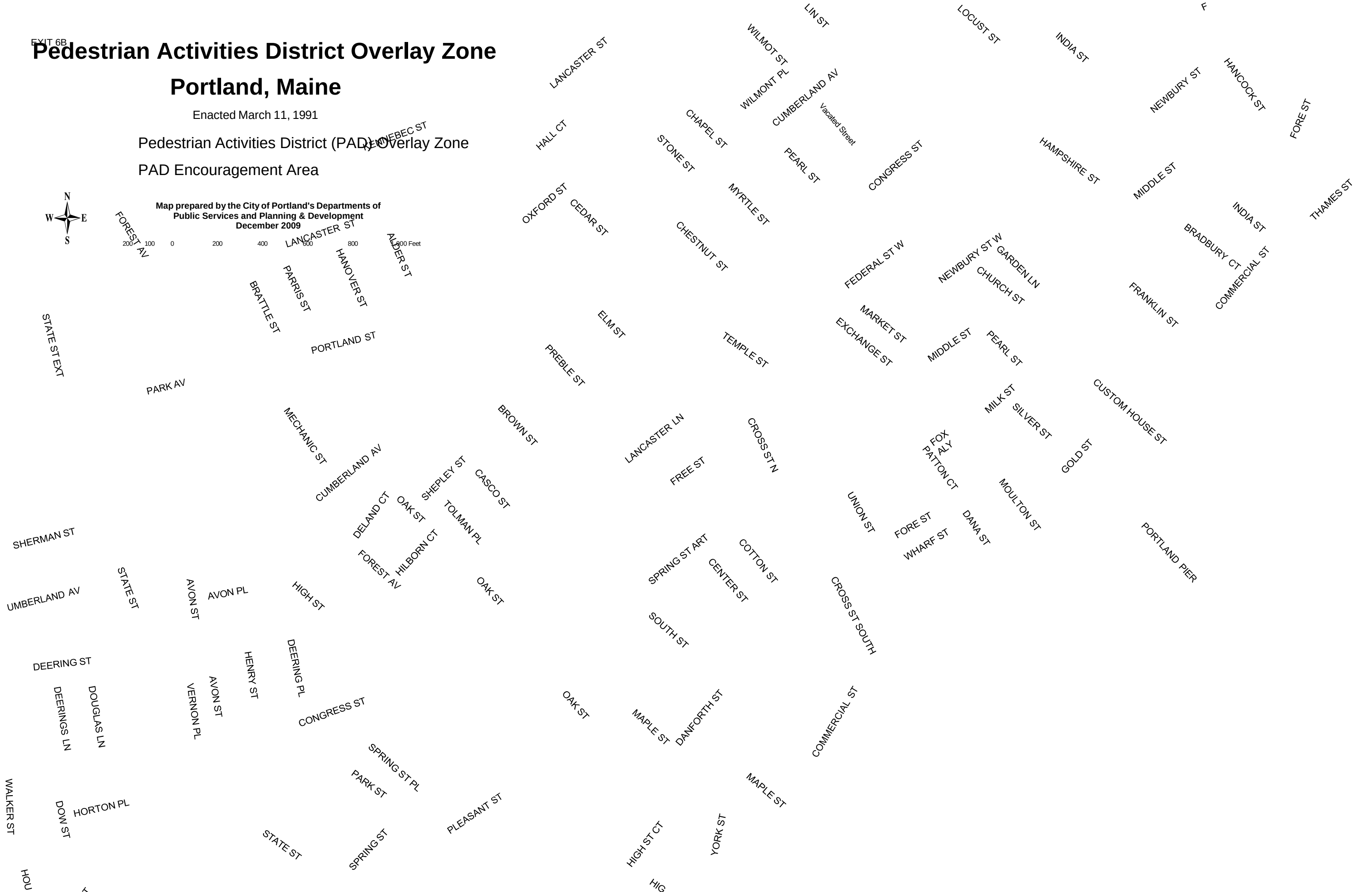
Portland, Maine

Enacted March 11, 1991

Pedestrian Activities District (PAD) Overlay Zone

PAD Encouragement Area

Map prepared by the City of Portland's Departments of
Public Services and Planning & Development
December 2009



City of Portland
Technical Standards and Design Guidelines

Development in the B-1, B-2, B-2b shall meet the following guidelines in order to meet the Site Plan Standards

1. Building Location and Form

Buildings shall be located near the street so as to create an urban street wall.

An urban street wall is created by a pattern of buildings which line the street in a consistent manner, thereby establishing a desirable spatial relationship between the building in the commercial district and the major object. Location is one of several related factors defining the street environment.

Building Form, including height, bulk, and massing, contribute to the development of a street wall.

The desired condition is to have the building frame and enclose the street, which is achieved by providing building height that is proportionate to the width of the adjoining major street. A ratio of building height to street width of one-to-two creates a strong "room-like" street, while a one-to-three ratio provides good street definition and proportion. Shorter buildings of one story facing broad streets will not achieve the desired relationship.

In the B-2b zone, buildings adjacent to streets should approach 1:2 height to street width, with a minimum of 1:3.

For a fifty-foot street right-of-way, therefore, a minimum height of 15' is required, with 25' height preferred. An eighty-foot right-of-way requires about 27' to achieve the 1:3 proportion., with 40'-height preferred. Obviously, buildings located as close as possible to the street right-of-way will provide better definition and proportion than buildings set further back.

2. Building Function

An urban street and business district requires a substantial intensity and variety of uses.

It is beneficial to have mixed uses within portions of buildings situated near the street. For example, a retail first floor might have office or residential on the second or third floors. This provides both the scale of building height desired, as well as the economic vitality of the business district.

3. Orientation of Buildings and their Entrances to the Street

Major building entries shall be designed and located to provide the primary building access oriented to the public street and sidewalk.

Doorways should be prominent and obvious in appearance, so as to attract the users toward the entry. Major entry features should primarily address the street, with entry courts, display windows, signage, lights, walkways, and vestibules, as appropriate. Major entries should be adjacent to, or very close to, the street and public sidewalk.

4. **Windows**

Windows shall be located in all building facades visible from the public way, especially on building facades along the major public street.

Retail uses with store fronts are the most desirable feature for locations adjacent to the public sidewalk; and active, transparent (minimum visible transmittance (VT) of .7 or greater), and interesting windows contribute the maximum value. Limitations on transparency, such as dark or reflective glass, or interior coverings, should be avoided. Where uses (such as office) are not conducive to transparent viewing from the public way, windows can still convey a sense of activity and presence along the street. Even these more private windows can convey occupancy and habitation when lighted from within, as during evening hours, even if the interior is screened from view.

5. **Building Character, Detail, Scale, and Graphic Qualities**

Building design will include various architectural and graphic amenities to provide a strong presence along a street and relate a building to its community.

Awnings, canopies, and flags may be utilized to highlight entryways and to further identify the activity and identity of a use. *Facade lighting* may be used to highlight entryways or to provide visual interest along an otherwise blank façade. Building scale, roof pitch, architectural detail, and fenestration shall be designed to complement and be compatible with surrounding residential and commercial buildings.

6. **Signage and Building Entrances**

Building entrances and building signage in the B-1, and B-2b zones will be designed and constructed at the pedestrian scale.

7. **Development Relationship to Street**

Building facades and site amenities shall form a cohesive wall of enclosure along a street. Where buildings are not located at the street line, site amenities, including masonry walls, fences, and landscaping, shall be placed along the street to provide a sense of enclosure or definition.

8. **Parking Lots**

Parking Lots shall be screened from view of the public way.

Landscaping or fencing shall be used to screen parking lots from public ways and residential neighbors. Where parking is located within the front yard (or side yard of a corner lot), a landscaped buffer or fence shall be placed along the street line to distinguish the private space from the public space and to help define the street wall.

Parking lots shall be screened from neighboring properties.

A densely planted landscape buffer or fencing shall be installed to protect neighboring properties from the impacts associated with the parking lot and the use it serves.

Crosswalks shall be provided within parking lots and across entrance driveways, directing pedestrians to building entrances.

9. **Transit Connections**

Development proposed along established transit corridors must design uninterrupted access from the proposed development to the transit stop.

An easement to place a transit shelter may be requested for development located along a transit corridor.

University of Southern Maine
Campus Design Principles and Standards
Adopted May 23, 2006

1. PURPOSE

The *University of Southern Maine Campus Design Principles and Standards* have been created in recognition of the need of the university to grow in a vibrant, aesthetic, and sustainable manner that provides a strong sense of place, and conveys an identity as a high-quality institution of learning.

All new buildings shall be designed to create a visual connection with existing campus buildings with a goal of achieving a cohesive campus appearance. New development shall be characterized by excellence in architectural design, craftsmanship, materials, streetscape and landscape improvements, signage and lighting appropriate for a university in an urban setting in the Northeast.

These principles and standards are intended to regulate the future build out of the institution while ensuring that new development is sensitive to adjacent residential neighborhoods and commercial areas, and is successfully integrated with the City as a whole.

2. APPLICABILITY

The following principles and standards shall apply to all development on the University of Southern Maine Portland campus.

3. PRINCIPLES AND STANDARDS

PRINCIPLE A Campus Design

The campus design shall create a strong identity and sense of place. New development may be contemporary in architectural style, but shall be organized according to time-tested and traditional principles of urban and landscape design in order to integrate these buildings into a coherent whole. These principles shall serve to strengthen the overall image of the campus, establish defined boundaries, ensure a sensitive interface with surrounding neighborhoods and the city, enhance the physical amenities of the campus, create a pedestrian oriented environment with safe and vital streets, and provide a series of significant open spaces.

STANDARD A-1: Campus Edges. New development along the edges of the campus shall be designed to coordinate with the surrounding neighborhood, and provide a transition between institutional and smaller-scale uses through mitigation of height, setbacks and materials. Parking lots and structures, blank walls, or backs of buildings shall not be sited in a manner that forms a boundary to neighborhoods and the city. Dormitories shall be sited in a manner that is sensitive to private residential neighborhoods. Campus facilities that are available for use by the public shall be sited so that they are accessible to the surrounding neighborhoods.

STANDARD A-2: Building Orientation. Development shall be oriented to streets, major pedestrian access routes, and large scale open spaces in order to create a cohesive pedestrian-oriented environment. Buildings shall not be oriented toward parking lots. Large-scale open spaces shall be partially bordered by buildings in order to form defined courtyards or quadrangles. Structures shall be sited to create safe pedestrian spaces that maximize exposure to sun and block winds.

STANDARD A-3: Pedestrian Environment. Development along public streets shall be designed to enhance the pedestrian environment through such means as fully-functioning building entries oriented to the street; traffic calming, visible crosswalks and adequately sized sidewalks; pedestrian scaled street lights; exterior gathering spaces; trees and landscaping; street furniture; and public art and other visual amenities. To the extent that the campus includes a mix of campus-related uses that serve students and neighborhood residents (*e.g.*, cafes, bookstores, day care facilities, health facilities, libraries, and meeting spaces), the University shall endeavor to locate such uses at the public street level in order to enhance the neighborhood and create a vital pedestrian environment.

STANDARD A-4: Gateways. Gateways to the campus shall be designed to signify the arrival to a distinct place and shall be clearly articulated through the use of elements such as distinguishing architecture, landscaping, signage, lighting, and other amenities. The key campus gateways are at Deering Avenue and Falmouth Street, Deering Avenue and Bedford Street, Durham Street and Falmouth Street, and Forest Avenue and Bedford Street.

STANDARD A-5: Views and Landmarks. View corridors and terminations to landmarks such as campus buildings, city buildings and natural resources, shall be highlighted with design elements such as significant architectural features, quality materials, landscaping, public art or other visual amenities. View corridors and termination points shall include the view up Bedford Street and west across Deering Ave., and other important views as may be identified during campus planning and the City's development review process.

PRINCIPLE B Access and Circulation

Campus streets and sidewalks shall be scaled for expected traffic; encourage pedestrian, bicycle, and transit activity; and connect to neighborhood streets and sidewalks.

STANDARD B-1: Connectivity. An internal campus circulation system shall coordinate and intersect with neighborhood streets and sidewalks at multiple access points.

STANDARD B-2: Circulation. A primary circulation system shall be developed through the creation of streets, sidewalks and walkways at ground level. A secondary circulation system shall be provided internally within non-residential buildings through the use of fully functioning entrances on every side of a building, and internal corridors that permeate through buildings unless the building program precludes such design for security reasons (See Standard D-5). Skywalks shall be utilized only when a compelling case can be made for the need from a pedestrian safety or traffic management perspective.

STANDARD B-3: Multi-modality. New development shall relate to a campus circulation system that serves pedestrians/bicyclists, autos, public transportation, service vehicles, and emergency vehicles. New development along transit corridors shall provide convenient and accessible routes from the building to the nearest transit stop.

STANDARD B-4: Traffic-calming. Circulation improvements internal to the campus shall be designed to create a pedestrian-oriented environment and to discourage speed. Appropriate traffic calming measures may include gateway treatments that signal arrival in to the campus environment, corner neck-downs, narrowed travel lanes, roundabouts, speed tables, and other devices. Development along public streets shall be designed with traffic calming measures to the extent allowed by City and State policies and requirements at a minimum.

STANDARD B-5: Sidewalks. Clay brick sidewalks shall be provided on both sides of all public streets. New sidewalks along public streets shall be at least 8 feet wide, except where it can be demonstrated that site constraints preclude such width.

STANDARD B-6: Street lights. Streetlights along public streets shall be pedestrian in scale and distinctive in design in order to help establish an identity for the neighborhood.

PRINCIPLE C Parking, Loading and Service Areas

Parking structures shall be designed and located so as to present an attractive façade to neighboring uses in order to minimize the impact along streets and residential areas. Surface parking lots shall be sited and designed to minimize their visual presence on the campus.

STANDARDS C-1: Structures. Parking structures shall be compatible with adjacent uses and architecture in form, bulk, massing, articulation, and materials. Parking structures shall incorporate architectural design elements in order to achieve visual interest on street frontage facades, and along major pedestrian ways, for the full height of the structure, that serve to enhance the pedestrian experience.

STANDARD C-2: Active Uses: Parking structures shall incorporate liner buildings or enclosed active uses on the first floor along all primary frontages (excluding frontage dedicated to entrances, lobbies, and stair towers). Such space shall be provided with a minimum of 9 foot floor to ceiling clearance height and a 25 foot depth (measured from the exterior building wall). Alternatively, the parking structures may be set back at least 35 feet from the primary street right of way and that space shall not be occupied by surface parking or access lanes, and shall be designated for future development. The set back space shall be provided with all stubbed utilities and other provisions needed to accommodate further development.

STANDARD C-3: Decks and Ramps. Parking structures shall have horizontal decks on all levels where the decks are visible from the public rights of way. Ramps and non- horizontal parking decks shall be screened from all visible angles and shall not be permitted

on facades located along or within 45 feet of a public street (Note: such space would allow for the construction of a liner building and a ten foot separation).

STANDARD C-4: Surface Lots. Parking lots shall be located behind buildings or to the side of existing or future buildings, but shall not occupy more than 64 feet of public street frontage within 45 feet of the street right of way (to allow for a future building). The areas devoted to surface parking shall be screened from streets, walkways, and significant views through the use of design elements such as plantings, fencing, grade changes, and/or walls.

STANDARD C-5: Loading and Service Areas. Wherever possible, loading ramps and service entrances shall be located near industrial uses, such as along Durham Street. Loading ramps and service entrances shall be located at the rear or side of structures. If visible from the public right of way, the garage doors shall be minimized and the loading shall be screened from view and with materials, colors and finishes that are consistent with the exterior elevations of the overall building. Buildings that face more than one public street shall have loading and service entrances oriented to the more secondary street.

STANDARD C-6: Utility Services. Service and utility infrastructure such as power generators, HVAC, fuel tanks and similar campus or building services shall be located unobtrusively and shall be visually screened from adjacent residences and shall not result in adverse visual and audible or other impacts on adjacent residential properties.

PRINCIPLE D Architectural Design

All new buildings shall be designed to create a visual connection with existing campus buildings with a goal of achieving a cohesive campus appearance. Buildings shall be characterized by excellence in architectural design, craftsmanship, materials, signage and lighting appropriate for a university in an urban setting in the Northeast.

STANDARD D-1: Height. Building heights along campus edges shall transition to the scale of adjacent off campus development through design elements such as stepbacks, variations in massing, and through the use of design details and materials.

STANDARD D-2: Setbacks. Buildings along public streets shall have a front yard setback that does not exceed ten (10) feet from the street right of way, except where existing campus buildings create a consistent street wall, in which instance the setback may conform to that existing street wall. An alternative would be to create a landscaped design feature such as a boulevard for vehicles, or a promenade for pedestrian access, and to set the building back along the line of this feature.

STANDARD D-3: Stepbacks. The street wall heights of campus buildings on Falmouth Street shall be stepped back 15 feet minimum once they exceed 50% more height than the average height of the buildings in close proximity, across the street.

STANDARD D-4: Massing. Facades visible from public streets shall incorporate design elements that break the facades into components scaled to the context of buildings on

the street. Buildings shall include features such as expression of the building's base, middle and top, vertical fenestration, variation in the planes of the façade, and architectural details such as trim, entries, balconies, cornices, etc. No more than 20 consecutive linear feet of blank wall shall be allowed at the first floor level along public streets. Windows and functional doors shall be used to break up blank walls. Design elements such as pilasters, materials, permanent artwork, distinctive lighting and/or landscaping may be used to mitigate blank walls if it can be demonstrated that the purposes of the building interior preclude the use of windows or functional doors every 20 feet at the first floor level.

STANDARD D-5: Entrances. Buildings along public streets shall have the primary entrances oriented to the street. Buildings that are internal to the campus shall have primary entrances oriented to major pedestrian corridors. Primary entrances may not be oriented to a parking lot. Academic buildings shall be permeable and accessible on all sides unless the building program precludes such design for reasonably necessary security purposes. Dormitory buildings are only required to have one entrance for security purposes. All building entrances should be fully functional in design and use and shall provide access to lobbies, elevators, stairs and common areas. Primary entrances shall be emphasized and integrated into the design of the building through features such as expressed or recessed entries, trim detailing, lighting, and landscaping. Entrances shall be scaled to the overall massing of the building.

STANDARD D-6: Windows. Windows with a visible transmittance of .7 or greater shall be located on all facades visible from public ways in order to provide light and views internally, and to provide security and vitality to external spaces. Window style shall be appropriate to the overall building style and scaled to the overall massing. The first floor transparency along public streets shall be equal to at least 50% of the wall area between the height of 2 and 9 feet. Upper floors of all new buildings shall have at least 15% to 40% transparency of wall surface along public street facades, with the range depending on program requirements. If it can be demonstrated that the building program precludes transparent windows along first floor street frontages, then other surface details shall be used (See Standard D-4).

STANDARD D-7: Materials. Facades visible from public rights of way shall use natural building materials that are considered to be permanent for 100 years. Predominant materials shall be brick, stone, precast concrete and other masonry products, wood, glass and high quality metals such as titanium and copper. Renewable and recyclable materials approved for use by LEED Standards (Leadership in Environmental Design) may be used. Low grade materials such as enamel metal panels and exterior insulation and finish systems (EIFS), panelized "thin brick", fiber-cement or cementitious panel siding, vinyl siding or vinyl dimensional stock, or stucco shall not be used on facades visible from public rights of way. Fiber-cement clapboard and shingles may be used but shall be installed with a reveal commonly found on the street.

First floor windows shall use untinted or lightly tinted glass, or the minimum tint needed to meet LEED Standards. Upper windows shall use untinted, lightly tinted, or the minimum tint needed to meet LEED Standards, or spandrel glass. Heavily tinted or reflective glass shall

not be allowed on facades that are visible from public rights of way. The selection of façade materials shall be consistent with the façade design (e.g. brick facing should not appear to be thin layers on the façade, or to overhang without apparent support). Loading and service areas and rooftop appurtenances that are visible from public rights of way shall be screened with materials, colors and finishes that are consistent with the overall building. Public spaces shall be constructed of permanent, durable materials such as concrete, brick or stone.

STANDARD D-8: Signage. New buildings shall have a building name and street address mounted in a location that is highly visible from public rights of way by both pedestrians and motorists. The size of the lettering shall be proportional to the size of the building. Building signage shall be made of high-quality permanent materials such as fabricated dimensional lettering or cut or cast metal lettering that is pinned to the building, carved stone or concrete, or painted wood or glass. Internally illuminated or screen printed plastic signage shall not be allowed on facades visible from public rights of way.

STANDARD D-9: Historic Structures. Historic structures shall be rehabilitated in a way that is consistent with their original architectural intent. New additions to historic buildings shall be designed to be compatible with the original structure in size, style, and material, and should result in the minimum necessary loss of original architectural material.

STANDARD D-10: Original Residential Structures The architectural and structural integrity of buildings that were originally residential uses shall be preserved when such buildings are renovated or enlarged. If a common treatment is utilized (i.e. the same siding is used for all university structures that were originally residential structures), the treatment must reflect the original residential character of the building and of other buildings on the street (e.g. contrasting paint between the trim and body of the structure, and building details which are expressed). Original siding shall be preserved, repaired or replaced with like material as needed. Vinyl siding and vinyl dimensional stock shall not be allowed. Fiber-cement clapboard and shingles may be used but shall be installed with a reveal commonly found on the street. Windows, doors and other features shall be preserved, repaired or replaced in a manner consistent with the original residential character of the building. Signage on buildings that were originally residential structures shall be subdued, and in scale with the building. This Standard D-10 does not apply to replacement buildings.

Planning and Development Design Manual RN-3 Residential Development Design Standards

Residential development in the RN-3 zone shall comply with the following standards. The general intent of these standards is to achieve an attractive and comfortable neighborhood environment and to ensure that residential development in the RN-3 zone be designed to be architecturally compatible with the residential buildings in the surrounding neighborhood. Except where stated otherwise, these standards shall apply to the front façade and those portions of the building that are visible from the public way.

1. **Context:** Residential development shall include design elements that reinforce the context and existing character of the neighborhood, and enhance the streetscape. Neighborhood context refers to the existing residential development within a two block radius of the site. The more definite and easily discernable traits within an established neighborhood shall serve as a basis for a design solution.
2. **Public Realm:** The public realm of open space, sidewalks and streets shall be reinforced through appropriately scaled entries, porches, fenestration, architectural details and landscaping. The transition space between the street and the primary building entrance shall include features such as porches, stoops, covered entries, landscaping or other measures to delineate the space.
3. **Massing:** The building's massing (as defined by its size, scale, and form) shall be consistent with existing residential buildings in a two block radius.
4. **Orientation:** Principal facades, primary entrances, porches and bays shall orient to the street, not to interior blocks or parking lots. The primary entrance shall either face the street, or be located on the side with a covered porch (minimum six feet wide) that extends to the front of the building. The slope of the roof shall be either parallel or perpendicular to the street.
5. **Articulation:** Facades shall be articulated with architectural details that create visual interest consistent with the context of the neighborhood. The primary façade and all facades visible from public ways shall include at least two of the following architectural details: gables or dormers, balconies, bay windows, recessed entries, covered porches (minimum six feet wide), covered entries, or stoops. The area of fenestration shall be a minimum of 25% of the total area of street facing façades. Windows shall be included on all sides of a building. The rhythm, size and proportion of door, window and other openings shall be proportional to the overall massing of the building, and consistent with existing residential buildings in a two block radius.
6. **Garages.** Attached and detached garages shall be oriented to the side, or oriented to the street as long as the garage is set back from the primary façade by a minimum of four feet. In such case, the total width of the garage door(s) shall be less than 40% of the overall building width (however, the garage door shall not be required to be reduced to less than 9 feet wide).
7. **Roofs:** Roofs shall be peaked, unless evidence can be shown for an alternative roof form that is predominant on existing residential buildings in a two block radius. Buildings shall have

a main roof form, and subsidiary roofs (except for porch roofs) shall follow the pitch and form of the main roof. Rooflines shall have a cornice treatment.

8. **Materials:** Building materials shall be consistent with the context and overall character of the neighborhood. Façade materials shall provide visual cohesion. Chimneys shall be brick, finished metal, stone or boxed in.

9. **Sound:** Provide visual and acoustical privacy between units

10. **Light and air:** Maximize natural light and ventilation with units.

Enacted 04-13-04
Revisions Approved 02-23-07
Revisions Approved 05-08-18

RN-4 Development Design Principles & Standards

I. PURPOSE

All developers, no matter how small their project, have a responsibility beyond simply meeting the needs of their end users. They have a public responsibility to add to and enhance the neighborhoods in which their projects are built.

New residential construction within Portland's compact RN-4 zones should relate to the predominant character defining features of the neighborhood. The design of new development is critical, particularly elements such as the orientation and placement of a building on a site; relationship to the street; and mass, form and materials.

The *RN-4 Development Design Principles & Standards* aims to ensure that housing development makes a positive contribution to the City's neighborhoods. The intent is to ensure that housing is compatible with the neighborhood and meets a high standard of building design, while allowing for diversity of design.

Projects will be reviewed for consistency with *RN-4 Development Design Principles and Standards*. These principles and standards are interdependent and should be considered holistically. The applicant must demonstrate that a proposal is consistent with the Design Principles. The standards are time-honored ways of achieving the Principles.

Unless otherwise indicated, the RN-4 Design Principles and Standards shall apply to the front façade and those portions of the building that are readily visible from the public way.

Unless otherwise indicated, the RN-4 Design Principles and Standards shall define "Neighborhood" as the buildings within a two block radius of the site. Special attention shall be given to the existing buildings on both sides of the street within the block of the proposed site. If the building is proposed on a corner lot, then buildings on the adjoining block shall also be considered. The Planning Authority may determine other considerations that shall be made of the proposed building in relation to the neighborhood, due to unique characteristics of a given site.

II. SUBMITTAL REQUIREMENTS

In order to illustrate neighborhood context for a proposal, the applicant shall submit photographs or other visual tools to depict the buildings within a two block radius of the site in order to determine the building elements that contribute to and are compatible with the predominant character defining architectural features of the neighborhood.

Special attention shall be given to the existing buildings on both sides of the street within the block of the proposed site. If the building is proposed on a corner lot, then depictions of buildings on the adjoining block shall also be required.

The Planning Authority may request that consideration be made of buildings in the neighborhood that are comparable in size, scale and use to that which is being proposed, or that consideration be made of the characteristics of buildings which were originally designed for a similar use to that which is proposed. The Planning Authority may determine other considerations that shall be made of the proposed building in relation to the neighborhood, due to unique characteristics of a given site. The Planning Authority may determine the neighborhood to be greater than a two block radius, due to unique characteristics of a given site. In such case, the Planning Authority shall determine the scope of the neighborhood.

Samples of the proposed exterior materials may be requested by the Planning Authority.

II. DESIGN PRINCIPLES AND STANDARDS

PRINCIPLE A Overall Context

A building design shall contribute to and be compatible with the predominant character-defining architectural features of the neighborhood.

Explanatory Note: The central idea behind good design in an established neighborhood is to reinforce positive features of the surrounding area, which provide its unique identity. To a large degree, the scale, mass, orientation, and articulation of an infill building should be compatible with that of the buildings that surround it.

Compatibility refers to the recognition of patterns and characteristics which exist in a given setting and the responsiveness of a new design with respect to these established patterns and characteristics. While there is no one specific solution for a given setting, there are a number of building characteristics which can be used to gauge visual compatibility of new residential construction in an existing neighborhood. These characteristics include design elements such as:

1. Scale and Form: height, massing, proportion of principal facades, roof shapes and scale of the architectural features of the structure.

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2. Composition of Principal Facades: proportion of facades; orientation of openings; ratio of solids to openings; rhythm of fenestration; entrance porches and other projections; and relations of materials, texture and color.
3. Relationship to the Street: walls of continuity; rhythm of spacing and structures on streets; and orientation of principal elevations and entrances to the street.

Each infill project will have a unique context of surrounding structures and sites with some strong, unifying characteristics, and some that are subtle and less obvious. The more definite and easily discernable traits within an established neighborhood should serve as a basis for a design solution, which can reinforce the positive characteristics of the surrounding development patterns. On corner properties, where the architecture has a greater visual impact upon adjacent public spaces, both public facades will be evaluated with equal care.

STANDARD A-1 Scale and Form Relate the scale and form of the new building to those found in residential buildings within a two-block radius of the site, that contribute to and are compatible with the predominant character-defining architectural features of the neighborhood. Special attention shall be given to the existing building forms on both sides of the street within the block of the proposed site.

STANDARD A-2 Composition of Principal Facades Relate the composition of the new building façade, including rhythm, size, orientation and proportion of window and door openings, to the facades of residential buildings within a two-block radius of the site that contribute to and are compatible with the predominant character-defining architectural features of the neighborhood. Special attention shall be given to the existing facades on both side of the street within the block of the proposed site.

STANDARD A-3 Relationship to the Street Respect the rhythm, spacing, and orientation of residential structures along a street within a two-block radius of the site that contribute to and are compatible with the predominant character-defining architectural features of the neighborhood. Special attention shall be given to the existing streetscape on both side of the street within the block of the proposed site.

PRINCIPLE B Massing

The massing of the building reflects and reinforces the traditional building character of the neighborhood through a well composed form, shape and volume.

Explanatory Note: Massing is a significant factor that contributes to the character of a building. The building's massing (as defined by its bulk, size, physical volume, scale, shape and form) should be harmonious with the massing of existing buildings in a two block radius. The massing of a building can be defined as the overall geometry (length, width, and height) of its perceived form. The overall height of the form (actual and perceived) as well as the geometry of its roof is of particular importance in defining the massing of a building.

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STANDARD B-1 Massing The building's massing (as defined by its bulk, size, physical volume, scale, shape and form) should be harmonious with the massing of existing buildings in a two block radius. Special attention shall be given to the existing building massing on both sides of the street within the block of the proposed site.

STANDARD B -2 Roof Forms Roof forms shall refer to the architectural forms found within a two-block radius of the site that contribute to and are compatible with the predominant character-defining architectural features of the neighborhood. Special attention shall be given to the existing roof forms on both side of the street within the block of the proposed site.

STANDARD B -3 Main Roofs and Subsidiary Roofs The building shall have a clear main roof form. Subsidiary roof forms and dormers shall be clearly subordinate to the main form in size, space and number. Where a building has multiple rooflines (e.g., main roof, dormer roof, porch roof, etc.) there shall not be more that two roof pitches or outlines overall.

STANDARD B-4 Roof Pitch Gable roofs shall be symmetrical with a pitch of between 7:12 and 12:12. Hip roofs with a shallow pitch and flat roofs shall have a cornice of at least 12 inches in width. The slope of the roof may be either parallel or perpendicular to the street. Monopitch (shed) roofs are allowed only if they are attached to the wall of the main building. No mono pitch roofs shall be less than 7:12, except for porch roofs. There is no minimum pitch for porch roofs.

STANDARD B-5 Facade Articulation Provide variety in the massing by incorporating at least two or more of the following architectural elements. Such features shall be applied to the front façade and those portions of the building that are readily visible from the public way.

1. Gables or dormers.
2. Balconies.
3. Recessed entries.
4. Covered porches, covered entries or stoops.
5. Bay windows. In the case of horizontally attached dwelling units, at least one-half of the ground floor units shall have a bay window to receive credit as a design feature.

STANDARD B-6 Garages Attached and detached garages are allowed provided that the street-facing façade of the garage is recessed behind the façade of the main structure by a minimum of four feet. However, if the garage is integrated into the building form, the garage door may be included into the front façade of the dwelling providing that there are at least one story of living space over the garage. In this instance, the garage door width may be no more than 40% of the width of the building's overall façade width, except that no garage door need be reduced to less than 9 feet in width. Standard C-2 is not required if there is no living space on the ground level.

PRINCIPLE C Orientation to the Street

The building's façade shall reinforce a sense of the public realm of the sidewalk while providing a sense of transition into the private realm of the home.

Explanatory Note: An important component of the neighborhood's character is the relation of dwellings to the sidewalk and the street. Design of dwellings can enhance the pedestrian friendliness and sociability of the streetscape while protecting the privacy of the residents' internal home life.

STANDARD C-1 Entrances Emphasize and orient the main entrance to the street. The main entrance of the structure shall either face the street and be clearly articulated through the use of architectural detailing and massing features such as a porch, stoop, portico, arcade, recessed entry, covered entry, trim or be located on the side and be accessed by a covered porch that extends to the front of the building, at the primary street frontage.

STANDARD C-2 Visual Privacy Ensure the visual privacy of occupants of dwellings through such means as placing the window sill height at least 48" above the adjoining sidewalk grade; providing the finished floor elevation of a residence a minimum of 24" above sidewalk elevation; incorporating porches along the front side of the building façade design; or other measures.

STANDARD C-3 Transition Spaces Create a transition space between the street and the front door with the use of such features as porches, stoops, porticos, arcades, recessed entries, covered entries, trim, sidewalk gardens or similar elements.

PRINCIPLE D Proportion and Scale

Building proportions must be harmonious and individual building elements shall be human scaled.

Explanatory Note: Throughout the history of architecture certain proportions have become known as classical proportions which have endured as aesthetically pleasing regardless of the style of architecture or the culture of origin. Scale has to do with the size of the architectural components in relation to the overall building size, and also in relation to the predominant character defining architectural features of the neighborhood.

STANDARD D-1 Windows The majority of windows shall be rectangular and vertically proportioned. The use of classical proportions is encouraged. Special accent windows may be circular, square or regular polygons. Doorways, windows and other openings in the façade (fenestrations) shall have a proportional relationship to the overall massing of the building.

STANDARD D-2 Fenestration Doorways, windows and other openings (fenestration) shall be scaled appropriately to the overall massing of the building. The area of fenestration of the front façade (and for corner lots, both street-facing facades) shall be at least 12% of the total

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façade area. Appropriately scaled windows or other building openings shall be included on all sides of a building.

STANDARD D-3 Porches When porches are attached to the front façade, the porches shall extend along a horizontal line at least 20% of the front façade. Porches and balconies must have a minimum depth of 6 feet and a minimum square footage of 48 square feet. The depth may be reduced to 5 feet provided that the square footage is increased to 60 square feet.

PRINCIPLE E Balance

The building's façade elements must create a sense of balance by employing local or overall symmetry and by appropriate alignment of building forms, features and elements.

Explanatory Note: Balance refers to the composition of façade elements. Symmetry refers to the balanced distribution of equivalent forms and spaces about a common line (axis) or point (center). Overall symmetry refers to arrangements around an axis line that bisects the building façade equally. Local symmetry refers to arrangements around an axis line that focuses on a particular building element (e.g., a porch or bay window). A balanced façade composition generally employs overall or local symmetry.

Alignment refers to the position of building elements with each other and with the building form as determined by scale, mass, roofline, slopes, etc.

STANDARD E-1 Window and Door Height The majority of window's and door's head heights shall align along a common horizontal datum line.

STANDARD E-2: Window and Door Alignment The majority of windows shall stack so that centerlines of windows are in vertical alignment.

STANDARD E-3: Symmetricality Primary window compositions (the relationship of two or more windows) shall be arranged symmetrically around the building façade's centerline (overall symmetry) or around another discernable vertical axis line.

PRINCIPLE F Articulation

The design of the building is articulated to create a visually interesting and well composed residential façade.

Explanatory Note: Articulation refers to the manner in which the shapes, volumes, architectural elements and materials of a building's surface are differentiated yet work together. A well-composed building articulation adds visual interest and individual identity to a home while maintaining an overall composition.

STANDARD F-1 Articulation Buildings shall provide surface articulation by employing such features such as dimensional trim, window reveals, or similar elements appropriate to the style of the building. Trim and details shall be designed and detailed consistently on the facades visible from the public right of way.

STANDARD F-2 Window Types Window patterns shall be composed of no more than two window types and sizes except where there is a design justification for alternate window forms..

STANDARD F-3 Visual Cohesion Excessive variations in siding material shall not be allowed if such changes disrupt the visual cohesion of the façade. Materials shall be arranged so that the visually heavier material, such as masonry or material resembling masonry, is installed below lighter material, such as wood cladding.

STANDARD F-4 Delineation between Floors Buildings shall delineate the boundary between each floor of the structure through such features as belt courses, cornice lines, porch roofs, window head trim or similar architectural features.

STANDARD F-5: Porches, etc. Porches, decks, balconies, stoops and entryways shall be architecturally integrated into the overall design of the building in a manner that compliments its massing, material, and details. Multilevel porches and balconies on front facades shall not obscure the architectural features of the façade. Use of rail/baluster systems with appropriate openings between rails, stepping back balconies from the front plane of the building face, or other appropriate design features shall be employed to achieve this standard.

STANDARD F-6: Main Entries Main entries shall be emphasized and shall be integrated architecturally into the design of the building, using such features as porch or stoop forms, porticos, recessed entries, trim or a combination of such features, so that the entry is oriented to the street.

STANDARD F-8: Articulation Provide articulation to the building by incorporating the following architectural elements. Such features shall be on all façades facing and adjacent to the street.

1. Eaves and rakes shall have a minimum projection of 6 inches.

2. All exterior façade trim such as that used for windows, doors, corner boards and other trim, shall have a minimum width of 4 inches except for buildings with masonry exteriors.
3. If there are off sets in building faces or roof forms, the off sets shall be a minimum of 12 inches.
4. Pronounced and decorative cornices.

PRINCIPLE G Materials

Building facades shall utilize appropriate building materials that are harmonious with the character defining materials and architectural features of the neighborhood.

STANDARD G-1 Materials Use materials and treatments for the exterior walls (including foundation walls) and roofing that are harmonious with those in buildings within a two-block radius of the site that contribute to and are compatible with the predominant character- defining architectural features of the neighborhood. Special attention shall be given to the existing building forms on both sides of the street within the block of the proposed site.

STANDARD G-2 Material and Façade Design The selection of façade materials shall be consistent with the façade design and appropriate to their nature. For example, brick facing should not appear to be thin layers on the façade, or to overhang without apparent support.

STANDARD G-3 Chimneys Chimneys shall be of brick, finished metal, stone or boxed- in and clad with materials to match the building.

STANDARD G-4 Window Types A variety of window treatments and skylights are acceptable. However, within a single building the types of windows shall be limited to two types, and window detailing shall be consistent throughout.

STANDARD G-5 Patios and Plazas Patios and plazas shall be constructed of permanent materials such as concrete, brick or stone.

IV. ALTERNATIVE DESIGN REVIEW (revised 5.8.18)

The Standards listed above are time-honored ways of achieving the Design Principles. With exceptional care, though, it is possible to apply a design approach that meets the Principles through alternatives that vary from the Standards, while maintaining and relating to the predominant character-defining architectural elements of the neighborhood, such as the building location on the site, its relationship to the street, and its mass, form, and materials. New construction under the Alternative Design Review should result in exemplary design and be compatible with the surrounding buildings in a two-block radius, in size, scale, materials and siting, but with consideration to building type, as well as the general character of the established neighborhood. The review authority may determine the neighborhood to differ from a two-block

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radius, due to unique characteristics of a given site or proposal. In such case, the review authority shall determine the scope of the neighborhood.

In review, special attention shall be given to the existing buildings on both sides of the street within the block of the proposed site. If the building is proposed on a corner lot, then depictions of buildings on the adjoining block shall also be required. The review authority should consider buildings in the neighborhood that are comparable in size, scale, type, and use to that which is being proposed, or that consideration be made of the characteristics of buildings which were originally designed for a similar use to that which is proposed. The review authority may determine other considerations that shall be made of the proposed building in relation to the neighborhood, due to unique characteristics of a given site. In addition, when evaluating a proposed project, the review authority may grant design flexibility when social and environmental public benefits are proposed as part of the project. Examples include designs that accommodate sustainable design best practices, alternative energy sources, green roofs, or affordable housing units that may require a design character that varies from the predominant built patterns. The applicant shall provide documentation of the contextual characteristics as guidance for review.

- A. An applicant may propose an alternative design approach and request an Alternative Design Review Design Certificate. The Planning Authority under an Alternative Design Review may grant a Design Certificate to approve a design not meeting one or more of the individual standards provided that all of the conditions listed below are met. The proposed design is consistent with all of the Principle Statements.
- B. The majority of the Standards within each Principle are met.
- C. The guiding principle for new construction under the alternative design review is to be compatible with the surrounding buildings in a two block radius in terms of size, scale, materials and siting, as well as the general character of the established neighborhood, thus Standards A-1 through A-3 shall be met.
- D. The design plan is prepared by an architect registered in the State of Maine.

The **Building Design Standards (BDS)** contained herein address the quality of the India Street Neighborhood urban environment, recognizing that it is ultimately formed by numerous individual, private creative decisions. The BDS provide an overview of how to create a pedestrian-oriented, visually cohesive, and economically vital neighborhood. They are designed to promote a clear, consistent, and predictable process for the redevelopment of land within the India Street Neighborhood.

Description of Terms

Design review is mandatory for all new construction and ADDITION projects in the India Street Form-based Code zone. The goals and requirements of the design review are listed under three headings for each review issue: **Intent, Guidelines, and Standards**. Descriptions for each are as follows:

Intent: Intent statements are provided to define goals which the guidelines and standards have been created to achieve. In circumstances where the appropriateness or applicability of a guideline or standard is in question or under negotiation, the intent statement will provide additional direction.

Guidelines: Design Guidelines provide further considerations to promote the goals defined by the intent statements. Guidelines use the term “should” or “may” to denote they are considered relevant to achieving the stated intent, and will be pertinent to the review process but will not be required for approval. Guidelines will, however, be strongly considered when there is a request to waive a related standard.

Standards: Design standards are objective criteria that provide specific direction based on the stated intent. Standards are used to denote issues that are considered critical to achieving the stated intent. Standards use the term “shall” to indicate that compliance is required unless it can be demonstrated that an acceptable alternative meets one or more of the following conditions in which case a waiver may be requested:

- The alternative better achieves the stated intent;
- The intent which the standard was created to address will not be achieved by application of the standard in this particular circumstance;
- The application of the other standards and guidelines to achieve stated intents will be improved by not applying this standard;
- Unique site factors make the standard impractical or cost prohibitive.

1. Neighborhood Context

Intent

- Promote thoughtful architectural relationships between new and existing buildings and between adjacent urban neighborhoods
- Spatially define the street space to concentrate pedestrian activity and create a clear urban character and street wall edge
- Reinforce the distinctions between public and private spaces and uses
- Promote active ground levels and streets (**especially in the UA Subdistrict**)

Guidelines

- New construction and ADDITIONS should respect the surrounding context demonstrating recognition of patterns and characteristics that exist in the context sharing the same streetscape. Such patterns and characteristics include:
 - Rhythm of spacing and structures on the streetscape
 - Relationship of neighboring structures to the street
 - Proportion, directional expression, and composition of principal FACADES
 - Rhythm of solids to voids in FACADES
 - Rhythm and proportion of openings
 - Rhythm of entries and projections
 - Relationship of materials, texture, and color
 - Roof shapes

2. Massing & Proportion

Intent

- Ensure the provision of human-scaled architecture, especially at the pedestrian level
- Provide building massing that relates to the scale and proportions that exist in the context sharing the same streetscape

Guidelines

- Large scale architectural choices and variations in the building form, mass, and proportion should reflect surround lot and block patterns and relate to the scale of surrounding buildings and the context in which it is seen.
- The impact of large-scale forms should be mitigated by large-scale variations in the building form, mass, and proportion such as stepping back an upper floor, or a change in the direction of a wall or roof line.
- Variation in building massing may include changes in wall plane or height and may relate to primary building entries, important corners, or other significant architectural features.
- Building FACADES should be designed using simple proportions such as the rational (1:1, 2:1, 3:2, 4:3, etc.) or the irrational (the square root of 2 and the golden ratio).

Standards

- 2.1 In cases where a building uses ground floor partitions to achieve additional building length, the following applies:
- Partitions must extend from the FACADE at least 2/3rds of the building depth; pass-through openings are allowed
 - Partitions must be architecturally expressed on the exterior FACADE
 - Each module created by partition must have at least one functional, street-facing entry
 - Modules created by partition shall be sized to have reasonable function and proportion in relation to overall building length

3. Articulation & Composition

Intent

- Create a well-detailed and visually interesting urban environment through FACADE composition and architectural detail
- Provide for comfort and interest in the pedestrian environment through human-scaled architectural character
- Avoid creating large areas of inactive or inhospitable street wall
- Establish architectural scale patterns or features that relate to adjacent buildings

Guidelines

- Architectural scaling elements should be used to break down the appearance of large building FACADES into authentic architectural patterns and component building forms.
- Building FACADES should provide variation corresponding to architectural or structural bays.
- Find common reference lines to surrounding built context, examples of which include EXPRESSION LINES, change of material, delineation of floors, window alignment, and roof line alignment.
- Variation in building massing and detail should relate to the scale and function of pedestrian-oriented uses along the street.
- A sense of enclosure for the pedestrian environment should be provided using building articulation either at the ground level, upper floors, or roof line.
- The ground floor of buildings should be clearly expressed by the articulation of forms and details. Special ground level features such as canopies, awnings, storefront, and emphasized entrances lend richness to the street.
- Required articulation elements should be integral to the building form and construction, not a thinly applied veneer.
- Architectural detail may relate to but not necessarily mimic traditional building details to establish a human-scale vocabulary. Detail patterns may also relate to the inherent formal qualities of architectural structural systems.
- Projections such as balconies and terraces should be incorporated into vertical and horizontal shifts in building massing to avoid building FACADES that cantilever into the streetscape and public space.
- BLANK FACADES should be avoided.

Standards

3.1 Each building facade shall incorporate at least three of the following elements (listed in descending order of impact):

- Expression of building structural elements such as floors (e.g. banding, belt courses), columns (e.g. pilasters, piers), and/or foundations (e.g. watertables, rustication)
- Projections such as stoops, porches, bay windows, overhangs
- Recessed entrances and/or windows into the FACADE to create depth and shadow lines
- Projections or unique design features at building entrances or corners such as trellises, canopies, awnings
- EXPRESSION LINES such as at roof lines (e.g. cornices, moldings, trims, fascia boards, overhangs, parapets), and/or floor delineation (e.g. belt courses, railings, material changes)
- Patterns of window and/or door openings that are emphasized through change of plane (not less than 4" deep) and/or the use of sills, lintels, mullions, muntins, and other scale-providing elements
- Changes in material type, texture, pattern, module, and/or color
- Patterns of architectural ornament integral to the building material

3.2 Each change of material shall involve at least 1" variation in wall plane. Reveals shall not be less than 1" deep and 1" wide.

3.3 BLANK FACADES shall be limited as follows:

BLANK FACADES	UN	UT	UA
Maximum Length	15'	30'	15'

Articulation Elements: Examples



Base/Middle/Top, Bay projections, Recessed entry, Delineation of floors, Lintels, Overhang cornice



Expressed structural elements, Arcade, Fenestration recessed from building face, Change of materials, Lintels, Cornice

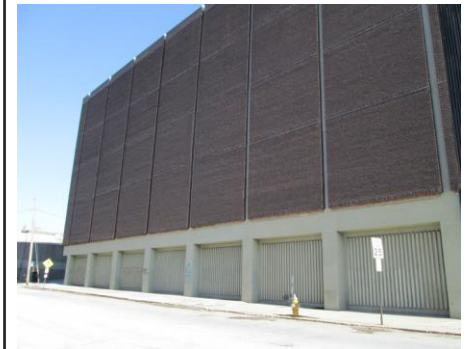


Delineation of floors, Recessed entry, Window details create scale, Change of materials, Parapet rail, Stepback

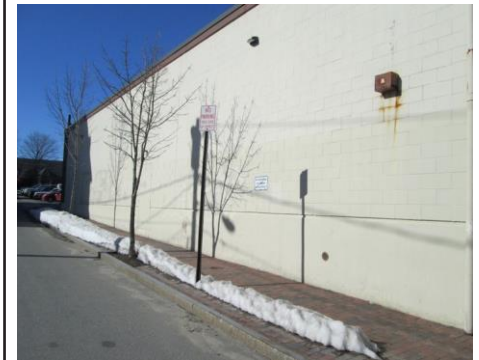


Base/Middle/Top, Change of facade planes, Recessed entry, Storefront, Window details create scale, Stepback, Overhang Cornice line

Blank Facades: Examples



In-active wall with articulation - Preferred
Visual interest created with Expressed structural elements, Change in material, Material scale and texture, Change of planes



BLANK FACADE - Not preferred
Lack of visual interest because of No openings, Flat wall without change of planes, Lack of material scale or texture

4. Fenestration

Intent

- Provide visibility that reinforces the safety and activity of the street **(especially in the UA Subdistrict)**
- Emphasize and distinguish between uses and functions within the building
- Provide visual interest and scale through fenestration patterns, material variation, detail, and surface relief

Guidelines

- FACADE design facing streets where activity is encouraged (especially in the UA Subdistrict) should have a high level of visual transparency at the ground level.
- Fenestration should punctuate FACADES providing scale and pattern.
- Fenestration location, variation, and patterns should be used to emphasize building features such as entries, shifts in building form, or different functions.
- Recessed glazing, casement details, and mullion patterns may be used to provide depth and substance to the building façade and should consider the play of sunlight across the FACADE.

Standards

- 4.1 Between 60-90% of ground floor UA FACADES shall be constructed of transparent materials or otherwise designed to allow pedestrians to view activities inside the building or displays related to those activities (measured as a percentage of the ground-level FACADES 2' above sidewalk grade). **(UA Subdistrict)**
- 4.2 At least 25% of upper floor FACADES shall be transparent glazing.
- 4.3 Transparent glass shall have a Visual Transmittance (VT) of at least .61.
- 4.4 Areas of the building that are functionally restricted from providing vision glass may be exempted provided other architectural scaling techniques are employed.

5. Building Materials

Intent

- Encourage human-scaled buildings through the use of smaller material modules
- Ensure the consistent use of high-quality materials appropriate to the urban environment and climate

Guidelines

- High-quality materials and design techniques shall be applied. Developments shall use high quality, durable, and authentic materials that exhibit longevity and integrity.
- Building materials and techniques shall reflect or complement the existing materials and techniques within the India Street Form-based Code zone and shall be visually compatible with the predominant materials used in the structures to which they are visually related.
- Building materials used at the lower floors of FACADES shall be of the highest quality and most durable and authentic.
- Building materials used at the lower floors of FACADES should respond to the character of the pedestrian environment through such qualities as scale, texture, color, and detail.
- Carefully detailed combinations of materials should reinforce Section 3. Articulation & Composition requirements.

6. Building Entries

Intent

- Enhance the scale, activity, safety, and function of the public streets by providing frequent entries oriented to the streets
- Reinforce the convenience of pedestrian activity and circulation along the street by creating as many external, street oriented entries as possible to ground floor, pedestrian-active uses

Guidelines

- Each building should have one or more clearly identifiable PRINCIPAL ENTRANCES that addresses the street.
- PRINCIPAL ENTRANCES should be emphasized through changes in wall plane or building massing, canopies or overhangs, differentiation in material and/or color, greater level of detail, enhanced lighting, and/or permanent signage.
- Entries to ground floor uses should be direct and as numerous as possible to encourage active pedestrian use.
- Where possible, garage entrances should be oriented away from the street.

Standards

- 6.1 All buildings shall provide at least one PRINCIPAL ENTRANCE oriented directly to a public street.
- 6.2 If the lot has UA frontage, at least one (1) PRINCIPAL ENTRANCE must directly face the UA street. **(UA subdistrict)**
- 6.3 All street-oriented building entries shall be directly connected to the public sidewalk via paved walk, stair, or ramp.
- 6.4 Each active use with street-level, exterior exposure shall provide at least one direct pedestrian entry from the street.
- 6.5 Recessed entries shall be excluded from the setback requirements.
- 6.6 Garage doors shall not be placed within the 1st Lot Layer.
- 6.7 Frequency and orientation of entries shall be as follows:

	UN	UT	UA
BUILDING ENTRY CONFIGURATION - PRINCIPAL ENTRY(IES) (allowed)			
Street-facing Entry	X	X*	X*
Side Entry	X		
Corner Entry	X	X	X
Elevated Stoop (more than 1 step above sidewalk grade)	X	X	
*At least 1 principal entry must face an UA street			
BUILDING ENTRY CONFIGURATION - NON-PRINCIPAL ENTRY(IES) (allowed)			
Street-facing Entry	X	X	X
Side Entry	X	X	X
Corner Entry	X	X	X**
Elevated Stoop (more than 1 step above sidewalk grade)	X	X	X**
**If corner entry is at an intersection of two subdistricts, elevated stoop is allowed			
ENTRY FREQUENCY			
Entry provided at least every	35'	95'	40'

7. Roof Lines

Intent

- Integrate all building systems within a complete architectural form
- Respect the character of and views from the surrounding context
- Make a positive contribution to the Portland skyline

Guidelines

- The architecture of the building's upper floors and termination should complete the building form within an overall design concept for the base, middle, and top that works in concert with the Section 3. Articulation & Composition requirements.
- Roof forms should consider and respect the context in which it is viewed in terms of height, proportions, form, and materials, whether the context is surrounding buildings, view corridors, or the waterfront.

Standards

- 7.1 All rooftop building systems shall be incorporated into the building form in a manner integral to the building architecture in terms of form and material. All mechanical, electrical, and telecommunications systems shall be screened from view of surrounding streets and structures.
- 7.2 All simple roof forms are allowed in all Subdistricts.

8. Structured Parking

Intent

- Minimize the visual impact of parking structures on adjacent development and the street environment
- Minimize the impact of vehicle noise and headlights from within parking structures on adjacent streets
- Activate street level garage frontage (**especially in the UA Subdistrict**)

Guidelines

- Structured parking should not dominate (exceed 50% in length) any FACADE along a UA street. (**UA subdistrict**)
- Parking structures should use materials and architectural detailing found in the primary development being served.

Standards

- 8.1 Parking structures shall conform to the BDS for Section 3. Articulation & Composition and Section 5. Building Materials.
- 8.2 Parking structures shall be designed to conceal the view of parked cars and internal light sources from adjacent public rights-of-way or open space for the full height of the structure.
- 8.3 FACADE openings which face any public right-of-way or open space shall be vertically and horizontally aligned and the floors on such façades shall be level.
- 8.4 Parking structures shall provide adequate ground floor dimensions to allow use by or conversion to active uses. Adequate dimensions shall include floor-to-floor heights, structural, driving aisle, and utility layouts within 35' of the public right-of-way designed to accommodate occupancy by active uses.

Illustration: Private Residential Building
Typical of the Urban Neighborhood Subdistrict (UN)



Exemplary Design Features

- Building is positioned with a small front yard setback allowing for privacy and stoop but still maintaining the established street wall
- Private function of building is reinforced by raised first floor, elevated entry, and small front yard setback
- Entry is emphasized with stairs and canopy
- Bay window projections break up the building massing
- Fenestration patterns are consistent with surrounding context and function
- Building is grounded with the use of a rusticated masonry watertable at the base
- Visual interest is created with fine grain material texture, corner board and trim, cornice, and shadow lines from bay projections and slight window recess
- Cornice line is articulated with a material change and an overhang which provides a sense of enclosure at the street
- Fence and landscaping are used to maintain the street wall edge

Illustration: Active Commercial Building

Typical of the Urban Active or Urban Transitional Subdistricts (UA or UT)



Exemplary Design Features

- Building is positioned at the property line creating a strong, urban street wall
- Principal Frontage is oriented to the Urban Active (UA) street
- Corner is emphasized with a chamfer and corner entrance
- Ground floor is activated with modular storefront and multiple entries
- Entries are no more than one step above the sidewalk and frequent
- Building structure is expressed with trabeation
- Upper floor fenestration pattern is frequent and consistent with building structure and function
- Visual interest is created with expression lines and material texture and patterns on upper floors, and recessed storefront creating shadow lines

City of Portland Design Manual



PREAMBLE

This Design Manual contained has been promulgated by the Planning Authority pursuant to Sections ~~14-4982.1.10(P)~~2.1.10(P) of the City of Portland's Land Use Code following a public hearing of the Planning Board on ~~May 11, 2010~~December 10, 2024.

The Design Standards and Guidelines contained herein may be periodically modified following a Planning Board Public Hearing pursuant to Section ~~2.1.10(P)14-529~~2.1.10(P) of the City of Portland Land Use Code.

~~The Design Standards and Guidelines and maps contained as appendices to this Design Manual were individually adopted by the Planning Board or City Council following public hearings, as listed below:~~

	Document Title	Adopting Entity	Date of Adoption
	Downtown Urban Design Guidelines	Planning Board	January 18, 1991
	Pedestrian Activity-District Map	City Council	March 11, 2001 Revised: December, 2005
	Downtown View-Corridor Protection Map	City Council	April 10, 2001
	Downtown Height-Overlay Map	City Council	March 11, 2001 Revised: December, 2005
	B1, B1b, B2, B2b-Business Zone Design	Planning Board	February 22, 2000
	University of Southern Maine (USM) Design Standards	Planning Board	May 23, 2006
	Bayside (B7) Design Standards	Planning Board	March 26, 2008
	B-6 Building Height-Overlay & Building Envelopes	City Council	January 7, 2005 Revised: June 1, 2015
	R-5 Small Residential Lot Development and Multiplex Design Standards	Planning Board	May 11, 2010
	R-6 Infill Development Principles and Standards	Planning Board	April 13, 2004 Revised: February 23, 2007

City of Portland Design Manual

Adopted ~~May 11, 2010~~December 10, 2024

			Revised: May 8, 2018
	IS-FBC Building Design Standards	Planning Board	November 2, 2015 Revised: October 18, 2017

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1. Introduction:

Authority:

The City of Portland has promulgated design standards and guidelines for developments within certain zones and/or of a certain development type. The *City of Portland Design Manual* is a compilation of these design standards and guidelines, pursuant to specific provisions contained in Article ~~13~~V, Site Plan. ~~Each section contained herein includes the specific provisions of Article V, Site Plan.~~ Corresponding design standards and guidelines for each section, as applicable, are included in the appendices contained herein and include a reference to the applicable site plan ordinance provision to which it applies.

Note to Applicants:

- 1) Design review under the site plan ordinance is intended to achieve development that contributes to and enhances the goals, policies and vision for specific districts of Portland, and ensures design that is responsive to the overall context of its established neighborhood. The design standards and guidelines and the design review process are intended to be responsive to developer program objectives and ordinance requirements. We advise that the development team enter the design process from the outset with a clear understanding of the applicable standards and design the development accordingly.

Applicability:

Zones and development types subject to the City of Portland Design Standards and Guidelines and addressed in this manual include the following:

Commercial

All major or minor developments proposed in the following commercial zones:

- ~~• RP Residential Professional Zone~~
- B3 Downtown Business Zone & TOD-1/TOD-2
- ~~• B7 Urban Commercial Business Zone~~
- B5 ~~and B5-b~~ Urban Commercial Business Zones
- B1 ~~and B1-b~~ Neighborhood Business Zones
- B2 and B2-b Community Business Zones
- EWPZ Eastern Waterfront Port Zone and B6 Eastern Waterfront Mixed Use Zone
- IS-FBC India Street Form-based Code Zone

Residential

The following development types proposed in the following residential zones:

- ~~• All major or minor development in the RP Residential Professional Zone~~
- Cottage Court Residential Development and Conservation Residential Development, Planned Residential Unit Developments (PRUDs) in the R3, R5, and R5-A Zones and/or manufactured housing parks proposed in any zone.
- Two-family, ~~special needs independent living units, multiple-family and multiplex developments,~~ cottage court residential development, conservation residential development, small residential lot developments, lodging houses, bed and breakfasts, and emergency shelters proposed in any zone.

- ~~Small-r~~Residential ~~lot~~ development proposed in the ~~RN-46~~ Zone
- ~~Multiplexes and small-r~~Residential ~~lot~~ development in the ~~RN-35~~ Zone
- All major or minor development in the IS-FBC India Street Form-based Code Zone

Institutional

All major or minor developments proposed in the following institutional zone:

- University of Southern Maine (USM) Overlay Zone

Submissions:

Submissions for design review shall include the following:

- Context drawings, perspective renderings, photographic montages, or computer generated graphics depicting the proposed development within the surrounding building and environmental context.
- Building elevation drawings and color renderings including the following:
- Illustrations of all sides of all structures.
- Detail views of major entries or prominent building features.
- Notes and illustrations on all materials for wall finishes, doors and windows, canopies, awnings, and other building elements.
- Color and building finish composition.
- Physical material samples and catalogue specifications of major building finish materials.

Major Site Plans only:

~~A shadow study may be required for major site plans if the district or zone in which the development is proposed is subject to shadow standards contained herein and/or in Article V, Section 14-526 of the City Code. Submittal requirements for shadow analysis are listed in the City of Portland Technical Manual.~~

For complex projects, the Planning Board may request that the applicant submit a study model in order to understand the proposed building complex and surrounding context.

Please also refer to the individual design standards contained herein for any additional details and special submission requirements for each zoning district or development type.

Review and Determination of Compliance:

To be approved, site plans must adhere to the applicable design standards taken as a whole, and present the best design response to the standards achievable for the overall design program. A project shall be rejected as not meeting the applicable design standards if the project, taken as a whole, fails to meet or address applicable design criteria.

~~(a) R-P RESIDENTIAL PROFESSIONAL ZONE~~

~~(1) **STANDARD.** For development within the R-P zone where there is a consistent established architectural style or character to the existing structures in the immediate vicinity in which the development is proposed, that the concurrently visible architectural style or character of the proposed development would not be incongruous to that established style or character.~~

~~(a)~~ **B-3 DOWNTOWN BUSINESS ZONE &TOD-1/TOD-2**

(1) STANDARDS.

- a. In addition to applicable standards of Section ~~13.614-526~~ of the Land Use Code, development located within the B-3 zone and TOD-1/TOD-2 zones shall also meet the following standards. Adequacy in meeting these standards will be evaluated on the basis of descriptions and illustrations in the Downtown Urban Design Guidelines included as Appendix 1 of this manual. Nothing in this section is intended to discourage creative and responsive design or to mandate similarity or mimicry of design in order to achieve the standards herein:
 1. Relationship to the pedestrian environment:
 - i. General: The exterior design of portions of buildings within the first thirty-five (35) feet of height shall enhance the character, attractiveness, comfort, security, and usability of the street level pedestrian environment. Factors to be considered include the design, placement, character and quality of the following:
 - 1) Storefronts and building facades, including such factors as relationship to adjacent or nearby structures or open space, pedestrian character, materials and detailing, transparency (having a visible transmittance (VT) of .7 or higher) and contemporary design;
 - 2) Building entrances, including such factors as compatibility with the building's façade, prominence along the street, access to the street, and accessibility for physically handicapped or for those with special needs;
 - 3) Blank facades; and
 - 4) Special features, such as selective use of such features as building arcades and skywalks or elevated walkways.
 - b. Pedestrian Activities District (PAD): In addition to subsection 1 of this section, proposed development located within the pedestrian activities district (PAD) overlay zone, as shown on the pedestrian activities district map, a copy of which is on file in

the department of planning and urban development, shall be designed and constructed to accommodate pedestrian- oriented uses at the street level. In determining such design, the following factors should be considered:

1. The exterior design of the street level building facade, including the placement of entrances, potential entrances, and window openings;
2. The design and placement of impenetrable exterior building features such as columns, piers, bearing walls and retaining walls;
3. The orientation of proposed street level uses to the street and the accessibility of floor area to the street by virtue of grade elevations and access;
4. The adequacy of the interior layout of the first twenty (20) feet in depth of the building along specified streets to accommodate viable pedestrian-oriented uses;
5. The continuity of street level uses as impacted by service entrances to parking structures or lots, drive-through facilities or other interruptions.

~~c. Pedestrian activities district (PAD) encouragement areas: In addition to subsection 1 of this section, proposed development located within the pedestrian activities district (PAD) encouragement areas, as shown on the pedestrian activities district map, a copy of which is on file in the Planning and Urban Development Department, shall be designed and constructed to be reasonably capable of being converted to accommodate uses permitted in the PAD overlay zone in accordance with the factors set forth in subsection b. of this section.~~

cd. Sidewalk areas and open space: The design of publicly accessible sidewalk areas and open space shall complement the general pattern of the downtown pedestrian environment, conform to special City of Portland streetscape programs described in the Technical Manual, and enhance the attractiveness, comfort, security, and usability of the pedestrian environment. Factors to be considered include the design, placement, character, durability, and quality of the following:

1. Sidewalk, crosswalk, and street paving materials;
2. Landscaping, planters, irrigation, and tree guards and grates;
3. Lighting;
4. Pedestrian amenities such as benches and other seating, trash receptacles, kiosks, bus shelters, artwork, directional and informational signage, fountains, and other special features; and
5. Sidewalk vendors and

sidewalk cafes.

de. Relationship to existing

development:

1. General: Proposed development shall respect, enhance, and be integrated with the existing character of the general pattern of development in the downtown, surrounding building environment and streetscape, as described and illustrated in the *Downtown Urban Design Guidelines* (Appendix 1). Factors to be considered include the relationship to the following existing patterns:

- i. Street walls and building setbacks;
- ii. Open space;
- iii. Building form, scale and massing;
- iv. Facade proportion and composition;
- v. Pedestrian circulation and building entrances;
- vi. Parking.

2. Standards for increasing setback beyond street build-to line: A proposed development may exceed maximum setbacks as required in Table 7-C or Table 7-D ~~Section 14-220(c)~~ only where the applicant demonstrates to the Planning Board that the introduction of increased building setbacks at the street level:

- i. Provides substantial and viable publicly accessible open space or other amenity at the street level that supports and reinforces pedestrian activity and interest. Such amenities may include without limitation plazas, outdoor eating spaces and cafes, or wider sidewalk circulation areas in locations of substantial pedestrian congestion;
- ii. Does not substantially detract from the prevailing street wall character by introducing such additional setback at critical building locations such as prominent form-defining corners, or create a sense of discontinuity in particularly consistent or continuous settings;
- iii. Does not detract from existing publicly accessible open space by creating an excessive amount of open space in one (1) area or by diminishing the viability or liveliness of that existing open space; and
- iv. The area of setback is of high quality and character of design and of acceptable orientation to solar access and wind impacts as to be attractive to pedestrian activity.
- v. Roof top appurtenances: All mechanical equipment, ventilating and air conditioning and other building systems, elevators, stairways, radio or television masts or equipment, or other rooftop elements not intended for human occupancy shall be fully enclosed in a manner consistent with the character, shape and materials of the principal

building, as described and illustrated in the Downtown Urban Design Guidelines (Appendix 1);

- f. Shadow impact on open space: The location, massing and orientation of portions of buildings in excess of sixty-five (65) feet in height shall be such that substantial shadow impacts on public plazas, parks, and other publicly accessible open space are avoided. In determining the impact of shadows, the following factors shall be taken into account: the amount of area shadowed, the time and duration of the shadow, and the importance of sunlight to the utility of the type of open space being shadowed, as described and illustrated in the *Downtown Urban Design Guidelines* (Appendix 1);
- g. Wind impacts: The location, massing, orientation and architectural design of a new building or a building addition shall be such that no significant adverse wind impacts are created. In determining the impact of winds, the following factors shall be taken into account: the pre-development and projected post-development wind speeds and their impact on pedestrian movement, comfort and safety; and the impact of projected wind speed on the use of and comfort within existing and proposed pedestrian seating areas and other adverse impacts upon the surrounding area;
- h. Setbacks from existing structures: The location and design of proposed structures shall not create a detrimental impact on the structural integrity or the safety of adjacent structures or the occupants thereof;
- i. Building tops: Buildings or structures which exceed one hundred fifty (150) feet in height shall be designed so as to provide a distinctive top to the building which visually conveys a sense of interest and vertical termination to the building, as described and illustrated in the *Downtown Urban Design Guidelines* (Appendix 1);

GUIDELINES.

Please refer to Appendix 1 of this manual, the Downtown Urban Design Guidelines, for applicable guidelines relating to how development in the B3 Downtown Business Zone may adequately comply with the above listed standards.

~~(be)~~ **B-5 AND ~~B-5-B~~ URBAN COMMERCIAL BUSINESS ZONES**

(1) **STANDARDS.** Development located in the B-5 ~~and B-5b~~ zones shall meet the following additional standards:

- a. Shared infrastructure: Shared circulation, parking, and transportation infrastructure shall be provided to the extent practicable, with utilization of joint curb cuts, walkways, service alleys, bus pull-out areas, and related infrastructure shared with abutting lots and roadways. Easements for access for abutting properties and shared internal access points at property lines shall be provided where possible to facilitate present or future sharing of access and infrastructure.

- b. Buildings and uses shall be located close to the street where practicable. Corner lots shall fill into the corner and shall provide an architectural presence and focus to mark the corner.
- c. Buildings shall be oriented toward the street and shall include prominent facades with windows and entrances oriented toward the street. Uses that include public access to a building or commercial/office uses in mixed-use developments shall be oriented toward major streets whenever possible.
- d. Parking lots shall be located to the maximum extent practicable toward the rear of the property and shall be located along property lines where joint use or combined parking areas with abutting properties are proposed or anticipated.

(cd) B-1 ~~AND B-1b~~ NEIGHBORHOOD BUSINESS AND B-2 AND B-2b COMMERCIAL BUSINESS ZONES

(1) **STANDARDS.** Development located in the B-1, ~~B-1b~~, B-2, and B-2b zones shall meet the following additional standards.

- a. Urban Street Wall: In the B-1, ~~B-1b~~, and B-2b zone it shall be required that buildings shall be located to create and preserve an urban street wall.
- ~~b. Mixed Uses: In B-1b zone buildings shall be multi-storied with mixed uses.~~
- c. Building Entrances: In the B-1, ~~B-2~~, and B-2b zones building entrances shall be oriented toward, located adjacent to, and directly accessible from, a sidewalk in a public right-of-way.
- d. Windows: In the B-1, ~~B-1b~~, B-2, and B-2b zones windows shall be required along the street frontage of a building. Windows shall be transparent (with a visible transmittance (VT) of .7 or greater) and installed at a height to allow views into the building by passersby.
- e. Facade Character: In the B-1, ~~B-1b~~, B-2, B-2b zones, active and public portions of buildings (e.g. doors, windows, entries, retail displays) shall be oriented to and, where possible, be located adjacent to the public sidewalk to create an active presence along the sidewalk.
 - 1. Where building facades situated along a public way have no interactive use or function, such facades shall be designed to provide sufficient architectural and graphic amenities to provide visual interest along the street and relate the building, and its use, to passersby.
- f. Building Design: B-1, ~~B-1b~~, B-2, and B-2b commercial buildings shall be designed to be compatible with their residential and commercial neighbors. In the B-1 ~~and B-1b~~ zones building scale, roof pitch, and fenestration shall be designed to complement surrounding residential structures.
- g. Building Materials: Facade materials of buildings located in the B-1, ~~B-1b~~, B-2,

and B-2b zones shall be compatible with those materials of surrounding residential and commercial uses.

- h. Building Scale: In the B-1 ~~and B-1b~~ zones building scale must relate and be compatible with surrounding residential structures.
- i. Landscaping and buffers: In the B-1, ~~B-1b~~, B-2 and B-2b zones buildings and associated parking areas must be screened to buffer abutting properties. A densely planted landscape buffer and/or fencing will be required to protect neighboring properties from the impacts associated with the development, including lighting, parking, traffic, noise, odor, smoke, or other incompatible uses. Where buildings are setback from the street, a landscaped area must be planted along the front yard street line.

GUIDELINES.

Please refer to Appendix 2 of this manual, The B-1, ~~B-1b~~, B-2, B-2b Design Guidelines, for applicable design guidelines for the B-1 and B-2 zones. In addition, the following design guidelines shall also apply:

- 1) Buildings located in the B-2 zone are specifically encouraged to adhere to the design guidelines contained in *the B-1, ~~B-1b~~, B-2, B-2b Design Guidelines (Appendix 2)* of this section concerning the creation and preservation of an urban street wall.
- 2) In the ~~B-1b and~~ B-2 zones, buildings are specifically encouraged to adhere to the guidelines contained in *the B-1, ~~B-1b~~, B-2, B-2b Design Guidelines (Appendix 2)* of this section concerning building entrances.

(~~d~~e) UNIVERSITY OF SOUTHERN MAINE OVERLAY ZONE

- (1) **STANDARDS.** All major and minor development reviewed under the provisions of the University of Southern Maine Overlay zone shall be designed to create a quality and cohesive campus environment while integrating with and respecting the residential character of surrounding neighborhoods as demonstrated by compliance with the principles and standards of the University of Southern Maine Design Standards, included as Appendix 3 of this manual.

(~~f~~) ~~B-7 BAYSIDE MIXED USE URBAN DISTRICT ZONE~~

- ~~(1) **STANDARDS.** Bayside mixed use urban district zone (B-7 zone) design standards:~~
 - ~~a. **Transportation Demand Management:** All major development in the B-7 shall submit and implement a Transportation Demand Management (TDM) Plan, subject to the review and approval of the Planning Board. The TDM plan shall employ elements such as public transit incentives, parking cash-out, car sharing, car and van pooling incentives, provision of bicycle and pedestrian commuting accommodations, guaranteed ride home programs, employee surveys, newsletters and alternative transportation information sharing and~~

~~other such strategies that reduce single occupancy vehicle trips to and from the development. The development shall follow the standards and guidelines for developing a TDM plan found in the TDM section of the City of Portland Technical Manual. The development may also participate in any City recognized TDM consortia (as may be developed).~~

~~b. — Design standards: All major and minor development reviewed under the provisions of the Bayside B-7 zone shall be designed to support the development of this urban neighborhood as a dense, mixed-use, pedestrian friendly neighborhood in accordance with the standards contained in the *Bayside (B-7) Design Standards*, promulgated by the Planning Board, and contained in the Appendix 4 of this section.~~

(eg) EWPZ EASTERN WATERFRONT PORT ZONE AND B6 EASTERN WATERFRONT MIXED USE ZONE

(1) **STANDARD.** Eastern Waterfront design standards: All major and minor development reviewed 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.

(fh) COTTAGE COURT RESIDENTIAL DEVELOPMENT AND CONSERVATION RESIDENTIAL DEVELOPMENT PLANNED RESIDENTIAL UNIT DEVELOPMENTS (PRUDS) IN THE R-3, R-5, AND R5-A RESIDENTIAL ZONES AND MANUFACTURED HOUSING PARKS IN ANY ZONE

(1) **STANDARDS.** Cottage court residential development and conservation residential development Planned residential unit developments (PRUDS) in the R-3, R-5 or R-5A residential zones and manufactured housing parks in any zone shall meet the following standards:

- a. Design relationship to site: The layout and design of buildings, roadways, parking areas, open space, recreation amenities, landscaping, drainage facilities and control mechanisms and other site improvements are organized to complement and accentuate the natural topography, vegetation, streams, water features, and other existing features of the site, and the solar orientation provides natural light within dwelling units, in outdoor open space and in recreation areas.
- b. Internal design character and relationship to surrounding neighborhood: The design and layout of the development and buildings exhibit a cohesive design character and complement existing development in the surrounding neighborhood by virtue of such features as architectural style, height, scale and massing, character of exterior facades and roofs, circulation, open space, landscaping, and the transition of scale and massing with the surrounding neighborhood. Buildings with more than two (2) dwelling units or greater than forty (40) feet in length shall provide variation in roof and facade character through changes in facade setback, roof configuration, and projecting or recessed

building elements.

- c. Recreation and open space: All open spaces on the site shall be integrated into the development and designated on the site plan. Each development ~~should~~shall have the following features:

1. External buffers: An effective and permanent screening from neighboring properties and roadways;
2. Internal buffers: Areas planted, maintained and located in such a manner as to provide privacy between units and buildings and paved areas and screening of parking, utilities, roadways, waste collection facilities and storage facilities;
3. Passive recreational open space: Open spaces, designated and improved with such features as gardens, picnic areas, walking trails; benches and lawn and seating areas;
4. Active recreational open space: Open spaces designated and improved for active recreational use with facilities such as tennis courts, basketball courts, multipurpose game fields, swimming pools, and children's playgrounds; and
5. Private open spaces: Open spaces designated for the individualized use of unit owners such as yards, decks and patios;

(g) TWO-FAMILY, ~~SPECIAL NEEDS INDEPENDENT LIVING UNITS~~, MULTIPLE-FAMILY, LODGING HOUSES, BED AND BREAKFASTS, AND EMERGENCY SHELTERS

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

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

1. The exterior design of the proposed structures, including architectural style, facade materials, roof pitch, building form and height, window pattern and spacing, porches and entryways, cornerboard and trim details, and facade variation in projecting or recessed building elements, shall be designed to complement and enhance the nearest residential neighborhood. The design of exterior facades shall provide positive visual interest by incorporating appropriate architectural elements;
2. The proposed development shall respect the existing relationship of buildings to public streets. New development shall be integrated with the existing city fabric and streetscape including building placement, landscaping, lawn areas, porch and entrance areas, fencing, and other streetscape elements;
3. Open space on the site for all two-family, ~~special needs independent living unit~~, bed and breakfast, and multiple-family development shall be integrated into the development site. Such open space in a ~~special needs independent living unit or a multiple-family~~

development shall be designed to complement and enhance the building form and development proposed on the site. Open space functions may include but are not limited to buffers and screening from streets and neighboring properties, yard space for residents, play areas, and planting strips along the perimeter of proposed buildings;

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;

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

~~6. Two-family or multiple-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.~~

(hj) ~~MULTIPLEX AND SMALL RESIDENTIAL LOT~~ DEVELOPMENT LOCATED IN THE RN-35 ZONE

(1) **STANDARDS.** ~~Multiplexes and small r~~Residential ~~lot~~ development in the RN-35 zone shall be designed to be architecturally compatible with the residential buildings in the surrounding neighborhood, as demonstrated by compliance with the RN-35 Small Residential Lot Development and ~~Multiplex~~ Design Standards contained in Appendix 46 of this manual.

(ik) ~~SMALL RESIDENTIAL LOT~~ DEVELOPMENT LOCATED IN THE RN-46 ZONE

(1) **STANDARDS.** ~~Small r~~Residential ~~lot~~ development located in the RN-46 zone ~~on lots of ten thousand (10,000) square feet or less~~ shall provide a high degree of architectural quality and compatibility with the surrounding neighborhood as demonstrated by compliance with the principles and standards of the RN-46 Infill Development Principles and Standards, promulgated by the Planning Board and contained in Appendix 57 of this manual. Any proposal required to obtain a certificate of appropriateness under Portland's historic preservation ordinance is exempt from the RN-46 design review standard.

(il) INDIA STREET FORM-BASED CODE ZONE: BUILDING DESIGN STANDARDS

(1) **STANDARDS.** The IS-FBC Building Design Standards are contained in Appendix 6-8 of this manual and applicable to all types of development within the zone.

DOWNTOWN & TOD URBAN DESIGN GUIDELINES

These Downtown Urban Design Guidelines are a component of the City of Portland's Downtown Plan entitled *Downtown Vision: A Celebration of Urban Living and a Plan for Portland's Future* and of the City's Comprehensive Plan. They are supporting reference documents for the City's B-3 Downtown Business District Zoning Ordinance and Site Plan Standards, and a companion to the Technical and Design Standards and Guidelines for the City of Portland.

The **Signage, Awnings and Canopies** section contained herein supercede the Signage requirements of the Urban Renewal Plan for Maine Way (pages 9-11 of Planning Report #29-76: Urban Renewal Plan for Maine Way, amended May 1976.)

Introduction

Downtown Portland is the center of the region's business, governmental, cultural, and residential communities. It is also a physical environment comprised of a variety of individual buildings, streetscapes, parks, and districts in which people carry on with day-to-day interactions. As a physical environment, it should be designed to facilitate these uses in a setting that has beauty, is comfortable and secure, which provides amenity and interest for the pedestrian, and which celebrates the coming together of people in a concentrated pedestrian world. It is important that incremental changes to the physical environment through development or rehabilitation proposals continue to enhance the physical environment.

These guidelines are provided for the use of individual property owners and the development community in understanding the expectations of the greater community for the development of the Downtown and TOD zoned areas. This represents a documentation of concerns which have been central issues within project reviews of proposed development in the past, and is an attempt to make the review process more understandable and predictable for the development community. These Guidelines are also intended to provide guidance and consistency for City staff and Planning Board development review. Finally, these Guidelines are intended to provide the public with a clearer presentation of important design issues to assure they reflect public concerns while providing a framework for public comment and involvement in the development process.

These Urban Design Guidelines are not intended to restrict the creativity of developers or designers in responding to the challenges of a given site. Rather they provide a framework of issues with which to be concerned in assuring that a creative design solution is compatible with the character of Portland's Downtown environment and is sensitive to pedestrian needs. These Guidelines are presented as a discussion of issues that specific site plan standards are intended to address. Unless otherwise provided for within the City Ordinances, these are guidelines only, a framework not to be ignored but flexible enough in intent, interpretation, and application to allow and encourage the developer and associated designers to come forward with creative and distinctive design solutions.

Purposes

The underlying purposes of the Urban Design Guidelines are as follows:

1. Aesthetic - To respect and build upon the human-scaled and historic building fabric of the Downtown while creating a more attractive, desirable, high quality, rich and diverse environment.
2. Pedestrian Use - To increase pedestrian activity through the enhanced character, comfort, and interest of the pedestrian environment.
3. Accessibility - To assure accessibility to all.
4. Culture - To increase and support the integration of arts and culture throughout the Downtown environment.
5. Economic - To recognize the fundamental relationships between property values, livability, and the character and quality of the physical environment; to protect and enhance public and private investments throughout the Downtown by assuring respectful and compatible new development; and to minimize development costs by providing specific guidelines at the outset of the development process.

DOWNTOWN URBAN DESIGN GUIDELINES **TABLE OF CONTENTS**

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I. RELATIONSHIP TO PEDESTRIAN ENVIRONMENT

A. Distinguish the lower 35 feet of building facades

Standard: "The exterior design of portions of buildings within the first thirty-five (35) feet of height shall enhance the character, attractiveness, comfort, security, and usability of the street level pedestrian environment . . ."

The most significant features of a building which are perceived at street level by the typical pedestrian moving through the Downtown are storefronts and building facades within immediate view and reach. While one's peripheral view encompasses considerably more of a given façade and in fact draws in the context of other nearby buildings and open spaces, the focus of attention for each building is usually the first approximately thirty-five feet of building height. This portion of each building is readily perceived as an individual composition but allow more broadly as a component of the series of street facades and elements of a continuing streetscape involving all such facades along a given block or street. Throughout Downtown Portland, it is typically this first thirty-five feet or so, or the first two to three stories of buildings which are the most heavily articulated, create and sustain the greatest pedestrian interest, and in fact present themselves as the base of larger buildings.

Building entrances and display windows are typically the predominant elements of this Downtown street-level environment. The character and design of these elements are vital in assuring that frequent pedestrian access to and from buildings is provided or maintained, and that the excitement of walking about the Downtown is supported by a rich, varied and interesting environment.

1. Storefronts and building facades

- Relationship to Context: In general, the design of storefronts and the facades of lower portions of buildings should relate to the architecture of the rest of the building and should demonstrate a unified overall building design.

Where alterations are made to existing buildings facades and storefronts, such alterations should respect and be compatible with the specific features and characteristics of the building of which it is a part. Characteristic elements of traditional storefront design relating to specific styles of building, including such prominent features as entrances (generally recessed) and display windows, the storefront bulkhead, piers and framing, transom windows corresponding to typically tall interior first floor space, and a sign panel often topped by a cornice, are common points of reference for both rehabilitations and for contemporary design solutions.

Where alterations to designated historic structures and within designated historic districts are involved, standards and guidelines found in the City's Historic Preservation Ordinance will be the basis for review. For other existing structures, existing original or significant features or evidence of such that might be found through historical research or physical evidence can provide a basis for storefront restoration or for contemporary design which is compatible with the rest of the building.

Where signage is provided on or adjacent to a storefront, the signage should generally be incidental to the storefront and should not overwhelm the building façade. Specific signage, awning and canopy guidelines are provided elsewhere for proposed installations in the Pedestrian Activities District (PAD) and PAD encouragement areas, as well as where such installations involve historic properties.

- Pedestrian-character: The design of storefronts should complement the pedestrian activity being accessible and visible from the public sidewalk.
- Materials and detailing: The design of storefronts and lower building facades should include the selection of high quality materials and detailing which relate to the rest of the building and to the surrounding context, and which convey a sense of permanence, durability, and richness in character. Ease of maintenance and a commitment to continuing upkeep are important considerations.
- Transparency: A predominance of glass which assures transparency between interior activities or products and pedestrian activity on the streets and sidewalks is very important to the vitality of the pedestrian environment. Glass should be used on the street level which assures visibility for pedestrian interest and, to the extent feasible, assures that there are obvious "eyes on the street" or a sense of security as a result of indoor and outdoor activity being readily visible. The placement of landscaping or other exterior features immediately adjacent to entrances and window openings can enhance the attractiveness of a property but should be careful not to substantially diminish visibility into or out of such openings.
- Contemporary design: Where creating a new façade through construction of an infill building within an existing building context, storefront design and building facades should respect the general pattern of storefront and façade design found in that surrounding context. Such design should draw from those surrounding buildings which themselves meet the guidelines presented herein. Contemporary design is encouraged where it reflects an understanding and respect for traditional patterns of storefront composition and design.

2. Building entrances

The traditional pattern of development in Downtown Portland resulted for the most part in incremental construction of individual buildings over extended periods of time. Typically, these buildings each had individual building entrances providing immediate access to street-fronting shops and businesses. Street level access also was provided to upper story activities through a separate entry. This pattern of frequent building entrances serving a large number of street-level businesses provided for considerable street-level pedestrian activity and encouraged pedestrian circulation. New development in the Downtown and rehabilitation or alterations of existing buildings should continue this pattern of frequent access.

- Compatibility with the building façade: Entrances are one of several building components which collectively comprise the overall base of a building. The design of building entrances should be considered as an integral component of a building's façade and should relate to the overall façade in terms of its style and scale, quality of design, and selection of materials and detailing.

- Prominence along the street: The placement and design of entrances to buildings and businesses should be readily identifiable and have a prominence on the building's street façade. Such entrances should not overpower the façade but should be designed so to complement the character and features of the building façade and storefront while clearly announcing the point of entry. The traditional method of recessing entrances, of utilizing signage, canopies and awnings, and of thoughtful and directed lighting can all help to define an entrance's prominence.

- Access to the street: Access to each street-level business should be maintained directly from the street wherever possible. Where buildings may contain multiple street-level tenants which are served by interior access or circulation, prominent access directly from the street should be provided as well to the extent feasible. In addition, building facades fronting on publicly accessible open space should provide access in the same manner as street-fronting facades. Consideration in satisfying this guideline will be given to situations where changing topography may make direct access (particularly accessible for special needs) difficult or impractical. Every effort should be made to make these portions of buildings accessible, as well as attractive and of interest to the pedestrian.

- Accessibility: All buildings should be barrier-free and accessible to the physically handicapped and to others who find themselves with special needs. The range of special needs typically encountered in the Downtown includes such situations a negotiating a baby carriage or stroller, ushering small children, accommodating physical and visual limitations of the elderly or handicapped, and others. Access for everyone should be provided in a manner which provides an interesting and positive pedestrian experience and which preserves human dignity.

3. Blank facades

The placement of street-level building facades which contain expanses of wall area with no windows, no entrances, and no other elements or features providing pedestrian interest and supporting pedestrian circulation and activity represent a serious detriment to the vitality and viability of a pedestrian-oriented street environment. The continuity of lively, inviting and visually appealing street-level facades is extremely important in encouraging pedestrian movement. When blank facades are located in mid-block areas, they tend to create gaps in this continuity which the average shopper or tourist will find at least disheartening and at most a deterrent to proceeding further along a particular street. When such facades are located at corners of blocks, they effectively can isolate entire blocks or areas of the Downtown from lively and frequent pedestrian circulation.

Blank facades located along pedestrian-oriented streets or along publicly accessible open space are discouraged. The maximum length of blank or undifferentiated facades should not exceed thirty feet generally throughout the Downtown, and should not exceed 15 feet within the Pedestrian Activities District. The preferred manner for differentiating a façade is to incorporate additional storefronts or with display windows and entrances as frequently as possible. For interior uses which require large volumes of windowless space, every effort should be made to contain these uses within the central portion of a site away from street fronting facades of the building. Having such uses on the interior of a site allows the perimeter of the property to retain pedestrian-oriented use.

In some cases, due to topographic change or windowless interior uses which cannot be located in any other portion of a site, building entrances and large windows may not be feasible. In such situations, it is important that the design of such facades incorporate significant features of visual

interest which will maintain the interest of the pedestrian. Such features might include relatively shallow display cases or display windows, substantial three-dimensional architectural ornamentation or artistic treatment, the incorporation of some special water or landscape feature, or some combination of thereof. Any such special feature should relate positively to the character of the remainder of the building, and to surrounding buildings.

4. Special features

A variety of special building and street features have been explored in cities across the country in attempts to address sometimes adverse climatic conditions while providing enhanced pedestrian comfort. Incorporation of any of these features requires extreme care first in understanding the impact such a feature might have on the character and quality of street-level pedestrian activity, and second on the relationship such features have to a historic building context and to special qualities such as view corridors and prominent gateway entrances to the City.

- Arcades: Arcades are roofed passages with shops on one or both sides. The most common situations find arcades placed along a street frontage, with the first floor retail space set back beneath an overhang created by the upper floors of the rest of the building. Arcades, by virtue of the overhang, provide protection from rain, snow, and direct sunlight. Such arcades are not generally found today in Downtown Portland, although historically such protection from the elements was often found as a result of an extensive use of retractable awnings placed on many commercial buildings. Issues which should be considered when incorporating such features include: preserving existing street walls while comfortably integrating these features into an existing streetscape; assuring that active uses are placed along the recessed street level; assuring that an adequate but not excessive pedestrian circulation area is provided; and assuring that ample lighting and pedestrian interest is maintained. Arcade lighting should thoroughly light the interior of the arcade, with no dark areas or shadowy corners within the arcade. Any attempts to incorporate arcades on existing buildings should take care not to detract from the existing building's character nor remove or obscure significant features of historic properties.

A second type of arcade is the through-block connection, where a passageway is created linking one street typically with another parallel street. Particularly in long blocks, such connections should encourage pedestrian circulation between active pedestrian-oriented streets and between such streets and specific activity generators such as hotels, major office or retail buildings, and convention or cultural facilities. In a few selective instances, there may be an opportunity to expand such a through-block connection into a galleria, or larger pedestrian open space which becomes a major pedestrian destination in itself. Dead-end arcades, or arcades which may make a connection to a single destination anchor, such as an art museum, must be carefully considered to assure that the pedestrian connection can remain safe, pleasant, and viable at times when activity at the anchor is low or non-existent.

For this second type of arcade to be successful, the level of activity anticipated must be carefully examined and the character and quality of design must be exceptional. Special care must be taken in the siting of all such interior connections to provide active uses along the arcade while assuring that existing street-fronting pedestrian uses are not diminished in their attractiveness to pedestrian circulation and activity.

Where all of the above issues have been carefully addressed, these various types of arcades can be a positive contribution to the pedestrian streetscape.

- Skywalks and elevated walkways: The introduction of covered or fully enclosed walkways bridging over streets and connecting the second stories of buildings have been implemented in a variety of cities and situations around this country and in Canada. The extent of such systems can range substantially, from a relatively simple connection between a hotel or office building to a parking garage, to an extensive system tying together large portions of downtowns through interior climate-controlled passageways. Studies of those skywalk systems reveal a number of critical issues which must be addressed before any such program, large or small, is undertaken in Downtown Portland. Consideration must be given to the following:

- i. the impact of such an upper level system on existing street-level activity and businesses, respecting the principle that the character and liveliness of the street-level pedestrian environment is of utmost importance and should be reinforced at every opportunity;

- ii. the potential segregation of users who might frequent the walkway system versus the street, respecting the principle of *Downtown Vision* that for Portland to take the greatest advantage of its urban character, all people regardless of social or economic status must come together to share in a common experience;
- iii. the potential impact of such a system on the visual character of Downtown Portland, with concerns over the integration of such construction with a largely historic building environment and the potential visual obstructions which could detract from the character of the Downtown or eliminate significant views to natural or building landmarks; and
- iv. the need for a coordinate program of provision and maintenance of any such system, assuring universal participation of property owners along a particular route, common levels of maintenance and hours of access, and adequate levels of pedestrian activity, supporting pedestrian-oriented uses, and pedestrian interest and amenity.

Downtown Vision, the Plan for Portland's Downtown, does not incorporate a comprehensive network of skywalks due to the numerous critical issues cited above. In special circumstances, however, the provision of skywalks may be desirable. The provision of any such system should not be approved until the Planning Board and the City Council determine that all issues are suitably addressed and resolved in favor of an enhanced pedestrian environment. Easements and site plans should not be approved until these issues are suitably resolved.

- Street closings and pedestrian malls: The closure of public streets to create pedestrian malls has been tried with mixed success in a variety of situations around the country and abroad. The range of possibilities intended to encourage pedestrian activity on key streets runs from total prohibition of vehicles, to access for public transit and high ridership vehicles only, to closure only on special occasions (i.e. street fairs or carnivals) or for weekend shopping and entertainment (at a time when deliveries and service access demands are at a minimum). The trend in recent years has been to re-open those streets once completely closed to vehicular traffic. In any of the possible scenarios, consideration must be given to the following:

- i. the relationship of vehicular traffic, visibility from vehicles, on-street parking, and drop-off areas to the businesses and institutions along the streets that would be closed or restricted;
- ii. the effect of closure on maintaining necessary access for service and deliveries; and
- iii. the design and dimensions of the street, focusing on the scale and character of the space to be devoted to pedestrian circulation. The expected number of pedestrians must be related to the amount of space to be provided to assure that adequate space is provided. Interaction and face-to-face contacts are important to lively pedestrian space therefore it is also important that excessive space does not create a sense of low activity or diminish the interpersonal contacts. The quality, quantity, and character of pedestrian amenities, including such features as paving materials, lighting, benches and other seating, public art, landscaping, and street entertainment are all important design and programming issues vital to a lively pedestrian environment.

In general, the permanent closure of streets in the Downtown is discouraged. A proposal for any such pedestrian mall should not be approved until the Planning Board and City Council have determined that all such issues have been suitably addressed and resolved in favor of a viable business and cultural economy and an enhanced pedestrian environment. For proposals for extensive closures or for closure of significant streets, a trial period or portion of closure should be instituted prior to committing permanent alterations and improvements.

B. Pedestrian Activities District (PAD)

Standard: "In addition to subsection 1 (a through d), proposed development and substantial building alterations located within the Pedestrian Activities District (PAD) overlay zone . . . shall be designed and constructed to accommodate pedestrian-oriented uses at the street level. ~~Proposed development located within the PAD encouragement areas which is not initially constructed to accommodate pedestrian-oriented activities at the street level shall be designed to have the capability of accommodating pedestrian-oriented uses through non-structural building alterations.~~"

Factors that should be considered include:

1. Exterior design of street level building façade

The design of the exterior street-level façade should consider the visual relationship of proposed or potential entrances, window, and display openings to the overall design of the building. The introduction of new window or door openings or the shifting of openings should be considered in the initial façade design to assure that what may initially be a balanced and appropriate design for a façade is flexible over time and that future changes might be anticipated to assure future compatibility.

2. Design and placement of impenetrable exterior building features

In portions of buildings where street-level pedestrian-oriented uses are required or encouraged, it is important to locate impenetrable features (i.e. columns, piers, bearing walls, retaining walls, and mechanical/h.v.a.c. equipment) in such locations that do not create obstacles to accessible and viable pedestrian uses. Such features, by their very presence and by the difficulty and associated expense with which they might be modified, can become impediments to street-level uses or to future renovation which will accommodate such uses.

3. Orientation and accessibility to the street

The design and construction of street-level facades along pedestrian oriented streets should assure that street-fronting uses would be oriented to and accessible from the street wherever feasible. Orientation to the street should involve significant and prominent entrance opportunities, significant visibility of interior uses from the street, and prominent signage, awnings, or other identification of interior uses. Such orientation should not have the appearance of a service entrance or “back door”, but rather should appear as a primary, inviting pedestrian entrance to the building.

Accessibility from the street should be provided wherever feasible. Finished floor elevations and entrance elevations relative to sidewalk topographic elevations should be established with the intention of maximizing opportunities for building entrances along street

4. Adequacy of interior layout

Just as impenetrable exterior building features can be an obstacle to use of street-level building floor area, the interior layout of such space can impact its viability for pedestrian uses. The first forty (40) feet of floor area along specified street frontages in the Pedestrian Activities District should be laid out to accommodate retail or other pedestrian oriented uses. ~~An approximately comparable portion of floor areas along PAD encouragement areas should be designed and constructed~~

~~to accommodate the broadest possible variety of floor layouts, or be able to be modified at reasonable cost to accommodate future pedestrian-oriented uses.~~

Placement of exterior building features as in (b) above, as well as the placement of interior features such as columns, bearing walls, stairs, elevators, and mechanical systems should support the layout of pedestrian oriented uses rather than divide a space into areas which can be difficult to utilize effectively or with flexibility.

5. Continuity of street level uses

Continuity of pedestrian-oriented uses along designated street frontages is important to encourage pedestrian interest, movement and safety. Wherever possible, service entrances and vehicular entrances to parking lots, parking garages, drive-thru services, or other similar uses which interrupt the continuity of street-level uses should not be located along pedestrian oriented streets. Where such uses are unavoidable, extraordinary care should be taken to assure that the pedestrian environment remains both attractive and safe, and such interruptions should be kept to a minimum in both numbers and lengths. In such instances, the pedestrian should clearly have priority. Pedestrian paving patterns should continue across driveway entrances and should remain flush, with no steps or significant ramping introduced in order to accommodate vehicular access. Vehicular speeds should be kept to an absolute minimum. Lighting should assure both pedestrian comfort and safety.

C. Sidewalk Areas and Open Space

Standard: "The design of publicly accessible sidewalk areas and open space shall complement the general pattern of the Downtown pedestrian environment, conform with special City of Portland streetscape programs described in the Technical and Design Standards and Guidelines, and enhance the attractiveness, comfort, security, and usability of the pedestrian environment."

1. Sidewalk, crosswalk, and street paving materials

- Sidewalk: The design and construction of sidewalks and open space paving are important components of the pedestrian environment. Historically, the Downtown has been characterized by brick sidewalks and the City's general sidewalk maintenance and reconstruction program calls for brick sidewalks. Important factors which must be of concern in the installation and maintenance of brick sidewalks include the compatibility with adjoining or nearby paving surfaces, the appropriateness of the paving material in relation to proposed or existing buildings which are adjacent to the sidewalk, appropriateness during all seasons, and the character, durability, and ease of maintenance of the proposed material.

Prevalent problems found on many existing sidewalks are the uneven surfaces and excessive joints between bricks, both of which create hazardous walking conditions. These problems usually result from improper installation techniques or design including an inadequate base on which the brick is set or excessive spacing of pavers and inadequate maintenance (repointing). These issues can be addressed through careful design and installation of new surfaces, and a program of rehabilitation directed toward existing sidewalks.

Concern must also focus on Portland as a winter city, with frequent snow and ice conditions through an extended season each year. Maintenance of sidewalks becomes an imperative for assuring safe and comfortable pedestrian circulation throughout the Downtown. The use of brick as a surface material can result in a surface more slippery than alternative surfaces such as concrete pavers or poured concrete with a rough surface. Adequate sloping and drainage can aid in avoiding some problems. The use of concrete pavers in patterns and colors that replicate brick, and the combination of poured concrete and brick in attractive and practical paving patterns can also serve to address concerns over the potentially slippery nature of brick while retaining the historic character of brick sidewalks.

There is growing interest both in this country and in northern cities abroad in the use of heated sidewalks to maintain a clear and comfortable walking surface during colder months. The consideration of heating elements within the sidewalk construction is encouraged. The relation of such a system to underground utilities, the impact of such a system on the appearance of paving surfaces, the energy efficiency of providing and maintaining such a system relative to more conventional sidewalk maintenance, and the benefits such systems present in preserving street trees and other landscaping relative to other snow melting or snow clearing techniques should all be considered.

Open spaces such as parks and plazas offer special opportunities for creative and specialized paving patterns. The introduction of alternative patterns, colors and materials such as granite, brick, and concrete can create distinctive elements within these open spaces and are encouraged. Where such open spaces meet the public sidewalk, the specialized paving pattern should transition to the prevailing pattern of the public sidewalk so that sidewalk paving within the street right-of-way retains a consistent

unifying pattern along an entire street frontage and to assure that sidewalk paving forms a layer of commonality throughout an area. As a related issue, the design of publicly accessible open spaces should balance the provision of pedestrian paving surfaces with ample soft surfaces including landscaping and grass. Where pedestrian circulation will occur on such surfaces, these areas should be designed to prevent compaction and should be stabilized against erosion due to weather or use.

The provision of all sidewalks shall conform to the specifications and details contained within the City's *Technical and Design Standards and Guidelines*.

- Crosswalk: The design of street crosswalks which provide distinctive and clearly visible patterns on the walking surface offer both visual amenity and safety to the pedestrian. The use of painted crosswalks and thermally applied markings are techniques commonly endorsed by the City. In a few special instances, the City has permitted the installation of carefully designed crosswalks comprised of granite borders with a brick walking surface. While alternative crosswalk designs add amenity to the pedestrian environment and are encouraged under special situations or for special effect, the design and construction of any such special alternative must be carefully considered. Issues of durability, particularly as impacted by snow plowing, visibility, and ease of walking should be addressed. The provision of crosswalks across all City streets shall conform with the specifications and details contained within the City's *Technical and Design Standards and Guidelines*.

- Street: The design and construction of City streets shall conform to the specifications and details contained within the City's *Technical and Design Standards and Guidelines*. Where driveway surfaces on private property serve dual purpose as pedestrian circulation paths, the applicant or property owner is encouraged to explore creative alternative finish surfaces which provide greater pedestrian interest and amenity.

2. Landscaping, planters, irrigation, and tree guards and grates

- Landscaping: The use of landscaping, including overhead/canopy trees, ornamental trees, shrubs, ground cover, and flowers, is encouraged to enhance the character and livability of the Downtown. The use of plants with attractive flowers, colorful and changing foliage, distinctive bark, and prominent or unusual shape all serve to enrich the visual environment. The environmental benefits of providing shade, filtering noise, and cleansing the air are all vital properties of an attractive and healthy urban landscape.

- Compatibility: The coordinated use of landscaping serves as one method for providing distinctive character to different streets and areas of the Downtown. The selection of the primary plant materials (in particular the larger materials such as street and ornamental trees) and their location on a particular site, should be considered in coordination with public streetscape improvements which occur or are planned for the immediate area. Private improvements also should be compatible with other adjacent or nearby private improvements.

- Use and placement: The use of landscaping to provide visual interest, color, variety, and an ever changing and growing environment is an important element in support of an active pedestrian streetscape. The placement of street trees and planters within the public right-of-way should complement and enhance the pattern of similar features on adjacent and nearby properties and be consistent with planting programs established by the City. The use of landscaping also can be incorporated with or in place of fencing to screen or buffer otherwise objectionable or unsightly uses or building features such as building service areas, mechanical equipment, and surface parking lots.

- Plant selection: Consideration during the selection of all plant material should be given to the plant's tolerance to urban conditions which include poor drainage, litter and salt problems, vandalism and abuse, shade conditions, and disease and insects. Plant materials recommended for use within the Downtown are identified, along with appropriate sizes and installation specifications, within the *Technical and Design Standards of the City of Portland*. Where a developer or property owner wishes to deviate from this recommended plant list, such substitutions should be reviewed for approval by the City Arborist.

- Lighting: The illumination of plant materials can have a very pronounced impact on the character of the evening street environment. Whether providing accent lighting for individual specimen plant materials, general lighting for an area with distinctive plant materials, or illumination for special displays, celebrations or seasonal decoration, the added color and life provided by such lighting is encouraged. Wherever such illumination is proposed, care should be taken to assure that such lighting is complementary of existing City programs for street and sidewalk lighting, and that such proposed lighting enhances the pedestrian environment. Such special illumination, whether on private or public property, should generally be maintained by the owner of the proposed development, and the failure to maintain or a decision to remove such illumination should not result in an unattractive landscape.

- Planters, irrigation, and drainage: The manner in which landscaping is provided, watered, and drained is important to the viability and durability of the plant materials. In general, the larger the area in which plant material is located, the healthier it will be and the longer it will remain vigorous. Where individual tree wells are located along streets, the wells should be as large as possible to allow adequate water and air to the soil and root system. Where the dimensions of the sidewalk area permit, planting strips or portions of brick sidewalk set on sand should be considered to allow even greater area of permeable surface.

The provision of planters raised above the sidewalk surface provides plant material additional protection from compaction due to foot traffic, as well as providing some protection from salts and de-icers placed on icy sidewalks during the winter months. The introduction of such raised planters, particularly in situations where increased area of plant materials is viable, are encouraged. Care must be taken to assure that there is consistency in the style and character of planters provided within distinctive areas of the Downtown.

The adequate provision of a water source and method of drainage for planted areas is important to the continued viability of plant material. In areas such as small parks and plazas, the provision of an irrigation system is encouraged to assure adequate moisture. Such areas should also have drainage systems designed to prevent excess water accumulation or runoff onto pedestrian walk areas. Individual tree wells should be designed to allow adequate drainage, tying into curb line drainage systems wherever possible.

Specific planters, irrigation devices, and drainage methods recommended for use within the Downtown are identified within the *Technical and Design Standards of the City of Portland*. Where a developer or property owner wishes to deviate from these recommended specifications, such substitutions should be reviewed for approval by the City Arborist.

- Tree grates and guards: Generally throughout the Downtown, the provision of tree grates and guards are encouraged in order to assure adequate air and water access and to provide protection for trees located within pedestrian activity areas. In certain areas, where wide sidewalks exist and ample pedestrian circulation area is available, the use of granite pavers as a substitute for tree grates may be acceptable where such use

complements the character of the general area and is consistent with a City program for existing or proposed tree wells. Specific tree grates and guards recommended for use within the Downtown are identified, along with appropriate sizes and installation specifications, within the *Technical and Design Standards of the City of Portland*. Where a developer or property owner wishes to deviate from these recommended products, such substitutions should be reviewed for approval by the City Arborist.

- Maintenance: Continued maintenance of landscaping is an important ongoing effort vital to assuring the continued health of plant material and the continued effectiveness of landscaping as an attractive part of the pedestrian environment. A regular program of feeding, watering, pruning, damage repair, pest and weed control, and replacement of declining plant material should be established at the time of initial design and installation, and maintained thereafter.

3. Lighting

Downtown lighting by design should not only serve its functional purposes but also contribute to the attractiveness and aesthetic quality of the streetscape. Illumination of the sidewalks, storefronts and building facades improves the attractiveness and security of the downtown at night.

- Sidewalk lighting: Sidewalks should be amply lit with attractive and warm white light, using a combination of pole mounted, building mounted, soffit, and window lights. Care shall be taken to provide proper illumination levels, avoid glare from lighting sources, and avoid excess lighting spilling onto private property or skyward.

Frequent placement of lower wattage lights achieving a relatively uniform level of lighting is preferable to fewer brighter lights. The placement of lighting fixtures should be in relation to the scale of the pedestrian, downwardly directed, and shielded or reflected so as to avoid direct line of sight from pedestrians to the light source unless the light source is very low wattage and issues of glare do not exist.

- Building lighting: Lighting from store windows, entryways, marquis, canopies, awnings, soffits, and other integral building features is encouraged to integrate with and enhance sidewalk lighting.

- Building Facades: Prominent building facades should be lighted by carefully designed downwash systems of appropriate color and intensity. Generally only historic landmarks and civic buildings should be fully illuminated as well as buildings which substantially contribute to the character of the street and have sufficient ornamental detail to provide visual interest.

- **Street Lighting:** Street lighting shall comply with the *Technical and Design Standards and Guidelines*. Where street and sidewalk lighting are intended to be provided by the same luminaire, the guidelines presented herein are applicable as well.

- **Luminaire:** Lighting fixtures for both pedestrian and street lighting conditions should be selected for their visual interest as well as illumination qualities. The selection of lighting fixtures, or luminaries, represents an important decision in establishing a sense of identity and orientation within the pedestrian environment. Just as different areas within the Downtown vary in general activities, land uses, and architectural character which result in their own identities, selection of luminaries should contribute to the identity of those distinct areas within the Downtown. The selection of luminaries should provide an attractive addition to the streetscape in both daylight and evening hours.

Specifications for luminaries along sidewalks and within plazas adjoining sidewalks should conform to the luminaire standard designated in the *Technical and Design Standards and Guidelines*. A lighting program has been established for the following general areas within the Downtown:

- i. Old Port Generally;
- ii. Old Port Wharf Street;
- iii. Waterfront;
- iv. Congress Street;
- v. Gateway entrance routes to the Downtown; and
- vi. Other public streets.

Areas not designated, such as privately owned publicly accessible plazas and public open space, may select a different luminaire style which complements the standard for the area in the above schedule if the design of the space commands a special, unique, and equally distinctive luminaire feature. Consideration should be given, however, in the design of such spaces to coordination with the surrounding area by incorporating the standard luminaire.

- **Special Lighting:** The introduction of special lighting can provide an especially festive Downtown environment. Seasonal decorative lighting, most notably for the holiday season from Thanksgiving to New Year's Day, greatly contributes to the festive spirit by including decorative lights on buildings, in windows, and on trees and other landscape features. Such seasonal special lighting efforts are encouraged and should be coordinated with both City and privately-based community seasonal lighting programs wherever feasible.

In some additional circumstances, special lighting might be designed and installed either on a temporary or permanent basis as a decorative feature or object in and of itself. Other special lighting features might be proposed for illuminating sculpture, murals, fountains, extraordinary landscape features, or other such features. Special lighting such as these are encouraged, subject to careful design and installation consistent to the general guidelines for lighting described elsewhere in this section.

In all instances, selection of luminaries should consider durability and ease of replacement and maintenance. Desired lighting intensities should be achieved without glare, generally with downwardly directed luminaries, with design features and intensity levels which assure comfortable pedestrian line of sight to the luminaire.

D. Pedestrian Amenities

The character and comfort of pedestrian open spaces such as parks, plazas, and sidewalk areas is greatly affected by the quality, character, and quantity of amenities provided for the use of people who visit those spaces. Specific requirements and specifications for each of the following amenities (except where noted) can be found in the City's *Technical and Design Standards and Guidelines*.

1. Benches and other seating

Pedestrians enjoy opportunities for pausing and resting, watching other people and activities, and eating lunch. Regular and frequent placement of benches or other seating along heavily used pedestrian routes is encouraged to accommodate these activities and thereby make the street environment more comfortable and inviting. Placement of seating should not interrupt or obstruct pedestrian circulation, and should assure maintenance and appropriate use. A variety of seating elements are encouraged, including benches, planter and retaining walls, steps or broad stairways, and individual fixed or moveable seats.

Within publicly accessible open space, adequate seating is a critical element which affects the use and success of that space. A general rule of thumb for the provision of seating applicable to a typical Downtown plaza is to provide one linear foot of seating for each thirty (30) square feet of open space. A balanced combination of seating types is usually encouraged.

2. Bus shelters and bus stops

The provision of clearly designated bus stops and comfortable amenities serving bus patrons are important elements of a successful public transit system. For development and public improvements along designated bus routes, the placement of standard bus shelters or the incorporation of sheltered waiting areas along building frontages is encouraged. The placement of shelters should not obstruct pedestrian circulation. Wherever feasible, shelters should provide a heated waiting area. All bus stops and shelters should be adequately illuminated and provide adequate seating, signage, and schedule/route information. Their design should complement the character of surrounding buildings and of the sidewalk or open space in which they are located.

3. Trash receptacles, mailboxes, newspaper boxes, public telephones

The provision of these traditional elements of the pedestrian environment serve very important needs and are encouraged. Their placement should avoid a visual appearance of clutter, should not obstruct pedestrian circulation, and should effectively support pedestrian activity. Their design should complement the character of surrounding buildings and of the sidewalk or open space in which they are located.

4. Directional and informational signage

In order to assure the greatest possible use of the Downtown by pedestrians, it is important that adequate orientation be provided. Carefully designed and sensitively sited directional and informational signage can enhance the accessibility of different districts, cultural facilities, special amenities or activities, and historic resources found within the Downtown. All such signage should be consistent with guidelines for signage established within this document, with signage requirements of the City Land Use Code, and with other applicable City signage programs.

5. Kiosks, fountains, and other special features

The introduction of informational kiosks and special features such as water fountains can provide informational amenity, excitement, or variety in the pedestrian environment and are encouraged. The location of such features should not obstruct pedestrian circulation and should complement the character of surrounding buildings and open space.

6. Artwork

The provision of artwork in publicly visible locations on private property, along pedestrian paths and sidewalks, and within publicly accessible open space is encouraged. The provision of artwork adds visual interest, a sense of creativity; and elements of discovery and surprise that greatly enhance the pedestrian experience. The provision of art also provides visible support to the local arts community. Artwork may be of a temporary or changing nature or permanent. The location of artwork should not obstruct pedestrian circulation nor interfere with normal Downtown maintenance efforts. The provision of artwork should be coordinated with applicable Public Arts programs.

7. Walls and fences

The use of walls and fences in the Downtown should enhance, rather than detract from, the character of the pedestrian environment. Ornamental fencing and creatively designed walls can add visual amenity while fulfilling often utilitarian functions. Such features should be kept as low as possible and integrated wherever adequate space allows with plant materials or other pedestrian amenity. Where the purpose is to screen views, care should be taken to retain pedestrian interest and not create, in effect, blank facades as discouraged elsewhere in this document. Exposed chain link fencing and fencing which suggests a rustic or rural setting are discouraged. Such features should complement the character of surrounding buildings and open space.

E. Sidewalk Vendors and Sidewalk Cafes

The character and sense of liveliness of the pedestrian environment along sidewalks and within public open spaces can be greatly enriched by a diversity of activities. In addition to encouraging the use of street-level building frontages for retail and other pedestrian-oriented uses, an opportunity exists for activities which spill into the public right-of-way or which occur outside of buildings on private property immediately adjacent to pedestrian areas.

The provision of opportunities for a diversity of sidewalk vendors offering perishable wares such as food or flowers is encouraged. Such vendors should not obstruct pedestrian circulation, therefore the design of pedestrian paths and publicly accessible open space should assure that there are ample opportunities for the location of sidewalk vendors. The creative design and continual upkeep of vending carts and adequate maintenance of surrounding areas are encouraged. Such features are subject to City licensing provisions.

The establishment of outdoor sidewalk cafes is encouraged. The design, location, and construction or installation of such features must be carefully considered to assure that the proposed café does not obstruct pedestrian circulation, is appropriate in character with the surrounding buildings and open space, is comprised of durable and attractive materials, and is consistent with any related City streetscape programs.

F. Urban Open Space

The design of publicly accessible open space is extremely important to the future desirability and use of that space. Variety in the size and character of Downtown open space offers opportunities for varying activities and uses, and accommodates differing preferences and needs of the Downtown population. Opportunities should be created wherever possible for varied activities ranging from sitting quietly reading a book to joining together with large numbers of people engaged in or observing some performance.

Publicly-accessible parks, plazas, and other open space should be readily accessible from both sidewalks and surrounding buildings to assure maximum pedestrian circulation. Further, open space should be so located and designed to readily allow views from the sidewalk, street, and surrounding buildings into the open space as well as outward views from within the space. Such viewing should not create the impression of being under a spotlight, but rather should be adequate to allow casual people watching, create visual interest, and maintain a sense of personal safety.

The provision of varied, high quality, creatively designed, and comfortable pedestrian amenities including seating, lighting, artwork, trash receptacles, and more as described elsewhere must be carefully considered and be compatible with the overall program of amenities both within the open space and along adjoining streets. Solar access, wind protection, and landscaping should combine to enhance pedestrian comfort and provide a variety of sunny and shaded areas.

II. RELATIONSHIP TO EXISTING DEVELOPMENT

The physical development of the Downtown has been incremental over the last century. For much of this period, a fairly limited palette of available building technology and materials combined with a generally consistent approach to architectural character and building form. This has resulted in an existing building fabric noteworthy for its comfortable and consistent scale and compatibility of building materials. A closer look at buildings throughout the Downtown supports this consistency of general character while also revealing an extremely rich diversity in architectural styles and detailing which collectively provide a rich visual experience and a sense of the evolving history of the City. Where markedly different buildings deviated from the prevalent character, those that remain today tend to be noteworthy public buildings such as the Customs House and City Hall, or buildings that introduced a new era of design such as the Fidelity Trust Company Building.

Any development within this context, whether an infill or an individual building lot at mid-block or the redevelopment of an entire vacant block, should look to the character and prevailing pattern of development as an important frame of reference for new construction or substantial alteration.

In recognition of the intimate, pedestrian scale of the Downtown area, a premise of these guidelines is that large buildings (either exceptionally tall or massive) should be built differently in a small-scaled city than they might be built in a City of larger size or different character. Care must be taken to assure that new buildings be so composed and sited to reinforce and respect the scale and composition of existing building fabric while striving to meet the evolving functional needs and aesthetic interests of contemporary society. Care must also be taken to encourage diversity, an essential quality in creating an interesting and lively Downtown.

A. Integrate with, respect and enhance:

Standard: "Proposed development shall respect, enhance, and be integrated with the existing character of the general pattern of development in the Downtown, surrounding building environment and streetscape."

The development of new buildings, building additions, and other improvements such as publicly accessible open space should be responsive to the character of existing buildings and open space, achieving a creative integration of past, present and future building design and construction. Throughout this discussion, it is important not only to respect and integrate with the existing fabric of the City, but also to enhance that fabric. Where existing structures are of high quality and in themselves positive examples of the concerns identified in these guidelines, they provide an important reference for nearby new construction. Where existing buildings are not responsive to the concerns described herein, proposals for new construction in their vicinity have the opportunity to creatively enhance that portion of the Downtown. Factors to be considered in meeting this standard include:

1. Street walls and building setbacks

Downtown Portland is characterized by a very consistent pattern of buildings located at the street line that provide very clear definition and character to the street. The street is the counterpoint to the built environment, and can be perceived as rooms and corridors in the fabric of the City. Buildings give spatial definition to the street, and the street provides relief in the form of light, air, and a viewing vantage for the buildings. A continuous street wall gives emphasis and meaning to open plazas and squares. Street walls assist in reinforcing the unique and irregular street pattern, maintaining the density of the urban fabric, and through contrast, enhancing the significance of open spaces. The most obvious examples are Congress and Exchange Streets, where very little variation in street wall occurs.

Along the Downtown's principle streets, it is particularly important to maintain this continuity by assuring that new development maintains the street wall condition by building to the street line. Subsection 2 of this Section II provides for some flexibility in this regard for special situations.

2. Open Space

The Downtown open space network is comprised of a variety of publicly-accessible parks and plazas, and the many public sidewalks and private interior corridors and arcades which tie these open spaces together.

The design of buildings adjacent to these various types of open space should strive to complement and reinforce the vitality of these areas for pedestrian activity. At the ground level, frequent points of access into the open space, pedestrian-oriented uses, and ample visibility between interior and exterior enhances and supports the viability of the open space. At upper stories, the generous provision of window area supports the security of the open space through increased supervision and visibility, while also providing substantial visual amenity for those surrounding buildings.

The massing of new buildings or building additions around open space should provide a sense of definition and enclosure to the open space, while not overwhelming the space either in scale or in impact on solar access or comfort within the park. The character of the exterior facades of buildings developed adjacent to open space should be of significant interest and detail to enhance the experience of park users. Unarticulated, blank facades are discouraged.

Proposals for the introduction of additional open space should look to the prevailing pattern of open space as it relates to building form and density throughout the Downtown. For example, Congress Street is characterized by a very consistent building wall established along the street, punctuated at only a limited number of locations by setbacks which provide for publicly accessible open space (i.e. City Hall and Maine Savings Plaza). Any proposal to introduce additional open space along Congress Street should consider any detrimental visual or pedestrian use impacts a break in the street wall might have, and should assure an enhanced pedestrian environment and not duplicate or detract from existing open space. Each street environment should be similarly considered as the placement of open space relative to each individual street or sub-area differs from one street or area to the next.

Other open spaces in the Downtown have occurred at points where significant changes in the street pattern occur (or once occurred). Congress Square, Monument Square, and Boothby Square each are at a point where the streets bend or streets merge or intersect at abrupt angles. Opportunities for future open space may present themselves at other similar kinds of locations Downtown.

3. Building form, scale and massing

Portland is a small-scaled city. Yet as a dynamic and growing City, the Downtown needs to accommodate a variety of changing uses and building tenants have requirements for interior floor areas that exceed, sometimes considerably, the prevailing supply of existing or available space. In some cases, tenants have outgrown their current space. In other instances, new tenants or new uses require larger space. If such needs are to be accommodated within the Downtown, larger buildings must be integrated into the fabric of the Downtown.

- Structure of the City: The character of the built environment results from incremental growth, development and redevelopment over an extended period of time. This incremental growth accommodated individual buildings of relatively small and discreet interior space demands while responding to the Downtown's changing topography by stepping buildings and entrances along sloping streets. The resulting pattern of building form and massing along the street is characterized by multiple, relatively narrow and discreet building facades.

Continued development Downtown should recognize and reinforce this character and pattern. The design of infill buildings as well as the design of larger buildings should provide a massing which is visually broken into both horizontal and vertical elements that reflect the scale and massing of buildings within the surrounding context.

The prevailing pattern of streets running parallel and perpendicular to the waterfront is expressed in relatively short blocks, reasonable walking distances between blocks, and frequent opportunities to turn corners or move from one street to parallel streets. This street and block pattern reinforces the preceding discussion of the historical development of the Downtown involving multiple buildings with relatively small footprints and relatively narrow building facades. Even blocks where larger buildings have been created, such as the 500 block of Congress Street, frequent opportunities exist to pass through the interiors of street-level businesses to reach paralleling streets. This important aspect of the structure of the Downtown is important to the liveliness and accessibility of retail businesses and cultural amenities.

The development or redevelopment of larger sites, and the potential assembly of more than one block or parcel through the discontinuance of intervening streets, should carefully consider this characteristic pattern of pedestrian circulation. Such development is encouraged to reinforce this pattern of pedestrian circulation by development of relatively small building footprints or by incorporating regular opportunities for building access and through-block connections.

- Skyline of the City: Building height and form contribute to a sense of order and image of the Downtown. Historically, the skyline was characterized by a regular pattern of commercial and residential structures punctuated by landmark structures such as church steeples or the cupolas and towers of prominent civic buildings. Over time, larger commercial buildings were constructed initially at the lower elevations of the waterfront and then more prominently throughout the Downtown. Most recently, the development of office buildings reaching a somewhat uniform maximum height of between 125 and 150 feet is creating a skyline dominated not by individually distinguishable landmark structures but progressively by less individually distinctive, box-like background buildings. At the same time, because of the scale of these office structures, previous visual landmarks are becoming less visible on the skyline. Collectively, the resulting skyline toward which the current pattern leads will diminish a sense of order and orientation presented on the Downtown skyline.

The pattern of building heights established through the zoning ordinance is intended to reinforce the changing topography of the peninsula, recognize the characteristic scale of historic areas and residential neighborhoods, and provide a clear sense of visual orientation with the tallest buildings along the central high spine of the peninsula. Moreover, tall buildings within the Downtown, those which exceed the prevailing height of the most recent office construction, are encouraged once again to provide distinctive elements on the skyline, to reinforce opportunities for establishing points of reference for visual orientation, and to create a more interesting and distinguishable city skyline.

- Massing: The overall volumetric relationships, or massing, of major architectural elements contributes to the building's overall appearance and sense of scale. Buildings, particularly larger buildings, should be designed to lessen the appearance of excessive bulk in order to maintain a scale and pattern comfortable to the pedestrian and to integrate with the prevailing pattern of existing buildings throughout the Downtown. While encouraging original design responses and distinguished architecture, the appearance and visual impact of a building's mass and bulk can be diminished in a variety of ways, such as the following:

- i. varying the planes of exterior walls through setbacks, recesses, or changes in direction;
- ii. varying building height so that the upper portions of larger buildings appear divided into distinct massing elements; and

- iii. articulating different components of a building, such as the overall building composition (base, middle, and top), the arrangement of façade elements and openings, and the choice and variation of building façade materials.

Generally, dimensional requirements of the Zoning Ordinance stipulate setbacks to prevent taller structures from overwhelming the pedestrian scale of the street-level environment and to prevent canyon-like impressions at the street edge. Location and massing of larger and taller structures within the central portions of a building lot make for a graduated transition from street wall to tower, and from the modest scale of existing buildings to the larger scale of such new buildings.

These techniques also can be used to relate the scale and massing of proposed buildings to existing buildings. The perception of scale from the pedestrian level is of primary interest. Further, the use of compatibly scaled building elements can establish relationships between new and existing buildings while allowing considerable latitude for distinctive and creative architectural design solutions. Where the prevailing context is dominated or distinguished by prominent horizontal building elements, the incorporation of significant horizontal elements such as window treatment, belt coursing, cornices and building setbacks can demonstrate a sensitivity to the surrounding context.

4. Building façade proportion and composition

The design of new buildings, in particular the proportion and composition of the building's façade, should be responsive to the architectural context of buildings that surround the particular development site. These two aspects of a building's design relate closely to the manner in which scale and massing are perceived. A respectful integration of contemporary design within the existing context is encouraged and should complement, reinforce, and enhance the prevailing patterns and proportions of adjacent buildings without requiring imitation or repetition.

- Composition: The composition of a proposed building façade, that is the organization of its parts, should be carefully considered. Traditionally throughout the Downtown, buildings have been designed and constructed with a clearly identifiable three-part composition including a base, middle, and top. The base provides a portion of the building with a scale and level of ornamentation and articulation that is related directly to the pedestrian. The middle portion of the building generally provides a pattern of fenestration and detail that lends a sense of rhythm and scale to a building both horizontally and vertically. The top portion of the façade typically receives special treatment that terminates the building in an ornamental or distinctive manner.

Further, buildings Downtown frequently have a horizontal composition characterized by regular window openings set within distinctive bay spacings (often incorporating such elements as piers or pilasters). In some cases, the end bays of larger buildings are distinguishable from interior bays through additional ornamentation or a change in window pattern or some other feature expressed along the building's façade.

It is important that these different overall components of a façade relate to one another on each building to assure an integrated composition. It is equally important that these elements respect corresponding elements of adjacent buildings to assure that abrupt differences do not overwhelm existing buildings but rather reinforce prevailing patterns. In the design of larger buildings, it is particularly important to examine opportunities to compose the building both horizontally and vertically, respecting the character of buildings nearby through a contextually sensitive design while creating an interesting and creative individual building.

- Proportion: The proportion of building facades including the overall relationship between height and width of the complete façade and of components of the façade are related aspects of building composition and significant in assuring a contextual design response. Dramatic changes in proportion from one building to the next or in the character or proportion of façade elements along a given street often result in an inconsistent or ambiguous street character. The design of new buildings and substantial façade rehabilitations should strive to respect the character of building and façade proportions of surrounding development. Departure from prevailing patterns should be carefully considered to assure that the order and cohesiveness of a given street environment is not disrupted. The careful integration of the building into its surroundings, whether very similar or where creatively related but dissimilar, help to form "layers of commonality" which provide distinctiveness to different areas of the Downtown.

5. Pedestrian circulation and building entrances

There are strong patterns of pedestrian circulation and frequent building entrances that characterize the Downtown. The Downtown Open Space Plan identifies primary pedestrian circulation paths. Proposed development throughout the Downtown, and especially along these routes, should maintain and enhance these areas. Frequent building entrances, which have resulted in part from incremental development over time, are characteristic of the Downtown and support an active pedestrian environment. Proposed development should reinforce this pattern of providing frequent building access.

Section I, Relationship to Pedestrian Environment, provides further discussion.

6. Parking garages and surface lots

The provision of parking within the Downtown for the foreseeable future will be a continuing component of new development. It is important that the placement and design of new parking garages and surface parking lots be compatible with and enhances the character of the pedestrian environment Downtown while providing as well for the functional needs of such utilitarian facilities.

While it is of significant benefit to have parking, particularly turnover parking, in close proximity to retail storefronts and cultural activities parking areas should not create significant breaks in the continuity of businesses and activities which support pedestrian circulation and interest. Wherever feasible, priority should be given to maintaining pedestrian uses along street frontages and placement of parking should be shifted away from those street frontages and placed at the interior of sites and at upper stories in parking garages. Similarly, parking should be discouraged along the frontage of publicly accessible open space where pedestrian uses are important to the function of that open space.

- Parking Garages: Where parking garages are located along streets with significant pedestrian activity, the street-level uses of such parking facilities should be dedicated to pedestrian-oriented uses wherever feasible. Where initial conditions preclude the establishment of pedestrian-oriented uses along the street, parking garages should be designed and constructed so as to readily accommodate conversion to such ground floor uses at a later date. In addition, parking garages often have frontages or provide access from more than one street. In such situations, every effort is encouraged to incorporate through-block pedestrian connections which are clearly designated and which allow convenient pedestrian circulation along paths separate and distinct from vehicle travel lanes.

The design of parking garage facades should attempt to create a positive aesthetic solution that supports the interest of pedestrians nearby. While it may not be necessary to go to the extreme of masquerading the garage façade as some other type of use, the façade should fit comfortably with the other guidelines described throughout this document. Thoughtful detailing and screening of direct line of sight to vehicles and lighting contained within the garage is important, as well as providing additional landscaping or other site amenities at the facility's edges near public sidewalks.

- Surface parking lots: In general, surface parking areas within the dense Downtown setting are discouraged except on a temporary or interim basis. Where such facilities are proposed, care should be taken to assure that the character of these surface areas are attractive to the pedestrian walking nearby. The provision of adequate landscaping and/or ornamental fencing to help screen one's view of large areas of vehicular parking, the provision of appropriate lighting for pedestrian safety and comfort adjacent to such facilities, and the introduction of artwork or other pedestrian amenities along the pedestrian path can make such a facility more attractive.

Vehicular access such as driveway entrances or curb cuts to parking facilities should balance the needs for vehicular convenience with the priority for maintaining a safe and attractive pedestrian environment. The placement of such access should strive not to disrupt the continuity of pedestrian circulation. The design of these areas should give a clear indication to drivers that they are crossing a pedestrian area and that the pedestrian has the right-of-way. Pedestrian sidewalk materials should not be interrupted to accommodate an asphalt driveway, but rather the pattern of pedestrian paving material might change only to the degree that a clear indication is made to both driver and pedestrian that vehicles are present.

For example, where sidewalks are brick, the driveway entrance might be characterized by the placement of brick in a soldier coursing pattern or in some substantially distinctive brick pattern than is clearly part of the pedestrian sidewalk, but also recognizable as a vehicular path. Just as the sidewalk surface should not be interrupted to accommodate a driveway entrance, nor should sidewalk tilt-downs be the preferred solution to allowing smooth pedestrian circulation, but wherever possible the vehicular surface should be raised to meet the sidewalk. All such details must comply with the *Technical and Design Standards and Guidelines*.

- Signage: Adequate signage to attract and direct the motorist must be so designed, constructed and located so as not to overwhelm the pedestrian environment nor obstruct pedestrian vision or circulation. The design of signage for parking available to the general public should be consistent with a Downtown-wide program of signage for parking described in the *Technical and Design Standards and Guidelines*.

- Shared use: The design and management of Downtown parking facilities should consider opportunities for shared-use. Parking facilities are encouraged to consider extended use including day-time parking for office, retail, and cultural needs and “after-hours” (evening, weekend, and overnight) parking supporting retail, cultural and residential parking needs. Participation in the City’s clearinghouse program for residential parking is encouraged as well. Participation in a shared-use policy suggests a few issues that should be considered in the design and layout of parking facilities. In developing pedestrian and vehicular access patterns serving the parking facility, the presence of nearby residential units and adequate accessibility become important. The placement and design of street-level retail or other pedestrian-oriented uses should consider off-hour activities as well. Lighting and signage which support extended hours of use and possibly different pedestrian circulation patterns should be considered.

7. Areas within the downtown

Within distinctive areas of the Downtown, dissimilar buildings or greatly varying architectural designs can be linked by common elements that recur at regular intervals. Similarity of such things as paving materials, lighting standards, and exterior building materials or distinctive building features form layers of commonality that help to establish the identity of a particular area. Multiple layers within an area provide a richer and more identifiable character. When a new building is constructed without regard to existing layers within an area, the sense of identity of the area is lessened.

Areas within the Downtown which exhibit to some significant degree these layers of commonality include the Old Port Exchange, Commercial Street, Congress Street, and the area surrounding Lincoln Park identifiable as the Civic area. Development within each of these areas should enhance and reinforce those common features.

B. Standards for increasing setback beyond street build-to-line:

There are special exceptions to the predominant street wall condition described in the preceding guideline. The most notable of these are the public open spaces that have been created along the length of Congress Street. Congress Square Plaza, Maine Savings Plaza, and the City Hall Plaza are clearly exceptions to the pattern where public open space created in the heart of the Downtown provide welcome stops along an otherwise consistent street frontage. Monument Square and Longfellow Square represent other special and unusual situations where a change in the street grid or pattern have created opportunities for publicly accessible open space that reinforce prevailing street walls.

In order for proposed exceptions to this pattern of predominant street wall to be acceptable, the applicant must demonstrate to the Planning Board that the introduction of additional setbacks at the street level satisfies the following:

1. Open space and amenity

Provide substantial and viable publicly accessible open space or other amenity at the street level that supports and reinforces pedestrian activity and interest (such amenities might include plazas, outdoor eating spaces and cafes, or similar public amenity);

2. Prevailing character and continuity

Does not substantially detract from the prevailing street wall character by introducing such additional setback at critical building locations such as prominent form-defining corners, nor create a sense of discontinuity in particularly consistent or continuous settings;

3. Support for existing open space

Does not detract from existing publicly accessible open space by creating an excessive amount of open space in one area or by diminishing the viability or liveliness of that existing open space; and

4. Quality and orientation

The area of setback is of superior quality and character of design and of acceptable orientation to solar access and wind impact as to be attractive to pedestrian activity.

In addition to meeting the above exception criteria, such an additional setback may be appropriate where such setback provides a special setting for prominent civic buildings.

III. ROOF-TOP APPURTENANCES

Standard: *"All mechanical equipment, ventilating and air conditioning and other building systems, elevators, stairways, radio or television masts or equipment, or other roof top elements not intended for human occupancy shall be fully enclosed in a manner consistent with the character, shape and materials of the principal building."*

The character of the skyline of the Downtown is defined in part by the character and profile of the tops of buildings. Evolutionary in nature, this skyline is rich with a diversity of steeples, towers and ornamental parapets that have been constructed as integral architectural components of individual buildings. At issue here are the various roof-top appurtenances such as mechanical, ventilating, or air conditioning systems, or

television or radio masts or equipment which have been located atop both recent and historic structures typically in order to provide contemporary conveniences or accommodate up-dated systems to those structures. Many of these appurtenances are seen as intrusions on the skyline where no attempt has been made to make an otherwise foreign and visually incongruous element fit comfortably within the architectural composition of individual buildings.

In addition, as building heights in part of the Downtown are increased, substantial numbers of Downtown employees and visitors will be experiencing views of the Downtown from upper stories of buildings. Such views, in a relatively small and pedestrian-scaled City, typically include a considerable number of rooftops and are impacted by the character and clutter of such rooftop appurtenances.

Wherever feasible, rooftop appurtenances should be located and designed so to appear as an integral part of the architectural character of the building on which they are located. The exterior appearance of these features should incorporate a scale, shape and choice of materials that is consistent with the principle building. In many cases, the simple placement of such features can go a long way toward making them indiscernible from pedestrian vantage points. The use of exaggerated parapet walls or architectural ornamentation can serve a similar function. Enclosing such features within a skin of materials which complement other materials on the building can help to integrate the feature with the rest of the building.

IV. SHADOW IMPACT ON OPEN SPACE

Standard: "The location, massing and orientation of portions of buildings in excess of sixty-five (65) feet in height shall be such that substantial shadow impacts on public plazas, parks, and other publicly accessible open space are avoided."

In a City with an extended period of cool autumn and spring seasons and a cold winter season, the availability of direct sunlight to areas of pedestrian activity plays an extremely important role in extending the use of those pedestrian areas. Frequently during these seasons, the availability of the sun's warmth makes sitting or standing within a park or plaza quite tolerable and often inviting whereas a shaded portion of the same park may be uncomfortable.

Of permanent and continuous impact on the availability of direct sunlight within an open space is the shadowing caused by the placement particularly of tall and massive structures immediately adjacent to publicly accessible open space. Even relatively short structures adjacent to a pedestrian open space can have a significant shadowing impact during the colder months when the sun is relatively low in the sky. In an effort to balance the needs for development opportunity, the importance of enclosing and defining open space with the building fabric adjacent to that open space, and the importance of maintaining sunlight in a given open space, substantial shadow impacts created by new construction or building additions which exceed 65 feet in height should be avoided.

Placing building height and mass at the center of sites or generally away from any such open space is encouraged.

Factors which should be considered and carefully evaluated in determining whether a shadow impact is substantial include:

1. the amount of area of publicly-accessible open space that is shadowed;
2. the time and duration of the shadow impact within the open space; and
3. the importance of sunlight to the utility of the type of open space being shadowed.

As a general reference, new development should not increase the area in shadow by more than 10 percent during the period from March 21 to September 21 during the critical hours of use for the following open spaces:

Longfellow Square	9 am to 3 pm	Congress Square	10 am to 3 pm
Monument Square	10 am to 3 pm	Lincoln Park	10 am to 2 pm
Lobsterman Plaza	9 am to 2 pm	City Hall Plaza	10 am to 2 pm
Tommy's Park	10 am to 2 pm	Post Office Park	10 am to 2 pm

A particularly important and somewhat unique condition can be found on certain streets within the Downtown. Key pedestrian streets that run the length of the peninsula, such as Congress Street, enjoy direct sunlight on sidewalks along the northern side of the street for much of their length during the mid-day hours of heaviest pedestrian activity. Design and massing of new development along these streets should strive wherever feasible to minimize any shadow impacts on these sidewalks particularly during the mid-day hours.

V. WIND IMPACTS

Standard: "The location, massing, orientation and architectural design of a new building or a building addition shall be such that no significant adverse wind impacts are created."

Portland is a coastal city with gusty wind patterns and winds coming primarily from the northwest (winter), west, and southwest (summer). The average wind speed at pedestrian level is approximately 4.5 miles per hour.

The location, massing, height, and design of buildings and the placement of site features can all have a dramatic effect on the comfort level of pedestrian space as it is impacted by wind. In general, the taller the building, the stronger the wind potential is at the building's base. Monolithic buildings, those that do not change shape with height, almost invariably will be windy at their base when they are significantly taller than most of the surrounding buildings. When there are a lot of buildings of similar height in an area, the buildings tend to shelter one another.

The introduction of building setbacks, and pronounced architectural features such as projecting cornices, awnings and canopies, or other elements which give a three-dimensional relief to a structure all tend to help mitigate the potential impact of increased winds. The placement of site features such as walls, berms, and landscaping similarly can help to mitigate the wind impact by reducing speed or creating sheltered areas that might be most appropriate as seating or standing areas.

Consideration of wind impact as relating to new construction should have as its objective the establishment and maintenance of a comfortable pedestrian environment. Comfort levels for pedestrian use are related to wind speed, reflect the type of pedestrian activity that might be acceptable, and can be categorized (Melbourne's Criteria) as:

1. unacceptable and dangerous
2. uncomfortable for walking
3. acceptable for walking
4. acceptable for short periods of standing or sitting
5. acceptable for long periods of standing or sitting

In evaluating whether adverse wind impacts are created, the following factors should be considered:

1. Pre-development and projected post-development wind speeds and their impact on pedestrian movement; and
2. Impact of projected wind speed on the use of and comfort within existing and proposed pedestrian seating areas and other adverse impacts on the surrounding area.

VI. SETBACK FROM EXISTING STRUCTURES

Standard: "The location and design of proposed structures shall not create a detrimental impact on the structural integrity or safety of adjacent structures or the safety of occupants thereof."

In general, the Downtown zoning ordinance does not require specific minimum setbacks from existing structures. The intention is to recognize that this is the most intensive urban environment where buildings sharing party wall conditions and property lines represent a positive and traditional development pattern encouraging a dense and vital urban fabric.

It is important, however, to assure that the location or design of proposed structures does not create a detrimental impact on either the structural integrity of adjacent existing structures or on the safety of occupants within those adjacent structures. The following examples are illustrative of the possible situations where the location and design of proposed structures might result in such a detrimental impact and which should be avoided.

1. The design of a proposed structure should not create a situation where resulting snow loading might occur on an adjacent structure that would threaten the structural stability of that structure. Alternative approaches to the design and location of the proposed structure might avoid such a snow-loading condition by introducing a setback or step-back from the existing structure or by modifying the design of the proposed structure to avoid a snow-loading condition. With agreement from all parties concerned, another alternative could involve the structural reinforcement of the existing structure or some design modification to the existing structure that would mitigate any potential problem.
2. The design or placement of a proposed structure should not render floor area in an existing adjacent structure unsafe by virtue of eliminating or obstructing means of egress which is required under fire or life safety codes. Alternative approaches for such possible situations might include the creation of suitable alternative means of egress for the existing structure either within or adjacent to the new structure or, with agreement of all parties concerned, on the premises of the existing structure.

It is important to assure that developers of new structures Downtown and owners of existing structures understand that buildings constructed at the property line are susceptible to development on adjacent properties without a minimum yard requirement or setback. New structures should be so designed and constructed wherever feasible so as not to burden adjacent properties with conditions where any such subsequent development would be restricted due to potential structural or safety problems.

VII. BUILDING TOPS

Standard: "Buildings or structures which exceed one hundred fifty (150) feet in height shall be designed so as to provide a distinctive top to the building which visually conveys a sense of interest and vertical termination to the building."

Historically, Portland has been a relatively small-scaled City with a fairly consistent pattern of building height punctuated by landmark structures such as church steeples, turrets or slender towers which provided visual interest and a sense of orientation. Over the last several decades, the character of recent development has been such that the pattern has evolved into a fairly consistent building height of approximately 125 to 150 feet in height, with fairly consistent and box-like building profiles becoming the norm. With the introduction of opportunities for significant increases in building height, there is an opportunity once again to provide a distinctive and exciting skyline composed of lower "background" buildings punctuated by taller landmark structures.

For taller buildings, those that exceed 150 feet in height, the design of the building top should visually convey a sense of slenderness and vertical termination while creating visual interest on the skyline. The introduction of sloped, conical, stepping, or otherwise distinctive and ornamental tops can generally make squat buildings seem more slender, provide a distinctive skyline to the City, and emphasize the height of landmark structures.

VIII. VIEW CORRIDORS, VISUAL LANDMARKS, AND GATEWAYS

A. View Corridors

Standard: "The placement and massing of proposed development shall not substantially obstruct public views to landmarks and natural features from those locations identified on the View Corridor Protection Plan."

View corridors play a large role in determining the visual character of the City by revealing destinations and assisting pedestrians and motorists to orient themselves to the layout of streets and to the Downtown. Distant views provide visual and psychological connections to the world surrounding the City. Views may also make connections to the past by juxtaposing the old and the new. Portland's relationship to the water is an important part of its unique character and identity. Key views to the harbor, Back Cove, and landmark buildings are a community resource to be preserved and protected. They create the sense of place that defines Downtown Portland as well as providing orientation to the public moving about Downtown.

The View Corridor Protection Plan identifies significant view corridors in the Downtown. The Plan also identifies the portions of those view corridors from which views along the corridor are important. Generally, the width of the view corridor is established by the width of the particular public right-of-way that is the principal component of the corridor, and the focus of the view is identified. Because of the substantial variation in topography on the peninsula, some level of development may be acceptable within the right-of-way width that does not effectively obstruct views from higher elevations.

With the pre-development view as a basis for reference, the placement and massing of new structure or other development along or within the designated view corridors should not substantially obstruct views to the water or landmark. To accommodate these view corridors, development on individual parcels may need to step taller portions of structures back out of the view corridor or so plan the layout of a development proposal so to site structures on other portions of a site. In some situations, low buildings could be constructed which would not block the particular view corridor. In other cases, parking or site amenities such as open space might be so placed to relate to the view corridor.

B. Visual Landmarks

Landmark buildings in Downtown Portland help give the Downtown a sense of identity and history, and are important elements for providing orientation to both pedestrian and motor vehicle. The most recognizable landmarks, important symbols of the City and its institutions, are:

- Portland City Hall
- Custom House
- Cathedral of the Immaculate Conception
- Munjoy Hill Observatory
- First Parish Church

The spirit of this policy could be extended to a variety of other important buildings in the peninsula area. Elements such as church spires, towers on schools and fire stations, and unique architectural roof features should be respected and viewed against the sky.

Presently, the distinctive profile of each of the five identified landmarks can be seen against the sky from important streets and squares. This quality contributes to their visual prominence. Typically, they are surrounded by structures of similar or lower height, so they seem an integral part of the areas in which they are located. When landmark buildings are dwarfed by structures of considerably larger scale, they appear as remnants of some bygone era. Development adjacent to these visual landmark structures is encouraged to be considerable of their importance and should assure wherever feasible that the landmarks be read against the sky from important streets and view corridors, and that they be surrounded by structures of similar scale.

To accommodate the protection of views to these landmark structures, it may be encouraged on individual sites to limit building heights or reconfigure building massing through setbacks or stepbacks to ensure that landmark structures can be seen and are not overwhelmed.

C. Gateways

Downtown Portland today has a diverse set of gateway entrances characterized by water, air, and land approaches. The 1983 **Gateways to Portland** study provided an overview of the opportunities presented by gateways in general, including:

- a. Create a newcomer's *first impression* of the city;
- b. Provide a clear *orientation and guiding symbol*;
- c. Opportunity as a *pass-by-route* (such as I-295) where the passing view of Portland may be one's only impression of the City;
- d. Provide unique areas for residents and commuters to observe and relate to their city, *broadening an understanding of their city*.
- e. Provide pleasure of experiencing an attractive and more livable urban environment.

f. Image and potential *economic impact*.

The following list identifies existing significant Gateways:

I-295: From the Portland Jetport to Tukey's Bridge, I-295 offers a succession of dramatic and changing panorama views of the Downtown as one passes by the Downtown along the interstate highway system.

Franklin Street Arterial: The northernmost of two immediate Downtown exits from I-295, the Arterial provides perhaps the most dramatic opportunity to sense the changing topography of the saddle area of the peninsula and reveals the dramatic views to both the Back Cove and Portland Harbor that flank the Downtown.

Forest Avenue from I-295 to Congress Street: Forest Avenue provides the southernmost of two immediate Downtown exits from I-295 and is a major artery serving northwestern Portland neighborhoods and as Route 302 serving western communities. Forest Avenue brings the motorist into the heart of the Downtown near Congress Square. Both the Portland Performing Arts Center and the YMCA are major cultural facilities immediately found on this street.

State Street/High Street: This one-way pair provides access from the northern (Forest Avenue and I-295) along State Street through Longfellow Square, and from the south (primarily the Million Dollar Bridge) along High Street to Congress Square.

Preble/Elm Streets, Baxter Boulevard: Preble and Elm Streets comprise another one-way pair connecting Marginal Way, Forest Avenue, and Baxter Boulevard/Route 1 to the Downtown in the vicinity of Monument Square.

Portland Street: The approach to Downtown along Park Avenue, past historic Deering Oaks Park, and along Portland Street to Preble Street and Cumberland Avenue offers an opportunity for creating a more attractive Gateway entrance through an area that has potential for continued redevelopment. A dramatic view of the landmark City Hall Tower, particularly as illuminated at night offers visual amenity to this corridor.

Washington Avenue to Cumberland Avenue and Congress Street from the east: Washington Avenue serves as an entry for traffic approaching Downtown from the north with an exit from I-295 and a connection as an arterial along Washington Avenue from Falmouth, and from Munjoy Hill. This approach, bringing traffic through a portion of Munjoy Hill, has the potential to be substantially enhanced and to provide a sense of the mixed-use character of Portland's East End.

Congress Street from the west: This approach ties the Portland jetport, the Stroudwater neighborhood, and areas westerly to the Downtown connecting at Longfellow Square. This area has undergone considerable change over the last thirty years, and presents an important approach that would benefit greatly by gateway improvements.

Commercial Street: This approach ties I-295, across the Fore River at Veterans Memorial Bridge to West Commercial Street, along the industrial and marine-related mixed use waterfront, connecting to the Downtown in the vicinity of the Old Port.

The Million Dollar Bridge to York Street: After excellent views of the Portland waterfront and Downtown skyline as one crosses the bridge, this entry to the Downtown provides an opportunity to get a sense of the residential and evolving commercial districts which surround and are so important to the Downtown. This path has two branches, one leading up High Streets to Congress Square and the other continuing along York Street to Gorham's Corner and the Old Port.

Harbor Approach: With the islands of Casco Bay serving as residential communities of the City, and with a considerable summer population based on the islands or approaching the City by water, the approach to the Downtown from the water side is quite important. The dramatic views of the waterfront and the City's skyline are important and quite unique opportunities for Portland. The Casco Bay Ferry Terminal, International Ferry Terminal and public or private landings and docking facilities all serve as entry points for residents and visitors alike.

Air approach to Jetport over Harbor: The dramatic air approach over Casco Bay, the Portland Harbor and Downtown Portland offer a spectacular and ever changing introduction to the City.

While each of these entrances to the Downtown is unique, collectively there are opportunities to enhance these entrances by preserving view corridors and panoramic skyline views along or from these corridors, reinforcing and enhancing the scale, character and placement of buildings along these entrance routes, and by encouraging development which reinforces the unique positive aspects and opportunities for each particular Gateway.

At the scale of the streetscape, consistent street tree planting and landscape improvements, consistent sidewalk paving patterns, distinctive informational and directional signage, and lighting programs can reinforce the character and positive impression of each Gateway entrance. The provision of landscaping, paving materials, and other pedestrian amenities should all be of the highest quality and be compatible with and enhance the Gateway experience for both vehicle and pedestrian. Service yards, storage areas, and parking lots should be suitably screened from view along all designated Gateway entrances to the City.

Proposals for development along Gateway entrances to the Downtown are encouraged to examine and reinforce the unique character and opportunity of that gateway entrance to the Downtown in terms of the design and siting of buildings, land uses, and streetscape improvements.

IX. SIGNAGE/AWNINGS/CANOPIES

A. General

Signs, awnings, canopies and other similar devices are among the most noticeable visual elements of the urban environment. These devices are not only a practical business requirement for a property owner or tenant but also can significantly enhance a storefront, building façade and street environment. Signage designed, constructed, and installed throughout the Downtown should be executed and placed in a manner which is respectful of the character of the building on which it will be located and the character establishing the appropriateness of a proposed sign will be the character and design of those other existing signs which would meet the guidelines presented herein.

Signs, as components of a building façade, are relatively temporary as businesses or tenants change with some frequency over time. The design and installation of signage should recognize this temporary nature of signage and should always be approached with an attitude of reversibility. All signs should be designed and installed in a manner that upon their removal, the character defining features of the building remain intact and that the exterior materials of the building are not permanently or irreparably damaged.

B. Design

1. General

- The design of signage should be respectful of the building on which it is located, carefully designed to fit a given façade complementing the building's architectural features. Signage inconsistent with the architectural style of a building, such as providing "colonialized" signs on a Victorian storefront, is not appropriate.
- The design of signage should be oriented and scaled to reflect the scale and character of movement of people around the building, with an emphasis primarily on the pedestrian and slow-moving traffic.
- Design, selection of materials, and workmanship shall be of high quality in appearance and character, complementary to the materials and character of the building, and convey a sense of permanence and durability.
- In addition, the design of signage on historic structures should consider historic signage that was previously or is currently incorporated on the building. Where clear documentation exists as to the character and design of original or historically significant signage found on that building, every effort should be made to meet contemporary signage needs with a sign designed in keeping with the building's historic signage.

2. Size

- The size of proposed signs should be compatible with the scale of the overall building, with the scale and character of the building's architectural features, and with the character of the specific sign location.
- The size of the sign should relate comfortably in size and scale to pedestrians moving about in the vicinity of the sign.
- No sign shall extend greater than four feet into any public right-of-way or beyond a vertical plane two (2) feet inside the curb line (face of curb).

3. Communication

- Signage is most effective when it is simple and limited in subject matter to the name of the business or property, a street address, and the incorporation of a logo, symbol, or other graphic display that is central to the primary tenant or use of the property. Signage should clearly be incidental to the tenant or use of the property. General commercial advertising unrelated to the principal use is discouraged. Signs advertising businesses or products not found on the property (off-premises signs) are not permitted.
- Lettering typefaces and words should be selected which are simple, easy to read, and scaled appropriately for both the sign and building. Logos or symbols are encouraged where integrated with the proposed sign. Pictographs (such as the creation of a projecting sign in the shape of a key for a lock shop) should be carefully considered and can be an interesting and appropriate feature in some situations.
- Colors on signage should be selected which complement the character and color pattern of the building. A sign should not, by virtue of its color, be distracting from the design and character of the building on which it is located. Signs tend to be most effective when there is a contrast in color between the lettering/symbols and the background of the sign.

4. Illumination

- Generally, flashing or moving lights are not appropriate. Special situations, such as the design of marquees or features relating to special uses such as cultural events or public activities may be appropriate exceptions where sensitively designed and where no safety hazard is created.

- Illumination of signage should be compatible with the character of illumination already existing on the building and on surrounding buildings, on existing appropriate signs in the vicinity, and the character of illumination along the pedestrian areas adjacent to the building. Where internal illumination of a sign causes the scale of the sign to become excessive in relation to architectural features of the building due to the sign thickness necessary to accommodate internal devices, alternative lighting should be considered. Backlighting of individual letters may be an acceptable alternative.
- External illumination of signage should be concentrated evenly on the sign itself, with no significant glare or spillover onto adjacent buildings. The light source should be concealed from the direct view of the pedestrian.
- All electrical conduit, transformers, raceways, and wires must be concealed within or behind the sign or face of the building, or be designed as an integral element of the building façade, or be substantially disguised or hidden so as to be unobtrusive to the appearance of the building and sign. The attachment of such devices to the structure should not permanently damage any significant architectural features or the architectural fabric of the building.

C. Placement and Location

1. The placement of signage on all buildings should be carefully considered, taking into account the scale, character and design of the building, the traditional location of signage on Downtown buildings, the location of existing or designed sign boards, lower cornices, lintels, and piers, and the opportunity to use signage as an element to reinforce building entrances.
2. The placement of signage should not visually obscure architecturally significant features of the building. The method of attachment for new signs should not permanently alter or destroy significant features or materials of the building.
3. Where signage is proposed on window surfaces, such signage should not substantially obscure visibility through the window.

4. Generally, the placement of signage should occur below the sill of the second story windows. Where the design of the base portion of the building establishes some higher location as an appropriate location and where such location complements the character of appropriate signage on adjacent buildings or architectural features of adjacent buildings, alternative locations should be considered. Where unusual site characteristics exist or where exceptionally well-designed and integrated signage is proposed, placement elsewhere on a building will be considered. Painted signs on upper story windows, such as stenciled names of professional firms, are acceptable provided they do not detract from the character of window design.
5. In addition to placement criteria above, the minimum height of projecting signs, awnings, canopies, and marquees above the sidewalk shall conform to the current BOCA National Building Code. Further, projecting signs should be placed high enough to prevent vandalism.
6. No signs should extend or be placed above the roof or parapet line of any building. The development of taller buildings Downtown provides an opportunity for significant impact on the character and attractiveness of the City's skyline. Through other design guidelines dealing with rooftop appurtenances and ornamental building tops, the design of taller structures is encouraged to create architectural design rather than through a corporate logo or name emblazoned at the top of tall structures. Therefore, no signage should be placed on portions of buildings or structures exceeding 125 feet in height.
7. No private signs should be placed in the public way without specific license by the City.
8. Freestanding signs, excluding public information signs, are discouraged. Signage should be incorporated with building features or with integral site features such as planter walls.
9. The placement of signs shall not disrupt or obstruct the vision of drivers or pedestrians so as to create a hazardous situation. No signs should be so located as to significantly obstruct pedestrian circulation.

D. Number of Signs

1. The proliferation of signs within a dense urban environment can lead to visual confusion and a sense of clutter. The number of signs for each tenant or building should be kept to a minimum while recognizing the need for identification and visibility. Building signs and projecting signs should be limited to one per building street frontage for each business or tenant.

2. Where multiple signs occur on a single building, there should be a common pattern and character between such signs. Signs need not all be identical, but there should be a common pattern of placement, general design, and illumination.
3. Where multiple tenants are served by one sign or a grouping of signs, the signs should be treated as a building directory with the building name and/or address most prominent and the names of individual businesses or tenants subservient in the directory design. Such directories should be located at or near building entrances and should be scaled so that individual names are visible to the pedestrian.

E. Guidelines for Special Categories of Signs

In addition to the guidelines described above, certain types of signs require special guidelines that relate to their special character or purpose.

1. Awnings, Canopies and Marquees

These signs serve both as decorative and multi-functional devices. In addition to the color and character they can add to the visual environment, these features serve to protect pedestrians from adverse weather conditions, entice pedestrians to pause and view merchandise on display in storefronts, can protect displays from intense sunlight and can provide visual relief to otherwise flat or unarticulated facades. The shape and size of these devices should correspond to the shape, character, and size of the opening over which they will be installed, and should fully fill the width of the individual window or door opening. These devices should be designed and located to be compatible with other appropriate and similar features on the same building or on buildings in the vicinity. These devices should not obscure architecturally significant elements of the building.

2. Public Information Signs

This category of signage includes informational signage such as traffic regulations, transit information, public announcements or community activity information, and historic markers, as well as directional signage such as street signs and directions to major civic, arts or cultural facilities. Wherever possible, these signs should be designed and located so that they complement the character of the environment in which they are placed. Such signs may be free-standing as necessary to effectively serve their purpose. These signs may be located off the premises to which they refer.

3. Painted Wall Signs

Painted wall signs such as murals should be used only to enhance the environment or streetscape. They should not be developed for advertising purposes. Such wall signs should not disrupt the setting of an historic building or of an otherwise distinctive environment. Painted wall signs such as business names may be appropriate and should be reviewed according to other applicable guidelines. Where painted wall signs are appropriately located, the surface of walls used for such wall signs should be properly prepared so to reduce the need for maintenance and to assure long-term attractiveness. In a few instances, old painted wall signs of a commercial nature still are discernable on the facades of some buildings and serve as reminders of former businesses and activities found therein. These signs should be examined on an individual basis and, where they reflect a significant period of the Downtown's history, restoration of the most significant of these should be encouraged.

4. Address Signs

Address signs indicate the street address of a business or building. The location of these signs generally should occur above or on the entrance, and should be coordinated with adjacent establishments with the objective of making building identification easier.

5. Portable/Movable Signs

Portable sandwich board signs commonly found throughout the Downtown are the only portable freestanding signs (other than special temporary signs and public information signs) which are encouraged Downtown. All portable signs placed within the public way require special permitting through the City. In addition to requirements of that process, all such signs should be designed and located in a manner that does not detract from the character of the pedestrian environment, nor create obstacles to pedestrian circulation or visibility.

6. Temporary Signs

This category of sign is exhibited for a limited time to advertise special events or sales and is removed following the event. Included within this category are "For Sale or Lease" signs, construction signs, sale or promotional signs, and special events signs.

7. Banners, Flags and Pennants

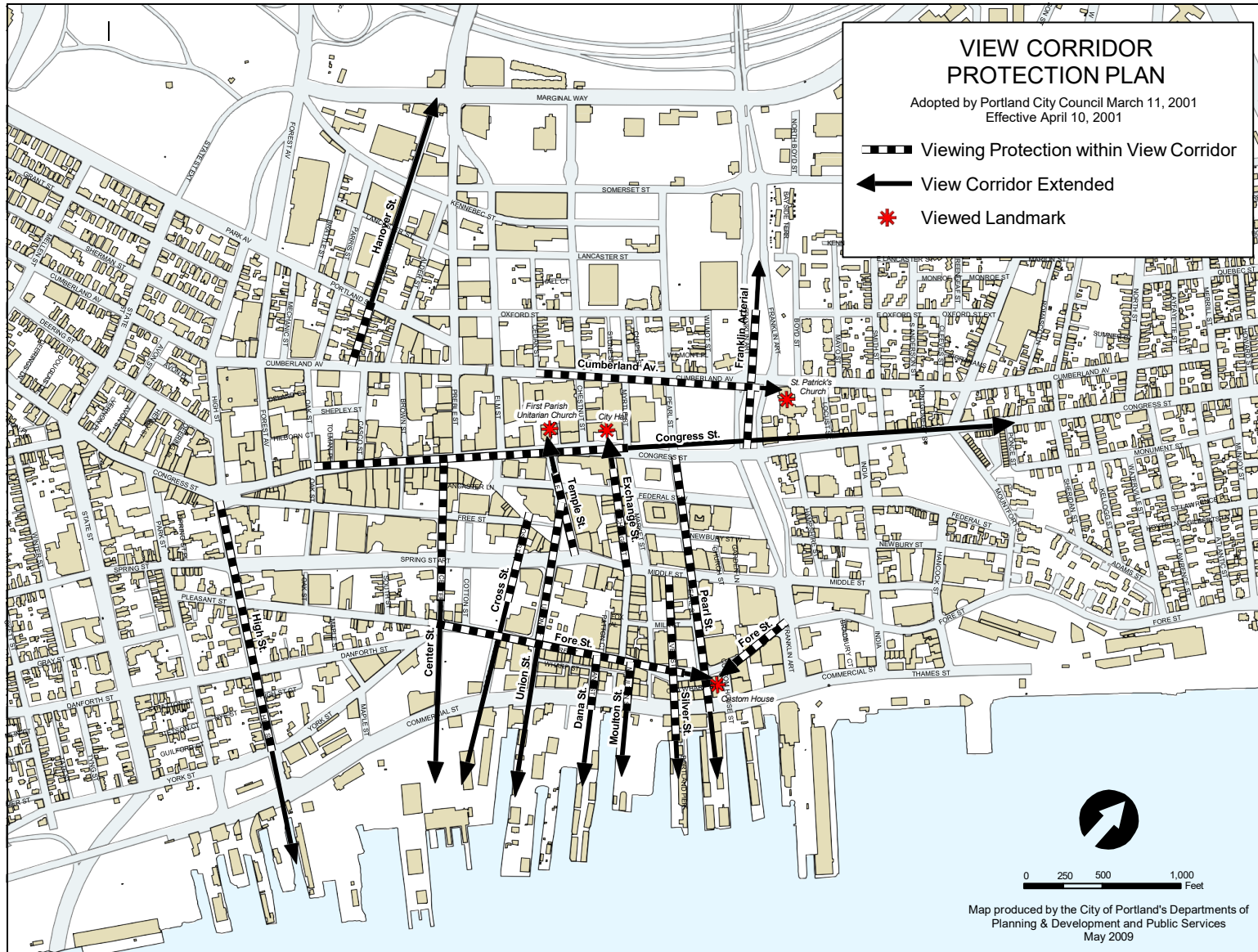
Colorful flags, pennants and banners add color and movement into the streetscape. The incorporation of such elements into the streetscape or the placement on buildings should complement the character of the building fabric. While the flag or banner is relatively temporary in nature, the brackets or poles from which these elements hang tend to remain for extended periods. Attachment of such support devices to buildings or other structures should not cause irreversible damage to significant architectural features or fabric.

8. On-Site Service Signs

On-site service signs for such needs as identifying parking entrances and exits, handicapped parking spaces or handicapped access, drive-thru teller signs, and other similar directional signs should be considered as a whole system, coordinated in size, materials, design, and character within a single property and with adjacent properties.

F. Maintenance

All signage should be maintained in good visual and structural condition.



**Downtown Height Overlay
Portland, ME**

prepared by the City of Portland's Department of
Public Works and Planning
December 2005

100 200 400 600 800 1,000 Feet

City of Portland
Technical Standards and Design Guidelines

Development in the B-1, ~~B-1b~~, B-2, B-2b shall meet the following guidelines in order to meet the Site Plan Standards

1. Building Location and Form

Buildings shall be located near the street so as to create an urban street wall.

An urban street wall is created by a pattern of buildings which line the street in a consistent manner, thereby establishing a desirable spatial relationship between the building in the commercial district and the major object. Location is one of several related factors defining the street environment.

Building Form, including height, bulk, and massing, contribute to the development of a street wall.

The desired condition is to have the building frame and enclose the street, which is achieved by providing building height that is proportionate to the width of the adjoining major street. A ratio of building height to street width of one-to-two creates a strong "room-like" street, while a one-to-three ratio provides good street definition and proportion. Shorter buildings of one story facing broad streets will not achieve the desired relationship.

In the B-2b zone, buildings adjacent to streets should approach 1:2 height to street width, with a minimum of 1:3.

For a fifty-foot street right-of-way, therefore, a minimum height of 15' is required, with 25' height preferred. An eighty-foot right-of-way requires about 27' to achieve the 1:3 proportion., with 40'-height preferred. Obviously, buildings located as close as possible to the street right-of-way will provide better definition and proportion than buildings set further back.

2. Building Function

An urban street and business district requires a substantial intensity and variety of uses.

It is beneficial to have mixed uses within portions of buildings situated near the street. For example, a retail first floor might have office or residential on the second or third floors. This provides both the scale of building height desired, as well as the economic vitality of the business district.

3. Orientation of Buildings and their Entrances to the Street

Major building entries shall be designed and located to provide the primary building access oriented to the public street and sidewalk.

Doorways should be prominent and obvious in appearance, so as to attract the users toward the entry. Major entry features should primarily address the street, with entry courts, display windows, signage, lights, walkways, and vestibules, as appropriate. Major entries should be adjacent to, or very close to, the street and public sidewalk.

4. **Windows**

Windows shall be located in all building facades visible from the public way, especially on building facades along the major public street.

Retail uses with store fronts are the most desirable feature for locations adjacent to the public sidewalk; and active, transparent (minimum visible transmittance (VT) of .7 or greater), and interesting windows contribute the maximum value. Limitations on transparency, such as dark or reflective glass, or interior coverings, should be avoided. Where uses (such as office) are not conducive to transparent viewing from the public way, windows can still convey a sense of activity and presence along the street. Even these more private windows can convey occupancy and habitation when lighted from within, as during evening hours, even if the interior is screened from view.

5. **Building Character, Detail, Scale, and Graphic Qualities**

Building design will include various architectural and graphic amenities to provide a strong presence along a street and relate a building to its community.

Awnings, canopies, and flags may be utilized to highlight entryways and to further identify the activity and identity of a use. *Facade lighting* may be used to highlight entryways or to provide visual interest along an otherwise blank façade. Building scale, roof pitch, architectural detail, and fenestration shall be designed to complement and be compatible with surrounding residential and commercial buildings.

6. **Signage and Building Entrances**

Building entrances and building signage in the B-1, ~~B-1b~~, and B-2b zones will be designed and constructed at the pedestrian scale.

~~*We may need to revise the Sign Ordinance for allowed height and dimension of signs.~~

7. **Development Relationship to Street**

Building facades and site amenities shall form a cohesive wall of enclosure along a street.

Where buildings are not located at the street line, site amenities, including masonry walls, fences, and landscaping, shall be placed along the street to provide a sense of enclosure or definition.

8. **Parking Lots**

Parking Lots shall be screened from view of the public way.

Landscaping or fencing shall be used to screen parking lots from public ways and residential neighbors. Where parking is located within the front yard (or side yard of a corner lot), a landscaped buffer or fence shall be placed along the street line to distinguish the private space from the public space and to help define the street wall.

Parking lots shall be screened from neighboring properties.

A densely planted landscape buffer or fencing shall be installed to protect neighboring properties from the impacts associated with the parking lot and the use it serves.

Crosswalks shall be provided within parking lots and across entrance driveways, directing pedestrians to building entrances.

~~Street trees shall be planted along property street frontage 25ft. on center.~~

9. **Transit Connections**

Development proposed along established transit corridors must design uninterrupted access from the proposed development to the transit stop.

An easement to place a transit shelter may be requested for development located along a transit corridor.

Filename: ~~_____ B1, B1b, B2, B2b Tech Standards and Design Guidelines~~
Directory: ~~_____ C:\Documents and Settings\mpe\My Documents~~
Template: ~~_____ C:\Documents and Settings\mpe\Application
Data\Microsoft\Templates\Normal.dotm~~
Title: ~~_____ City of Portland~~
Subject:
Author: ~~_____ jmy~~
Keywords:
Comments:
Creation Date: ~~_____ 8/28/2008 10:45:00 AM~~
Change Number: ~~_____ 2~~
Last Saved On: ~~_____ 8/28/2008 10:50:00 AM~~
Last Saved By: ~~_____ jmy~~
Total Editing Time: ~~_____ 7 Minutes~~
Last Printed On: ~~_____ 8/13/2009 2:23:00 PM~~
As of Last Complete Printing
Number of Pages: ~~3~~
Number of Words: ~~_____ 874 (approx.)~~
Number of Characters: ~~_____ 4,982 (approx.)~~

University of Southern Maine
Campus Design Principles and Standards
Adopted May 23, 2006

1. PURPOSE

The *University of Southern Maine Campus Design Principles and Standards* have been created in recognition of the need of the university to grow in a vibrant, aesthetic, and sustainable manner that provides a strong sense of place, and conveys an identity as a high-quality institution of learning.

All new buildings shall be designed to create a visual connection with existing campus buildings with a goal of achieving a cohesive campus appearance. New development shall be characterized by excellence in architectural design, craftsmanship, materials, streetscape and landscape improvements, signage and lighting appropriate for a university in an urban setting in the Northeast.

These principles and standards are intended to regulate the future build out of the institution while ensuring that new development is sensitive to adjacent residential neighborhoods and commercial areas, and is successfully integrated with the City as a whole.

2. APPLICABILITY

The following principles and standards shall apply to all development on the University of Southern Maine Portland campus.

3. PRINCIPLES AND STANDARDS

PRINCIPLE A Campus Design

The campus design shall create a strong identity and sense of place. New development may be contemporary in architectural style, but shall be organized according to time-tested and traditional principles of urban and landscape design in order to integrate these buildings into a coherent whole. These principles shall serve to strengthen the overall image of the campus, establish defined boundaries, ensure a sensitive interface with surrounding neighborhoods and the city, enhance the physical amenities of the campus, create a pedestrian oriented environment with safe and vital streets, and provide a series of significant open spaces.

STANDARD A-1: Campus Edges. New development along the edges of the campus shall be designed to coordinate with the surrounding neighborhood, and provide a transition between institutional and smaller-scale uses through mitigation of height, setbacks and materials. Parking lots and structures, blank walls, or backs of buildings shall not be sited in a manner that forms a boundary to neighborhoods and the city. Dormitories shall be sited in a manner that is sensitive to private residential neighborhoods. Campus facilities that are available for use by the public shall be sited so that they are accessible to the surrounding neighborhoods.

STANDARD A-2: Building Orientation. Development shall be oriented to streets, major pedestrian access routes, and large scale open spaces in order to create a cohesive pedestrian-oriented environment. Buildings shall not be oriented toward parking lots. Large-scale open spaces shall be partially bordered by buildings in order to form defined courtyards or quadrangles. Structures shall be sited to create safe pedestrian spaces that maximize exposure to sun and block winds.

STANDARD A-3: Pedestrian Environment. Development along public streets shall be designed to enhance the pedestrian environment through such means as fully-functioning building entries oriented to the street; traffic calming, visible crosswalks and adequately sized sidewalks; pedestrian scaled street lights; exterior gathering spaces; trees and landscaping; street furniture; and public art and other visual amenities. To the extent that the campus includes a mix of campus-related uses that serve students and neighborhood residents (e.g., cafes, bookstores, day care facilities, health facilities, libraries, and meeting spaces), the University shall endeavor to locate such uses at the public street level in order to enhance the neighborhood and create a vital pedestrian environment.

STANDARD A-4: Gateways. Gateways to the campus shall be designed to signify the arrival to a distinct place and shall be clearly articulated through the use of elements such as distinguishing architecture, landscaping, signage, lighting, and other amenities. The key campus gateways are at Deering Avenue and Falmouth Street, Deering Avenue and Bedford Street, Durham Street and Falmouth Street, and Forest Avenue and Bedford Street.

STANDARD A-5: Views and Landmarks. View corridors and terminations to landmarks such as campus buildings, city buildings and natural resources, shall be highlighted with design elements such as significant architectural features, quality materials, landscaping, public art or other visual amenities. View corridors and termination points shall include the view up Bedford Street and west across Deering Ave., and other important views as may be identified during campus planning and the City's development review process.

PRINCIPLE B Access and Circulation

Campus streets and sidewalks shall be scaled for expected traffic; encourage pedestrian, bicycle, and transit activity; and connect to neighborhood streets and sidewalks.

STANDARD B-1: Connectivity. An internal campus circulation system shall coordinate and intersect with neighborhood streets and sidewalks at multiple access points.

STANDARD B-2: Circulation. A primary circulation system shall be developed through the creation of streets, sidewalks and walkways at ground level. A secondary circulation system shall be provided internally within non-residential buildings through the use of fully functioning entrances on every side of a building, and internal corridors that permeate through buildings unless the building program precludes such design for security reasons (See Standard D-5). Skywalks shall be utilized only when a compelling case can be made for the need from a pedestrian safety or traffic management perspective.

STANDARD B-3: **Multi-modality.** New development shall relate to a campus circulation system that serves pedestrians/bicyclists, autos, public transportation, service vehicles, and emergency vehicles. New development along transit corridors shall provide convenient and accessible routes from the building to the nearest transit stop.

STANDARD B-4: **Traffic-calming.** Circulation improvements internal to the campus shall be designed to create a pedestrian-oriented environment and to discourage speed. Appropriate traffic calming measures may include gateway treatments that signal arrival in to the campus environment, corner neck-downs, narrowed travel lanes, roundabouts, speed tables, and other devices. Development along public streets shall be designed with traffic calming measures to the extent allowed by City and State policies and requirements at a minimum.

STANDARD B-5: **Sidewalks.** Clay brick sidewalks shall be provided on both sides of all public streets. New sidewalks along public streets shall be at least 8 feet wide, except where it can be demonstrated that site constraints preclude such width.

STANDARD B-6: **Street lights.** Streetlights along public streets shall be pedestrian in scale and distinctive in design in order to help establish an identity for the neighborhood.

PRINCIPLE C Parking, Loading and Service Areas

Parking structures shall be designed and located so as to present an attractive façade to neighboring uses in order to minimize the impact along streets and residential areas. Surface parking lots shall be sited and designed to minimize their visual presence on the campus.

STANDARDS C-1: **Structures.** Parking structures shall be compatible with adjacent uses and architecture in form, bulk, massing, articulation, and materials. Parking structures shall incorporate architectural design elements in order to achieve visual interest on street frontage facades, and along major pedestrian ways, for the full height of the structure, that serve to enhance the pedestrian experience.

STANDARD C-2: **Active Uses:** Parking structures shall incorporate liner buildings or enclosed active uses on the first floor along all primary frontages (excluding frontage dedicated to entrances, lobbies, and stair towers). Such space shall be provided with a minimum of 9 foot floor to ceiling clearance height and a 25 foot depth (measured from the exterior building wall). Alternatively, the parking structures may be set back at least 35 feet from the primary street right of way and that space shall not be occupied by surface parking or access lanes, and shall be designated for future development. The set back space shall be provided with all stubbed utilities and other provisions needed to accommodate further development.

STANDARD C-3: **Decks and Ramps.** Parking structures shall have horizontal decks on all levels where the decks are visible from the public rights of way. Ramps and non-horizontal parking decks shall be screened from all visible angles and shall not be permitted

on facades located along or within 45 feet of a public street (Note: such space would allow for the construction of a liner building and a ten foot separation).

STANDARD C-4: Surface Lots. Parking lots shall be located behind buildings or to the side of existing or future buildings, but shall not occupy more than 64 feet of public street frontage within 45 feet of the street right of way (to allow for a future building). The areas devoted to surface parking shall be screened from streets, walkways, and significant views through the use of design elements such as plantings, fencing, grade changes, and/or walls.

STANDARD C-5: Loading and Service Areas. Wherever possible, loading ramps and service entrances shall be located near industrial uses, such as along Durham Street. Loading ramps and service entrances shall be located at the rear or side of structures. If visible from the public right of way, the garage doors shall be minimized and the loading shall be screened from view and with materials, colors and finishes that are consistent with the exterior elevations of the overall building. Buildings that face more than one public street shall have loading and service entrances oriented to the more secondary street.

STANDARD C-6: Utility Services. Service and utility infrastructure such as power generators, HVAC, fuel tanks and similar campus or building services shall be located unobtrusively and shall be visually screened from adjacent residences and shall not result in adverse visual and audible or other impacts on adjacent residential properties.

PRINCIPLE D Architectural Design

All new buildings shall be designed to create a visual connection with existing campus buildings with a goal of achieving a cohesive campus appearance. Buildings shall be characterized by excellence in architectural design, craftsmanship, materials, signage and lighting appropriate for a university in an urban setting in the Northeast.

STANDARD D-1: Height. Building heights along campus edges shall transition to the scale of adjacent off campus development through design elements such as stepbacks, variations in massing, and through the use of design details and materials.

STANDARD D-2: Setbacks. Buildings along public streets shall have a front yard setback that does not exceed ten (10) feet from the street right of way, except where existing campus buildings create a consistent street wall, in which instance the setback may conform to that existing street wall. An alternative would be to create a landscaped design feature such as a boulevard for vehicles, or a promenade for pedestrian access, and to set the building back along the line of this feature.

STANDARD D-3: Stepbacks. The street wall heights of campus buildings on Falmouth Street shall be stepped back 15 feet minimum once they exceed 50% more height than the average height of the buildings in close proximity, across the street.

STANDARD D-4: Massing. Facades visible from public streets shall incorporate design elements that break the facades into components scaled to the context of buildings on

the street. Buildings shall include features such as expression of the building's base, middle and top, vertical fenestration, variation in the planes of the façade, and architectural details such as trim, entries, balconies, cornices, etc. No more than 20 consecutive linear feet of blank wall shall be allowed at the first floor level along public streets. Windows and functional doors shall be used to break up blank walls. Design elements such as pilasters, materials, permanent artwork, distinctive lighting and/or landscaping may be used to mitigate blank walls if it can be demonstrated that the purposes of the building interior preclude the use of windows or functional doors every 20 feet at the first floor level.

STANDARD D-5: Entrances. Buildings along public streets shall have the primary entrances oriented to the street. Buildings that are internal to the campus shall have primary entrances oriented to major pedestrian corridors. Primary entrances may not be oriented to a parking lot. Academic buildings shall be permeable and accessible on all sides unless the building program precludes such design for reasonably necessary security purposes. Dormitory buildings are only required to have one entrance for security purposes. All building entrances should be fully functional in design and use and shall provide access to lobbies, elevators, stairs and common areas. Primary entrances shall be emphasized and integrated into the design of the building through features such as expressed or recessed entries, trim detailing, lighting, and landscaping. Entrances shall be scaled to the overall massing of the building.

STANDARD D-6: Windows. Windows with a visible transmittance of .7 or greater shall be located on all facades visible from public ways in order to provide light and views internally, and to provide security and vitality to external spaces. Window style shall be appropriate to the overall building style and scaled to the overall massing. The first floor transparency along public streets shall be equal to at least 50% of the wall area between the height of 2 and 9 feet. Upper floors of all new buildings shall have at least 15% to 40% transparency of wall surface along public street facades, with the range depending on program requirements. If it can be demonstrated that the building program precludes transparent windows along first floor street frontages, then other surface details shall be used (See Standard D-4).

STANDARD D-7: Materials. Facades visible from public rights of way shall use natural building materials that are considered to be permanent for 100 years. Predominant materials shall be brick, stone, precast concrete and other masonry products, wood, glass and high quality metals such as titanium and copper. Renewable and recyclable materials approved for use by LEED Standards (Leadership in Environmental Design) may be used. Low grade materials such as enamel metal panels and exterior insulation and finish systems (EIFS), panelized "thin brick", fiber-cement or cementitious panel siding, vinyl siding or vinyl dimensional stock, or stucco shall not be used on facades visible from public rights of way. Fiber-cement clapboard and shingles may be used but shall be installed with a reveal commonly found on the street.

First floor windows shall use untinted or lightly tinted glass, or the minimum tint needed to meet LEED Standards. Upper windows shall use untinted, lightly tinted, or the minimum tint needed to meet LEED Standards, or spandrel glass. Heavily tinted or reflective glass shall

not be allowed on facades that are visible from public rights of way. The selection of façade materials shall be consistent with the façade design (e.g. brick facing should not appear to be thin layers on the façade, or to overhang without apparent support). Loading and service areas and rooftop appurtenances that are visible from public rights of way shall be screened with materials, colors and finishes that are consistent with the overall building. Public spaces shall be constructed of permanent, durable materials such as concrete, brick or stone.

STANDARD D-8: Signage. New buildings shall have a building name and street address mounted in a location that is highly visible from public rights of way by both pedestrians and motorists. The size of the lettering shall be proportional to the size of the building. Building signage shall be made of high-quality permanent materials such as fabricated dimensional lettering or cut or cast metal lettering that is pinned to the building, carved stone or concrete, or painted wood or glass. Internally illuminated or screen printed plastic signage shall not be allowed on facades visible from public rights of way.

STANDARD D-9: Historic Structures. Historic structures shall be rehabilitated in a way that is consistent with their original architectural intent. New additions to historic buildings shall be designed to be compatible with the original structure in size, style, and material, and should result in the minimum necessary loss of original architectural material.

STANDARD D-10: Original Residential Structures The architectural and structural integrity of buildings that were originally residential uses shall be preserved when such buildings are renovated or enlarged. If a common treatment is utilized (i.e. the same siding is used for all university structures that were originally residential structures), the treatment must reflect the original residential character of the building and of other buildings on the street (e.g. contrasting paint between the trim and body of the structure, and building details which are expressed). Original siding shall be preserved, repaired or replaced with like material as needed. Vinyl siding and vinyl dimensional stock shall not be allowed. Fiber-cement clapboard and shingles may be used but shall be installed with a reveal commonly found on the street. Windows, doors and other features shall be preserved, repaired or replaced in a manner consistent with the original residential character of the building. Signage on buildings that were originally residential structures shall be subdued, and in scale with the building. This Standard D-10 does not apply to replacement buildings.

GLOSSARY [To be defined]

~~Active uses~~
~~Auto-oriented~~
~~Building Orientation~~
~~Campus Edges~~
~~Circulation system~~
~~Cohesive~~
~~Connectivity~~
~~Contemporary~~
~~Contextual~~
~~Defensible Space~~
~~Gateways~~
~~Institutional~~
~~Landmarks~~
~~Liner Buildings~~
~~Massing~~
~~Multi-modality~~
~~Pedestrian-oriented environment~~
~~Proportion~~
~~Scale~~
~~Setbacks~~
~~Stepbacks~~
~~Traffic calming~~
~~View Corridors~~
~~View Terminations~~

**~~B-7 Mixed Use Urban District Zone-~~
~~Design Principles and Standards~~**

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GLOSSARY

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PURPOSE

The B-7 Design Principles and Standards are intended to guide Bayside neighborhood residents, developers, designers, City officials and staff and others in the creation of a vibrant, aesthetic and sustainable neighborhood which is dense, mixed-use, and pedestrian friendly. The B-7 Design Standards support excellence in urban and architectural design which contributes to a strong sense of place, encourages 24-hour activity, promotes multi-modal transportation, provides public spaces and protects scenic views. The B-7 Design Standards meet the following goals:

1. Support and reinforce the goals of *A New Vision for Bayside*.
2. Accentuate Bayside as a gateway to the city by highlighting major corridors and corners.
3. Preserve the neighborhood building scale that is typical of the small blocks of Portland.
4. Extend the existing street grid and create mid-block permeability, in order to provide opportunities for multi-modal access, service alleys, public spaces, view corridors, and access to light and air. Design pedestrian-oriented streets with significant landscaping.
5. Preserve view corridors toward Back Cove and the White Mountains, as well as views looking toward the spine of the Portland peninsula, as shown in the *Bayside Height Map*.
6. Create dense, mixed-use, multi-modal development that is adjacent to infrastructure, highways, jobs and educational opportunities.
7. Create spaces of various scales that are attractive to creative industries, such as art, architecture, design, film, media, music, performing arts, publishing and software design.
8. Allow building heights that create space for a critical mass of people needed to make a new urban neighborhood successful. Ensure that development is human in scale at the pedestrian level.
9. Encourage architecture which expresses the aesthetic of the time in which it was built, that respects local urban design patterns, and that is compatible with adjacent traditional residential neighborhoods. The Portland Peninsula has been Maine's most urban area for several centuries and new architectural styles and materials are often introduced here. It is expected that this will continue to be the case as sites in the B-7 Zone are redeveloped.
10. Incorporate "green" design, smart growth policies, and sustainable technology into the urban design, site plan design, and architectural designs of the Bayside neighborhood.
11. Create a variety of mixed-use commercial opportunities that serve the neighborhood, city and region. Ensure that commercial development which is regional in scale, is compatible in design and massing to the adjacent traditional residential neighborhoods.

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12. Provide a hierarchy of green spaces on public and private land with parks, playgrounds, plazas and trails. Ensure that the streetscape design enhances the pedestrian experience.
13. Use authentic building materials and construction methods that are of the highest quality and appropriate to an urban environment and expected to last at least 50 years.
14. Adaptively reuse existing buildings.

II. APPLICABILITY

The *Design Principles and Standards* shall apply to all development in the *B-7 Mixed Use Urban District Zone* which is subject to the review of the City of Portland

Unless otherwise indicated, the *B-7 Design Principles and Standards* shall apply to portions of the building and sites visible from the public rights of way.

When referenced, the context of a site refers to a two block radius with special attention given to the existing streetscape on both side of the street within the block of the proposed site (unless a different range is identified during development review).

The *B-7 Mixed Use Urban District Zone Design Principles and Standards* will be evaluated by the Planning Board five years from the date of the approval of March 26, 2008.

III. PRINCIPLES AND STANDARDS

PRINCIPLE A Urban Design

All development in Bayside shall be designed to create a strong urban identity and sense of place. Buildings may be a variety of architectural styles, particularly those that are innovative and express the aesthetic of the time in which they were built, and shall be organized according to principles of urban design that integrate with the urban fabric of surrounding neighborhoods and Portland as a whole. These principles shall strengthen the overall sense of place, accentuate views, gateways and landmarks, establish defined boundaries and ensure sensitive transitions to surrounding neighborhoods, enhance the physical amenities of the neighborhood, and create a pedestrian oriented environment with safe and vital streets.

STANDARD A-1: Sense of Place. The identity and “sense of place” of Bayside is based on design elements that contribute to the character of the district. New development shall respond to unique characteristics such as: existing patterns of design and development; opportunities to extend the street grid; changes in topography; proximity and views to significant buildings, amenities or natural features; access to light and air; connection to the pedestrian and bicycle network and public spaces; access to the regional transportation system, and opportunity for innovative design.

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All development shall meet the goals of *A New Vision for Bayside*. The City's Bayside Streetscape Subcommittee further identified characteristics which will strengthen the identity of the district such as building on the industrial heritage of the past; enhancing the artistic personality of Bayside in the future; respecting the vernacular of existing buildings; encouraging innovative architectural design that expresses the aesthetic of the time in which it was built; encouraging adaptive reuse; respecting the "patina" of age and maintaining historic materials; strengthening the connections to adjacent neighborhoods of Bayside, Downtown, Back Cove, Deering Oaks, and the East End; preserving views; mitigating the widths of the major arterials such as Marginal Way and Franklin Arterial which border the neighborhood; highlighting Portland and Cumberland Streets as "Main Streets" to the traditional residential portions of the neighborhood; mitigating traffic/pedestrian concerns across major streets; creating mixed uses that have a neighborhood scale; creating neighborhood green spaces as places to gather; and utilizing native plant materials in landscaping.

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STANDARD A 2: Edges and Transitions. Transitions between larger scale, mixed use buildings and smaller scale residential uses shall be designed so that there is a seamless connection to adjacent residential neighborhoods to ensure that these zones remain stable, quiet, and secure. This shall be achieved through the mitigation of height, massing, stepbacks, materials, and details and design of the façade at the pedestrian level. Potentially nuisance features or uses, such as dumpsters and air handlers, parking, service areas, blank walls, or backs of buildings shall not be sited or designed in a manner that forms a boundary to the residential neighborhood. Larger scale developments may use public open spaces to provide transitions to lower scale uses. [See Standard C 8 Service, Utility and Mechanical Infrastructure, and Standard E 9 Back Sides of Buildings].

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STANDARD A 3: Gateways. Gateways serve as landmarks, signal arrival into neighborhood and the city and help to promote the distinct identity of Bayside. The designated gateways in Bayside are shown on the *Bayside Street Hierarchy Map*. These gateways shall be visible to and oriented to vehicular, bicycle, and pedestrian traffic; and shall be of the highest quality materials appropriate to an urban environment. Development at designated gateways shall include elements such as dramatic architectural forms and details, public space, distinctive paving patterns and landscaping, public art, historical markers, water features, unique accent lighting, wayfinding or "welcome" signage, and crosswalks.

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STANDARD A 4: Views and Landmarks. View corridors to buildings and natural resources help to define the character of Bayside. New development shall be designed with consideration for its impact on significant views and view corridors as shown on the *Downtown Height Study* and the *Bayside Height Overlay Map*, as well as other important views as may be identified during the City's development review process. View corridors shall be highlighted with significant architecture and quality materials. New development shall be sited so that it does not block view corridors. Taller portions of structures shall step back out of the view corridor. Roof top appurtenances shall not be visible from view corridors, nor shall they obscure important landmarks. Additionally, development along corridors on the east-west axis

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through Bayside shall be evaluated to maximize sun and light. [Also see Standard E-10 Rooftop Appurtenances].

STANDARD A-5: Pedestrian Environment. Development on public streets or public spaces shall be human scale at the pedestrian level and enhance the pedestrian environment through the use of elements at the first floor such as a mix of uses; detailed facades; building materials and signage of the highest quality; fully-functioning entries oriented to the street; active windows and storefronts; awnings and weather protection; outdoor seating and sales displays; traffic calming; adequately sized sidewalks; appropriately sealed streetlights; gathering spaces; trees and landscaping; street furniture; and amenities such as public art, water features, and historical markers. [See Principle B Access and Circulation, Principle D Open Space and the Public Realm, and Principle E Architectural Design].

STANDARD A-6: Mix of Uses. New development in Bayside shall incorporate a mix of residential, retail, commercial and open space uses of various types and scales in order to serve the neighborhood, city and the region. All new development shall be designed to allow a flexibility of use over time [See Standard E-5 Flexibility of Interior Layout].

STANDARD A-7: Building Orientation. Buildings shall be located at or near the property street line in order to provide very clear definition and character to the street. This will compliment and complete the established streetwall pattern that is predominant on the Portland peninsula. The primary facades and entrances of buildings shall be oriented to streets, major pedestrian routes, or open spaces in order to enhance the pedestrian oriented environment. The primary facades and entrances of buildings shall not be oriented toward parking lots.

PRINCIPLE B Access and Circulation

Streets and sidewalks in Bayside shall be designed to encourage a pedestrian friendly, walkable environment. The goal is to create streets that are sealed and designed for pedestrian and bicycle use; are well landscaped; promote traffic calming; allow for mid-block permeability, and extend the pattern and scale of Portland's traditional street grid and blocks in accordance with the 1914 Atlas of the City of Portland.

[NOTE: — Insert the 1914 City Atlas section for Bayside]

STANDARD B-1: Streets and Alleys. Streets and alleys shall be sealed for expected vehicle, pedestrian, bicycle, and transit activity; support mixed use development; be well landscaped; promote traffic calming; allow for on-street parking; and follow the existing scale and pattern of Portland's street grid and blocks. All development shall extend the grid as feasible. The *Bayside Street Hierarchy Map* details the hierarchy of streets.

1. A Streets Marginal, Forest, Franklin

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- ~~2. B Streets Cumberland, Lancaster, Kennebee, Somerset, Preble, Elm~~
- ~~3. C Streets Parris, Hanover, Chestnut, Pearl, Portland, Oxford~~
- ~~4. D Streets Mechanic, Brattle, Upper Parris, Upper Hanover, Alder, Wilmot, Cedar~~
- ~~5. Alleys mid-block permeability between future buildings~~

~~Development along all streets, public rights of ways and open space shall incorporate the City's streetscape standards for Bayside which include specifications for sidewalks, streetlights, street furniture, fencing and walls, landscaping and signage. This information is provided in Appendix ____.~~

~~**STANDARD B 2: Street Connectivity.** The prevailing pattern of streets on the Portland peninsula runs parallel and perpendicular to the waterfront. This pattern is expressed in relatively short blocks, buildings with small footprints and narrow facades, reasonable walking distances between blocks, and frequent opportunities to turn corners or move from one street to parallel streets. Extension of the street grid pattern will ensure that the massing of new development is consistent with the traditional scale and urban patterns of Portland, protect view corridors, provide opportunities for sun and airflow, enable efficient and flexible vehicular and pedestrian circulation, and provide opportunities for service alleys. New development shall coordinate with, intersect, and extend existing streets and sidewalks at multiple access points. See the *Downtown Height Study* and the *Bayside Height Overlay Map* for key view corridors and potential street extensions. As land use and development opportunity allow, Somerset Street shall be extended west towards Forest Avenue.~~

~~**STANDARD B 3: Mid-Block Permeability.** Development shall incorporate mid-block permeability that is perpendicular to Marginal Way, and where feasible that is parallel to Marginal Way, in order to encourage building footprints that are in scale with the existing traditional pattern of development in Portland. These corridors shall be developed as street extensions, service alleys with public access, pedestrian corridors, trail access, plazas and pocket parks. These corridors shall be designed for the pedestrian first, with limited vehicular accessibility. These corridors shall not be designed solely as access to parking or loading areas, and shall be designed to be handicap accessible, well lit, paved in concrete, brick or stone, and appropriately landscaped. Asphalt surfaces shall not be allowed. (Wharf Street in the Old Port is an example of a desired level of design for this type of public way).~~

~~A primary circulation system shall be developed through streets, alleys, sidewalks and trails. A secondary circulation system shall be provided internally within buildings for public use through the use of fully functioning entrances on all street sides of a building, and internal lobbies and corridors that permeate through the ground floor of a building, unless the building program precludes such design and cannot be modified to meet this requirement due to small scale or security reasons.~~

~~Many larger buildings in Downtown Portland have incorporated frequent opportunities to pass through the interiors of street-level spaces. This element is important to the liveliness and accessibility of retail businesses and cultural amenities. The development~~

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or redevelopment of larger sites, and the potential assembly of more than one block or parcel through the discontinuance of intervening streets, shall carefully consider this characteristic pattern of pedestrian circulation.

[NOTE: Insert photos Wharf Street]

STANDARD B-4: Sidewalks and Crosswalks. The provision of all sidewalks and crosswalks shall conform to the specifications and details contained within the City's *Technical and Design Standards and Guidelines*, and the City's Crosswalk Standards at a minimum. New sidewalks along public streets shall be at least 10 feet wide measured from curb to property line where feasible, except where it can be demonstrated that site constraints preclude such width. Sidewalks that are 12-15 feet wide and bump outs shall be provided along A and B Streets where feasible, in order to allow for amenities such as larger tree wells, landscaping, café seating, shop displays and public art. Where appropriate, crosswalks shall be transversely striped and at a minimum as wide as the sidewalk to which it connects.

STANDARD B-5: Green Streets. Frederick Law Olmsted created networks of "Green Streets" in many cities in which major streets were landscaped to enhance the connection between parks and open spaces throughout a city, and were designed for both pedestrian and vehicular use. The Olmsted firm created a plan for Marginal Way as a green boulevard that would have connected Deering Oaks to the Eastern Prom. As feasible, new development shall support the opportunity to realize this historic plan, and to shall apply the principles of Green Streets to streets in Bayside. This will reinforce connections to Back Cove, Deering Oaks and the Eastern Prom.

[Note: Include the graphic of the historic Marginal Way plan].

STANDARD B-6: Multi-modality. *A New Vision for Bayside* designates all of Bayside as a transit-oriented development. All new development in Bayside shall accommodate a full range of multi-modal transportation options. New development shall create a functional and safe environment that provides a continuous travel corridor for pedestrians and bicycles which serves the same major destinations as automobiles. New development along transit corridors shall incorporate facilities for transit users. A future train station is proposed at the end of Chestnut Street at I-295. Development along Marginal Way shall be designed to address the potential for rail service.

STANDARD B-7: Continuity of Street Level Uses. Continuity of pedestrian-oriented uses along street frontages, particularly A and B streets, is important to encourage pedestrian interest, movement and safety. Service entrances and vehicular entrances which interrupt the continuity of street level uses shall not be located along A or B streets, or areas of high pedestrian activity. Where such uses are unavoidable, extraordinary care shall be taken to assure that the pedestrian environment remains both attractive and safe, and such interruptions shall be kept to a minimum in both numbers and lengths. In such instances, the pedestrian shall clearly have priority.

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STANDARD B 8: Traffic calming. Development on public streets shall support traffic calming measures to the extent allowed by City and State policies and requirements at a minimum. Particular attention shall be paid to the traffic calming measures taken where the Bike Trail will cross Chestnut Street. Potential traffic calming measures include gateway treatments, corner neck-downs, narrowed travel lanes, speed tables, trees and landscaping, and transversely striped crosswalks. Crosswalks shall be at a minimum as wide as the sidewalk to which they connect.

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STANDARD B 9: Streetscape Design. New development in the public realm shall utilize the City's streetscape standards for Bayside which include specifications for sidewalks, streetlights, street furniture, fencing and walls, landscaping and signage in order to create a unified image of the neighborhood. This information is provided in the appendix. Privately owned, publicly accessible open spaces shall be designed to coordinate with the surrounding area by incorporating the City's standards for streetscape design elements. Streetscape design on privately owned, publicly accessible open spaces may select a different style which complements the City's standard for the area if the design of the space commands a special, unique, and equally distinctive feature.

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[NOTE: — insert details of fencing at Whole Foods parking lot, brick sidewalks etc]

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STANDARD B 10: Encroachments. Encroachments on the sidewalk shall be sited and designed to encourage pedestrian activity. The design, location, and construction or installation of such features shall be human scale, shall be appropriate in character with the surrounding buildings and open space, shall be comprised of durable and attractive materials, and shall be consistent with the City's streetscape standards. The encroachment shall not impede the visual transparency or the perceived physical interaction with the internal uses of the building.

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STANDARD B 11: Lighting. Street lights along public streets shall be scaled to the size, traffic volume and use that is typical for that street, as defined in the street hierarchy in Standard B 1 Streets and Alleys. Street lighting shall comply with the *Technical and Design Standards and Guidelines* at a minimum and may also be required to meet The Illuminating Engineering Society of North America Standards (IESNA), and the Leadership in Energy and Environmental Design (LEED) standards for light pollution.

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Street Lighting:

"A Streets" lighting shall be the City's selected Holophane model for Bayside, at the 24'3" foot height in the Silver Metallic Aluminum color #F264H.

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"B Streets" shall be the City's selected Holophane model for Bayside, at the 19'3" foot height in the Silver Metallic Aluminum color #F264H.

"C Streets" shall be the Holophane model for Bayside, at the 19' 3" foot height in the Tribo color.

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~~“D Streets” shall be the Holophane model for Bayside, at the 12’9” foot height in the Tribo color.~~
~~**Sidewalk Lighting:** Sidewalks shall be lit with a combination of pole mounted, building mounted, or bollard lighting, as well as light from store windows, entries and other building features. The placement of lighting fixtures shall be pedestrian sealed, downwardly directed, and shielded or reflected so as to prevent glare and excess lighting spilling onto private property or skyward.~~

~~[NOTE: ——— Insert photo of bollard lights from Lowell or other examples].~~

~~**Open Space:** Lighting along public open spaces shall be of a height in scale with the space, as determined by City staff. Privately owned, publicly accessible open spaces may select a different luminaire style which complements the City’s standard for the area if the design of the space commands a special, unique, and equally distinctive feature.~~

~~PRINCIPLE C Parking, Loading and Service Areas~~

~~*Parking, loading and service areas shall be designed and located so as to present an attractive façade to neighboring use, to minimize their visual presence in the neighborhood, and to minimize the impact along pedestrian oriented streets and residential areas.*~~

~~**STANDARD C 1: Parking Structures.** Parking structures shall be designed to be compatible with adjacent uses and architecture in form, bulk, massing, articulation, and materials. These structures shall incorporate architectural design elements that provide visual interest on all sides visible from public rights of way, for the full height of the structure. The visual impact of parking garages along primary and secondary streets shall be mitigated through the use of features such as the site topography and façade articulation such as decorative metal grills, green screens with plant materials or artwork. The parking garage may incorporate “green roof” technologies. Internal lighting shall not include bare overhead lighting. The glare of headlights shall be screened from view of adjacent structures. Pedestrian level lighting shall be provided on the exterior.~~

~~**STANDARD C 2: Parking Entrances.** The entrance to parking garages shall respect the pedestrian realm and minimize the visual impact of the garage through provision of design elements such as: enhancement of the pedestrian entries; physical separation of entrances and exits; recessing the entry or extending portions of the structure over the entry; and incorporation of landscaping or artwork. The exits from parking garages shall be designed to inform the driver that s/he is entering in to a pedestrian realm. Gates shall be located interior to the building at a distance that allows cars to stack internal to the structure rather than on the street.~~

~~**STANDARD C 3: Active Uses.** Parking structures shall incorporate liner buildings along the full front façade, or enclosed active uses on the first floors along all A and B streets (excluding frontage dedicated to entrances, lobbies, and stair towers). Such space~~

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shall be provided with a minimum of 10 foot floor to ceiling clearance height, a 25 foot depth (measured from the exterior building wall), and a column spacing that would allow commercial uses to be developed in the structure, shall the structure be adapted for such uses in the future. [See also Standard E 5 Flexibility of Interior Layout].

STANDARD C 4: Back of Parking Structures. Parking structures that have a rear or side elevation along a right of way, pedestrian access route, trail, open space, or which can be viewed from the public right of way, must incorporate design considerations noted in Standard E 9: Back Sides of Buildings

STANDARD C 5: Decks and Ramps. Parking structures shall have horizontal decks on all levels where the decks are visible from the public rights of way. Ramps and non horizontal parking decks shall be screened from all visible angles and shall not be permitted on facades located along or within 45 feet of a public right of way. (Note: such space would allow for the construction of a liner building and a ten foot separation).

STANDARD C 6: Surface Lots. Areas devoted to surface parking shall be screened from public rights of way and significant views through the use of design elements such as plantings, fencing, grade changes, and/or walls. A landscaped border shall be created around all surface parking lots. Any parking lot containing ten (10) or more parking spaces shall include one (1) or more landscaped islands within the interior of the lot. There shall be at least one (1) island for every twenty (20) spaces.

STANDARD C 7: Bike Racks. Bike racks shall be provided in a convenient location, proximate to the entry or entries of the building(s), either immediately adjacent to or no further than the associated motor vehicle parking, and shall be visible from the street or provided with prominent directional signage visible from the street as detailed in the Technical and Design Standards and Guidelines Manual and in compliance with the City's Off street bicycle parking standards Chapter 14.332.1

STANDARD C 8: Service, Utility and Mechanical Infrastructure. Service, utility and mechanical infrastructure (such as loading docks, delivery areas, truck parking, outdoor storage, utility meters, HVAC equipment, visible rooftop mechanicals, pipes, ducts, vents, access doors, meters, transformers and other building systems equipment, trash collection, trash compaction, power generators, fuel tanks and similar services) shall be located at the rear or side of buildings, along service alleys, or in the interior of parking garages. Such uses shall not result in adverse visual and audible or other noxious impacts on adjacent properties and public streets and spaces. Areas for outdoor storage and trash collection or compaction shall not be visible from public rights of way, or located within 20 feet of any public street, sidewalk, or open space. Mechanical equipment shall be located away from pedestrian ways and seating areas to minimize noise, exhaust or visual impacts. Mechanical equipment shall not be located in the front setbacks between building and public rights of way.

All service, utility and mechanical infrastructure shall be visually screened from adjacent uses, adjoining properties and public rights of way. Screening materials, landscaping,

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colors, and design shall conform to those used on the building. Roof equipment shall be fully screened from street level and all view corridors by parapets, roof screens or equipment wells. Wherever possible, roof equipment shall be clustered and included in one screen. New buildings and new additions shall plan for roof equipment screens and include them in the design of the building. Garage doors and loading areas shall be screened from view of public rights of way with materials, colors and finishes that are consistent with the exterior elevations of the overall building. Loading docks shall be screened from residential uses by a minimum 8 foot high masonry wall with 10 foot wide landscaped strip. Loading ramps and service entrances with garage doors visible from primary and secondary streets shall be recessed behind the front façade of the main structure. The garage door width may be no more than 10% of the width of the building's overall façade width, except that no garage door need be reduced to less than 9 feet in width. Outdoor storage and trash collection areas visible from public streets and spaces shall be screened, recessed or enclosed with solid fences or walls. Materials, colors, and design of screening walls and fences shall conform to those used on the building.

PRINCIPLE D Open Space and the Public Realm

Public and privately owned open spaces shall be designed to promote a visually pleasing, safe, and active environment. Opportunities to extend the City's bike and pedestrian trail system shall be maximized. Landscaping throughout the neighborhood shall be designed to complement the architecture, enhance the human scale, add seasonal interest, reinforce pedestrian circulation paths, and provide a more comfortable urban environment.

NOTE: The Bayside Open Space Priorities and Principles document was adopted by the Bayside Trail and Open Space Committee on 7/24/06 and was used as a reference document in the drafting of these guidelines. This document shall be considered in the provision and design of open space in the B-7 Zone of Bayside. All new development shall consider this document for specifications on desired locations, components, and design of open space.

STANDARD D-1: Open Space Design. Publicly accessible parks, plazas, and other open space shall be accessible from sidewalks and surrounding buildings. Further, publicly accessible open space shall be located and designed to allow views from the sidewalk, street, and surrounding buildings into the open space as well as outward from within the space. Pedestrian amenities such as seating, lighting, artwork, trash receptacles, etc. shall be compatible with the City's Streetscape Standards for Bayside. Streetscape design on privately owned, publicly accessible open spaces may select a different style which complements the City's standard for the area if the design of the space commands a special, unique, and equally distinctive feature. Solar access, wind protection, and landscaping shall be considered to enhance pedestrian comfort and provide a variety of sunny and shaded areas.

STANDARD D-2: Bayside Trail. A conceptual or final plan for the Bayside Trail from Franklin Arterial to Elm Street shall be considered in the review of all new

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development. Buildings adjacent to the Bayside Trail shall be designed so that the façades along the trail incorporate design elements that enhance the trail use such as active doors into the building, plazas, outdoor seating, and food service. The design of retail or restaurant uses shall incorporate a means of ingress and egress that is oriented to the trail. Businesses that complement the use of the trail, such as sporting goods stores, equipment rentals, coffee and ice cream shops, etc. shall orient entrances to the trail where feasible.

STANDARD D-3: Landscaping and Street Furniture. Landscaping for public property, and private property that is accessible to the public shall comply with the *Technical and Design Standards and Guidelines* at a minimum, and with the standards below. Substitutions shall be reviewed for approval by the City Arborist.

Landscaping: Landscaping such as overhead/canopy trees, ornamental trees, shrubs, ground cover, and flowers, as well as the use of plants with attractive flowers, colorful and changing foliage, distinctive bark, and prominent or unusual shape enrich the visual environment and shall be used to enhance the character and livability of Bayside.

Plant selection: The selection of all plant material shall consider native plant materials wherever feasible, and the plant's tolerance to urban conditions which include poor drainage, litter and salt problems, vandalism and abuse, shade conditions, and disease and insects.

Compatibility: The selection of the primary plant materials (in particular the larger materials such as street and ornamental trees) and their location on a particular site, and other site improvements shall be considered in coordination with public streetscape improvements which occur or are planned for the immediate area.

Use and placement: The placement of street trees and planters within the public right-of-way shall complement and enhance the pattern of similar features on adjacent and nearby properties and be consistent with planting programs established by the City.

Planters, wells and tree grates: Raised planters shall be used wherever possible to increase the viability of plant materials. Such planters shall be consistent in style and character throughout Bayside. Where individual tree wells are located along streets, the wells shall be as large as possible to allow adequate water and air to the soil and root system. Where the dimensions of the sidewalk area permit, planting strips or portions of brick sidewalk set on sand shall be considered to allow an even greater area of permeable surface. Tree grates and guards shall be provided in order to assure adequate air and water access and to provide protection for trees located within pedestrian activity areas. In certain areas, where wide sidewalks exist and ample pedestrian circulation area is available, the use of granite pavers may be substituted for tree grates.

Irrigation and Drainage: An adequate provision of a water source, irrigation system and method of drainage shall be provided for planted areas. Such areas shall also have drainage systems designed to prevent excess water accumulation or runoff onto

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~~pedestrian walk areas. Individual tree wells shall be designed to allow adequate drainage, tying into curb line drainage systems wherever possible.~~

~~Lighting: Lighting of plant materials shall complement existing City programs for street and sidewalk lighting, and shall enhance the pedestrian environment. Such illumination shall generally be maintained by the owner of the proposed development, and the failure to maintain or a decision to remove such illumination shall not result in an unattractive landscape. Special lighting design may be proposed to highlight significant trees.~~

~~Maintenance: A regular program of feeding, watering, pruning, damage repair, pest and weed control, and replacement of declining plant material shall be established at the time of initial design and installation, and maintained thereafter.~~

STANDARD D 4: Pedestrian Amenities

~~Pedestrian amenities shall comply with the City's *Technical and Design Standards and Guidelines* at a minimum, and also with the streetscape standards selected for Bayside.~~

~~1. Seating. Seating along heavily used pedestrian routes shall be provided to accommodate pedestrian related activities. Placement of seating shall not obstruct pedestrian circulation, and shall assure maintenance and appropriate use. One linear foot of seating for each thirty (30) square feet of open space, or 30 linear feet of pedestrian route shall be provided within publicly accessible open space.~~

~~2. Bus shelters. Bus shelters or sheltered waiting areas along building frontages shall be provided along designate bus routes. The placement and design of shelters shall not obstruct pedestrian circulation and shall ensure maintenance and proper use. Shelters shall provide a heated waiting area wherever feasible and shall be adequately illuminated and provide seating, signage, and schedule/route information.~~

~~3. Streetscape Amenities. Streetscape amenities such as trash receptacles, mailboxes, and newspaper boxes shall not create a visual appearance of clutter, shall not obstruct pedestrian circulation, shall be designed to ensure maintenance and proper use, and shall complement the character of surrounding buildings, streets and open space. Streetscape amenities shall be designed and sited so as to prevent vehicles from parking on the sidewalk.~~

~~4. Directional and Informational Signage. It is important that adequate orientation be provided in order to assure the greatest possible use of the area by pedestrians. Directional and Informational Signage shall be consistent with guidelines established within STANDARD E 16: Signage, with signage requirements of the City Land Use Code, and with other applicable City signage plans such as the results of the City's Wayfinding Study (underway in 2008), as identified during review.~~

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STANDARD D-5: Public Art and other special features. The provision of art and other special features such as fountains and kiosks adds visual interest, a sense of creativity, and elements of discovery that enhance the pedestrian experience. All public art shall be designed and implemented in accordance with the *Guidelines for the City of Portland's Public Art Program*. The location of such features shall not obstruct pedestrian circulation and shall complement the character of surrounding buildings, streets and open space.

PRINCIPLE E Architectural Design

New development shall contribute positively to a new identity for the neighborhood as outlined in A New Vision for Bayside. New development shall create a mixed-use, pedestrian friendly setting that contributes to the context of the surrounding urban fabric and provides a sensitive transition to adjacent residential neighborhoods. The Portland peninsula has a coherent urban fabric of traditional building forms, street grid, and streetscape design that contributes to the legibility of the city. New development in Bayside may be a variety of architectural styles, particularly those that are innovative and express the aesthetic of the time in which it was built, and shall be organized according to principles of urban design that integrate with the urban fabric of surrounding neighborhoods and Portland as a whole. The scale, massing and fenestration of new development shall reflect its context, include the highest quality design, materials and construction systems expected to last at least 50 years; flexible and adaptable floor plates; functional and aesthetic architectural details; sustainable and green design; and excellence in streetscape, landscape, signage and lighting which is appropriate for an urban setting in the northeastern United States.

STANDARD E-1: Architectural Design. New development in Bayside may be a variety of architectural styles, particularly that which is innovative and expresses the aesthetic of the time in which it was built, and shall be organized according to principles of urban design that integrate with the urban fabric of surrounding neighborhoods and Portland as a whole. A respectful integration of contemporary design within the existing context shall complement, reinforce and enhance the prevailing patterns and proportions of adjacent buildings without requiring imitation or repetition.

[NOTE: Insert Bayside Height Overlay Map]

STANDARD E-2: Height. In general, building heights shall meet the heights approved on the *Bayside Height Overlay Map*. Heights along the edges of the B-7 Zone shall transition to the scale of adjacent neighborhood development through design elements such as variations in massing; articulation of the facades in intervals that reflect existing structures or platting pattern; stepping the architecture to adjacent buildings and/or contextual proportions of building elements; use of architectural style and details such as roof lines, belt courses, cornices, or fenestration; and color or materials that derive from the less intensive zone.

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The street wall heights of buildings shall be stepped back 15 feet minimum once they exceed by 50% the average height of the buildings 4 stories or taller on both side of the street within the block of the proposed site. The design of the building top, roofline or vertical termination shall be designed to create visual interest on the skyline.

STANDARD E 3: Massing. Large expanses of undifferentiated facade or uniform cladding is not allowed along public rights of way. The composition of a proposed building facade shall be defined by horizontal and vertical articulation, with vertical articulation being predominant, in keeping with the local context of the urban form.

New buildings that are four stories or higher shall have three components: base, middle, and top. The base provides a portion of the building with a scale and articulation that is related directly to the pedestrian. The middle portion of the building provides a pattern of fenestration and detail that lends a sense of rhythm and scale to a building both horizontally and vertically. The top portion of the facade typically receives special treatment that terminates the building in a distinctive manner. Exceptions shall be permitted, as determined by the City's planning staff, only when a specific architectural style offers other types of facade articulation that are consistent with that style.

STANDARD E 4: Articulation. Blank, flat, unadorned, or repetitive facades shall not be allowed on facades visible from public rights of way. Facades visible from public rights of way shall incorporate design elements that break the facades into components scaled to the pedestrian, and to the context of other buildings on the street. This may be accomplished through an expression of the building's base, middle and top, vertical fenestration, variation in the planes of the facade, architectural details such as windows, doors, bays, balconies, eornices, reveals, expansion joints, trim, changes in color, texture, and material, permanent artwork, etc. The maximum length of blank or undifferentiated facades shall not exceed thirty feet horizontally or vertically and shall not exceed 15 feet horizontally or vertically along streets, primarily A and B Streets. The design elements listed above may be used to mitigate blank walls if it can be demonstrated that the program of the building precludes the use of windows or functional doors every 30 feet at the pedestrian level.

The base of the building which relates to the pedestrian realm, shall be designed with a high level of detailing and material quality utilizing the options listed above. Buildings which are less than four stories must meet this standard on the entire height of the facade. Buildings that are four or five stories shall meet this standard on the first 14 feet, or the first floor at a minimum. Buildings which are six and seven stories shall meet this standard on the first 24 feet, or the first two floors at a minimum. Buildings which are eight stories or higher shall meet this standard on the first 35 feet of the building facade, or the first three levels at a minimum. A deviation shall be made from this standard only to the closest natural breaking point in the building.

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All buildings shall maintain a pedestrian scale through the use of building elements at the street level such as windows, entries, commercial displays, building entries, a variety of materials, colors, ornamentation, texture, elements indicating floor to floor heights, appropriately sealed building materials, cornice lines, signage, awnings and canopies. Ground floor facades that face public streets shall actively engage pedestrians through such features listed above along no less than 60 percent of their horizontal length.

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For interior uses which require large volumes of windowless space, every effort shall be made to contain these uses within the central portion of a site away from street fronting facades of the building. Building entrances and large windows may not be feasible in some cases, due to topographic change or windowless interior uses which cannot be located in any other portion of a site. In such situations, it is important that the design of the facades incorporate features such as those listed above.

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STANDARD E 5: Flexibility of Interior Layout. The interior layout of a space can impact its viability for pedestrian oriented uses. The first forty (40) feet of depth of floor area along street frontages shall be laid out to be able to accommodate retail or other pedestrian oriented uses. Placement of exterior and interior building features at the first floor level (such as columns, bearing walls, stairs, elevators, and mechanical systems) shall be designed and constructed to be flexible over time and to accommodate the broadest possible variety of layouts, or be able to be modified at reasonable cost to accommodate future pedestrian oriented uses. New commercial development shall incorporate floor plates that can accommodate different sized spaces, storefront windows with the ability to provide separate entrances from the sidewalk, and floor to ceiling heights of 14' on the ground floor. Parking garages shall be designed to be convertible to future uses through the provision of a minimum of a 10 floor to ceiling height, if feasible.

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STANDARD E 6: Entrances. Buildings along public streets shall have the primary entrances oriented to the street. Primary entrances shall not be oriented to a parking lot or structure. If a building sits at a corner of two streets that are defined as A or B Streets, the primary building entrance shall orient to the corner unless the building program precludes such design. An exception to a corner entrance may be considered where an alternative orientation achieves a superior relationship of the building to the adjacent streets. Primary building entrances shall be fully functional in design and use and shall provide access to lobbies, elevators, stairs and common areas. Entrances shall be scaled to the overall massing of the building. Commercial and mixed use buildings shall be permeable and accessible on all sides from the public way, unless the building program precludes such design due to building scale or for reasonably necessary security purposes. Residential buildings are only required to have one entrance for security purposes.

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STANDARD E 7: Windows. Windows shall be located on all facades visible from public rights of way. Window style shall be appropriate to the overall building style and scaled to the overall massing. The first floor transparency (minimum visible transmittance (VT) of .7 or greater) along public streets and the trail shall be equal to at least 50% of the wall area between the height of 2 and 9 feet. The first floor windows

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and storefronts shall be transparent with active uses visible behind them. Opaque glass shall not be allowed at the first floor level [See Standard E-13 Transparency]. Upper floors of all new buildings shall have at least 15% to 40% transparency of wall surface (VT of .7 or greater) along public rights of way, with the range depending on program requirements. If it can be demonstrated that the building program precludes windows along first floor street frontages, then other surface details shall be used in accordance with Standard E-4 [Articulation].

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STANDARD E-8: Storefronts. Storefronts shall be designed to accommodate doors at regular intervals, so that doors may be installed in the future as the building program changes over time. Storefront glass shall be transparent in accordance with Standard E-13: Transparency, and shall not be blocked with opaque glass, or other means. Fixed, collapsible and rolling security grills and gates shall not be allowed on display windows and doors visible from public rights of way.

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STANDARD E-9: Back Sides of Buildings. The back sides of buildings, particularly along streets, the trail, alleys, or other pedestrian access ways, or which face an adjacent residential neighborhood, shall be designed in a manner that incorporates high quality facade materials, transparency (visible transmittance of .7 or greater), parent windows, operable building entrances, and other design features that are consistent with the primary facades of the building. Exterior fire escapes, ladders, standpipes, vents, etc. shall be well maintained and painted to blend with the color of the building, or painted a dark recessive color. Utility meters, exhaust vents, etc. shall be unobtrusive and located at the side or rear of the building. See also Standard C-8: Service, Utility and Mechanical Infrastructure.

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STANDARD E-10: Rooftop Appurtenances. Rooftop appurtenances shall not be visible along or block view corridors, or views to specific landmark features such as the City Hall Clock Tower, Portland Observatory, the Cathedral of the Immaculate Conception or important views as may be identified during the City's development review process. Rooftop appurtenances shall be consolidated physically or visually through unified screening. Rooftop appurtenances shall be located and designed so to appear as an integral part of the architectural character of the building on which they are located. The exterior appearance of these features shall incorporate a scale, shape and choice of materials that is consistent with the principal building.

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STANDARD E-11: Fences and Walls. Fences and walls along public streets, trails, alleys, or public spaces shall be made of high quality, durable and weather resistant materials such as brick, stone, wood, and high-grade metals. The Bayside parking lot fence detail consists of granite posts with pipe rails. This design shall be used at parking lots edges and other appropriate locations. An alternate fence design of equal or higher quality may be presented for consideration during the development review process. Ornamental fencing and walls shall be as low as possible and integrated with plant materials or other amenity wherever adequate space allows. Chain link fences, plastic fences, or fences which are rustic or rural in character, shall not be allowed anywhere that is visible from the public right of way. Chain link fences used on areas internal to a

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property shall be black vinyl coated. The fence design shall not create a blank façade at the pedestrian level. **STANDARD E 12: Materials.** Facades visible from public rights of way shall use natural and authentic building materials that are expected to last at least 50 years. Predominant materials shall be brick, stone, precast concrete and other masonry products, wood, glass and high quality metals such as steel, titanium and copper. Traditional stucco on wire lath or masonry may be used. Renewable and recyclable materials approved for use by LEED Standards (Leadership in Energy and Environmental Design) may be used. Cellular PVC trim and dimensional stock shall be allowed.

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Materials such as thin gauge metal panels, exterior insulation and finish systems (EIFS), panelized "thin brick", vinyl siding, or stucco on Styrofoam or a similar backing shall not be used on facades visible from public rights of way. Fiber cement clapboard and shingles may be used. Fiber cement panels shall only be used on portions of the building not visible from public rights of way. Public spaces shall be constructed of permanent, durable materials such as concrete, brick or stone.

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STANDARD E 13: Transparency. Windows shall use untinted, lightly tinted, or the minimum tint needed to meet LEED Standards. Windows that have daylighting application on all levels of the façade shall use glass with a visible transmittance (VT) value of .7 or greater, which looks clear. Any value below .7 shall not be allowed as it looks dark and/or reflective. The VT rating shall apply to the glass only, not the frame components.

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Opaque, heavily tinted or reflective glass shall not be used at the pedestrian level unless it can be demonstrated that the building program precludes the use of transparent glass. Opaque, heavily tinted or reflective glass shall not be allowed on facades that are visible from public rights of way, except as a design accent covering no more than 10% of upper story fenestration areas.

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If window film is used, it shall be an energy efficient film with little or no color, that is virtually invisible and neutral in appearance.

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STANDARD E 14: Illumination. Prominent building facades shall be lit by carefully designed downwash systems of appropriate color and intensity. Only historic landmarks and civic buildings shall be fully illuminated, as well as buildings which substantially contribute to the character of the street, and have sufficient ornamental detail to provide visual interest. See also STANDARD B 12 Lighting. Also see the City's Revised Lighting Standards for Architectural Up lighting.

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STANDARD E 15: Weather Protection. Pedestrian sidewalks and walkways shall include weather protection features such as awnings or arcades a minimum of 30 feet at all entrances along A and B streets parallel to the building façade, or along at least 60% of that frontage. Canopies shall be constructed of permanent, durable materials, with glass and steel preferred.

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~~STANDARD E 16: **Signage.**— New styles of architecture frequently use signage with new materials, lighting techniques, and graphic images. Such signage shall be allowed on new construction within the B 7 Zone, where it will not have a detrimental effect on the pedestrian environment and character of surrounding buildings. Such signage shall relate to, and be an integral part of, the design of the building while still allowing adaptability for changing tenants and uses over time. Standard internally illuminated plastic signs shall not be considered as “architectural usage of new materials, lighting techniques, and graphic images for signage”.~~

~~The signage standards described for the City’s Pedestrian Activities District (PAD) in the Downtown shall apply to signage in the B 7 Zone. Signage shall also conform with the following standards:~~

~~●— A master signage plan shall be required for all new construction as part of the site plan review process. Signage on new buildings shall be related to, and an integral part of, the design of the building. The master sign plan shall allow adaptability for changing tenants and uses over time.~~

~~■— Each building may have a total of two signs at the upper level (defined as the area between the top of the first floor and the roofline), one sign per storefront tenant at the pedestrian level, one signboard at each entrance with a tenant roster, and a street number sign at entrances as necessary. Signs at the rooftop or cornice line shall be the name or number of the building, the owner of the building, or the major tenant. Signs for minor tenants (except retail storefront uses) are not allowed on the exterior of the building, except on the tenant roster.~~

~~●— Trademarked corporate signage shall, in some instances, be required to be reinterpreted to ensure compatibility with its surrounding context. Such reinterpretation may include, but not be limited to, use of alternative materials or lighting solutions, adjustments in the scale of trademark logos or graphics, etc.~~

~~●— Standard internally illuminated signs including plastic faced, box type signs and individual plastic letters shall be prohibited. Acceptable forms of internal illumination may include halo lit signs and die cut metal sign panels that illuminate individual letters and symbols only.~~

~~●— Permanent signs placed inside windows and/or doors visible from the public right of way shall be subject to review for conformance with these standards.~~

~~■— Rooftop signs, or signs along the cornice line, shall be allowed on a maximum of two faces of the building for a total of two upper story signs.~~

~~●— Signage materials within the pedestrian scale (as defined in Standard E 3 Articulation) shall be glass, wood, or high quality metals such as copper or steel. Signage may creatively incorporate artwork or lighting such as artistic neon.~~

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STANDARD E 17: ~~Historic Buildings.~~ ~~The City of Portland's Historic Preservation staff shall be consulted on proposed changes to historic structures in the B-7 Zone. Historic structures shall be rehabilitated in a way that is consistent with their original architectural intent. Past alterations that have acquired historical significance in their own right (as defined in the City's Historic Preservation Design Standards) shall be retained. New additions to historic buildings shall be designed to be compatible with the original structure in size, style, and material, and shall result in the minimum necessary loss of original architectural material.~~

STANDARD E 18: ~~Sustainable Design.~~ ~~Property that is controlled or conveyed by the City shall be developed at a minimum in a manner that is certifiable within the standards for building and neighborhood design in accordance with the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED).~~

STANDARD E 19: ~~Shadows.~~ ~~All new development along the Bayside Trail, and all buildings in excess of 65 feet in height, shall be designed so that substantial shadow impacts on accessible open space are avoided. All development along the Trail and buildings in excess of 65 feet in height shall conduct a shadow study during the equinoxes and solstices of the year, at 9:00 am, noon, and 3:00pm. New development shall not increase the area in shadow by more than 10 percent during the period from March 21 to September 21. Shadow impacts which shall be evaluated include:~~

- ~~1. the amount of area of publicly accessible open space that is shadowed;~~
- ~~2. the time and duration of the shadow impact within the open space; and~~
- ~~3. the importance of sunlight to the utility of the type of open space being shadowed.~~

STANDARD E 20: ~~Wind.~~ ~~Consideration of wind impact relating to new construction shall establish and maintain a comfortable pedestrian environment. Comfort levels for pedestrian use are related to wind speed, reflect the type of pedestrian activity that might be acceptable, and can be categorized (Melbourne's Criteria) as: 1. unacceptable and dangerous; 2. uncomfortable for walking; 3. acceptable for walking; 4. acceptable for short periods of standing or sitting; and 5. acceptable for long periods of standing or sitting.~~

~~The following factors shall be considered in evaluating whether adverse wind impacts are created: 1. Pre-development and projected post-development wind speeds and their impact on pedestrian movement; and 2. Impact of projected wind speed on the use of and comfort within existing and proposed pedestrian seating areas and other adverse impacts on the surrounding area.~~

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GLOSSARY [To be defined]
~~Active uses~~ ~~Authentic Materials~~ ~~Auto-oriented Building Orientation~~ ~~Neighborhood Edges~~ ~~Circulation system~~
~~Cohesive Connectivity~~
~~Contextual – the context of a site refers to a two-block radius with special attention given to the existing streetscape on both side of the street within the block of the proposed site (unless a different range is identified during development review).~~
~~Defensible Space~~ ~~Gateways~~
~~Green Roofs~~ ~~Historic Building~~ ~~Human Scale~~ ~~Institutional Landmarks~~
~~Liner Buildings~~ ~~Massing~~
~~Multi-modality~~
~~Pedestrian-oriented environment~~ ~~Proportion~~
~~Public Rights of Way~~ ~~Scale~~
~~Setbacks~~ ~~Stepbacks~~ ~~Traffic-calming~~ ~~View Corridors~~
~~View Terminations~~

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APPENDICES / REFERENCES

A New Vision for Bayside

1914 Atlas of the City of Portland (Bayside references) B-7 Mixed Development District Zone

Bayside Height Overlay Map Bayside Street Hierarchy Map

Bayside Open Space Priorities and Principles Bayside Streetscape Subcommittee Standards Bayside Trail Plan

Bicycle parking standards Chapter 14-332.1 City's Transportation Plan (Bayside references Downtown Height

Study (Bayside references)

Frederick Law Olmstead's firm Plan for Marginal Way Marginal Way Street Concept Design Study

Revised Lighting Standards for Architectural Up-lighting (under revision) Sustainable Portland Report

PAD Signage Requirements

Peninsula Traffic Study (Bayside references) Peninsula Transit Study (as applicable) Portland Public Art

Guidelines and Ordinance

Technical and Design Standards and Guidelines (lighting, crosswalks, etc).

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~~h. 4 floors, max. ht. 125' except as
additional use [Sec. 14-496 (e)]
buildings
ave a maximum height of 165'~~

~~UrbanHei~~
3 floors, max. ht. 105

Marginal Way
C. Transitional Neighborhood H
3 floors, max. ht. 85'

~~D. Traditional Neighborhood Height~~

~~min. 2 floors, max ht. 55'~~ **B**

105' — **A**

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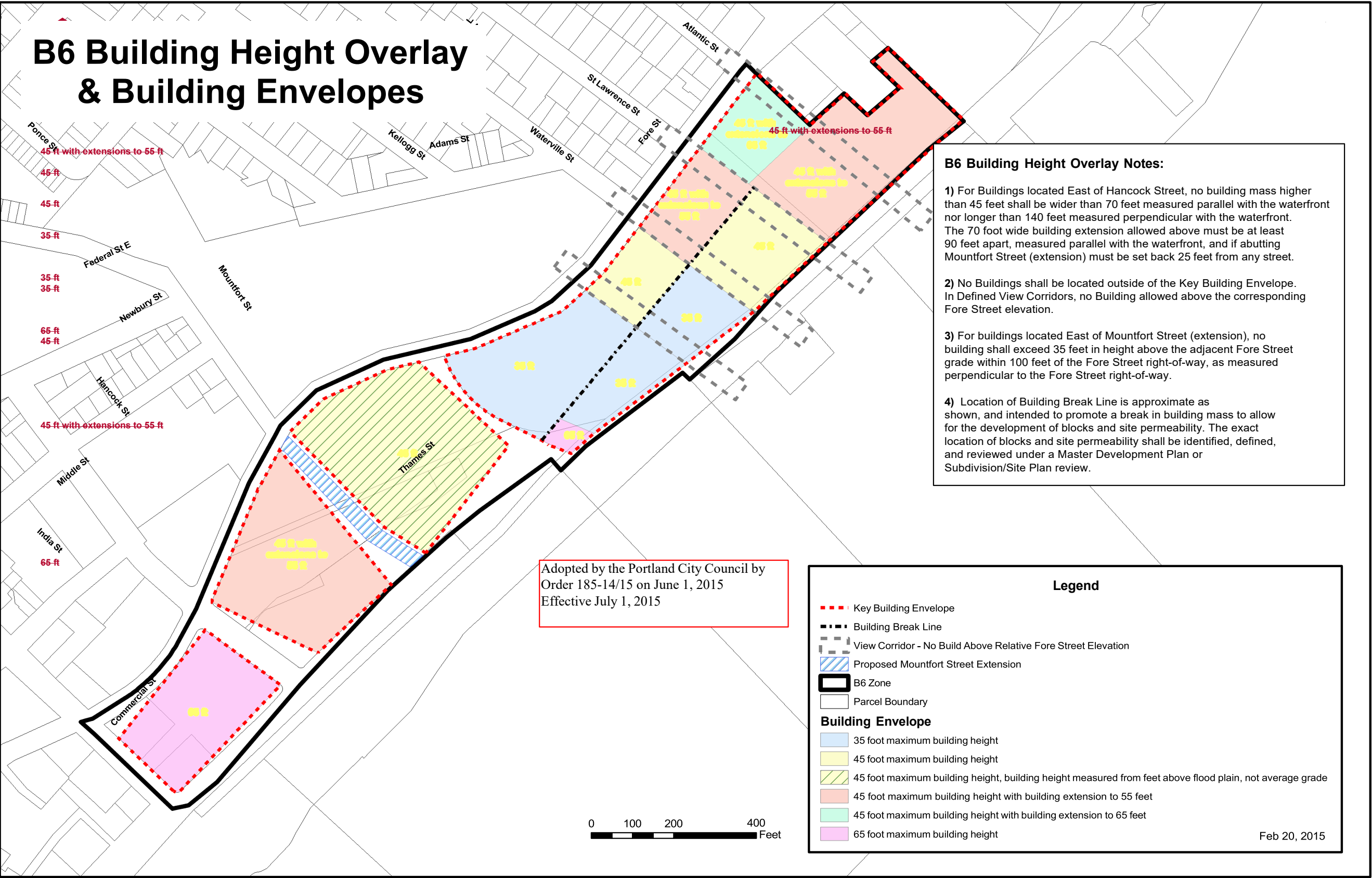


~~9.06~~ Revision 08.04LO

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B6 Building Height Overlay & Building Envelopes



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Appendix 47

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Planning and Development Design Manual RN-35 ~~Small-Residential Lot~~ Development Design Standards

~~Small-Residential Lot~~ development in the RN-35 zone shall comply with the following standards. The general intent of these standards is to achieve an attractive and comfortable neighborhood environment and to ensure that ~~small-residential lot~~ development ~~and multiplexes~~ in the RN-35 zone be designed to be architecturally compatible with the residential buildings in the surrounding neighborhood. Except where stated otherwise, these standards shall apply to the front façade and those portions of the building that are visible from the public way.

1. **Context:** Residential development shall include design elements that reinforce the context and existing character of the neighborhood, and enhance the streetscape. Neighborhood context refers to the existing residential development within a two block radius of the site. The more definite and easily discernable traits within an established neighborhood shall serve as a basis for a design solution.
2. **Public Realm:** The public realm of open space, sidewalks and streets shall be reinforced through appropriately scaled entries, porches, fenestration, architectural details and landscaping. The transition space between the street and the primary building entrance shall include features such as porches, stoops, covered entries, landscaping or other measures to delineate the space.
3. **Massing:** The building's massing (as defined by its size, scale, and form) shall be consistent with existing residential buildings in a two block radius.
4. **Orientation:** Principal facades, primary entrances, porches and bays shall orient to the street, not to interior blocks or parking lots. The primary entrance shall either face the street, or be located on the side with a covered porch (minimum six feet wide) that extends to the front of the building. The slope of the roof shall be either parallel or perpendicular to the street.
5. **Articulation:** Facades shall be articulated with architectural details that create visual interest consistent with the context of the neighborhood. The primary façade and all facades visible from public ways shall include at least two of the following architectural details: gables or dormers, balconies, bay windows, recessed entries, covered porches (minimum six feet wide), covered entries, or stoops. The area of fenestration shall be a minimum of 25% of the total area of street facing façades. Windows shall be included on all sides of a building. The rhythm, size and proportion of door, window and other openings shall be proportional to the overall massing of the building, and consistent with existing residential buildings in a two block radius.
6. **Garages.** Attached and detached garages shall be oriented to the side, or oriented to the street as long as the garage is set back from the primary façade by a minimum of four feet. In such case, the total width of the garage door(s) shall be less than 40% of the overall building width (however, the garage door shall not be required to be reduced to less than 9 feet wide).
7. **Roofs:** Roofs shall be peaked, unless evidence can be shown for an alternative roof form that is predominant on existing residential buildings in a two block radius. Buildings shall have

a main roof form, and subsidiary roofs (except for porch roofs) shall follow the pitch and form of the main roof. Rooflines shall have a cornice treatment.

8. **Materials:** Building materials shall be consistent with the context and overall character of the neighborhood. Façade materials shall provide visual cohesion. Chimneys shall be brick, finished metal, stone or boxed in.

9. **Sound:** Provide visual and acoustical privacy between units

10. **Light and air:** Maximize natural light and ventilation with units.

Appendix ~~57~~

Enacted 04-13-04
Revisions Approved 02-23-7
Revisions Approved 05-08-18

~~Design Certification Program~~
~~RN-46 Infill~~ Development
Design Principles & Standards

I. PURPOSE

All developers, no matter how small their project, have a responsibility beyond simply meeting the needs of their end users. They have a public responsibility to add to and enhance the neighborhoods in which their projects are built.

New residential construction within Portland's compact ~~RN-46~~ zones should relate to the predominant character defining features of the neighborhood. The design of new development is critical, particularly elements such as the orientation and placement of a building on a site; relationship to the street; and mass, form and materials.

The ~~Design Certification Program~~~~RN-4 Development Design Principles & Standards~~ aims to ensure that ~~infill~~ housing development makes a positive contribution to the City's neighborhoods. The intent is to ensure that ~~infill~~ housing is compatible with the neighborhood and meets a high standard of building design, while allowing for diversity of design.

Projects will be reviewed for consistency with ~~RN-46 Infill Development Design Principles and Standards~~. These principles and standards are interdependent and should be considered holistically. The applicant must demonstrate that a proposal is consistent with the Design Principles. The standards are time-honored ways of achieving the Principles. ~~The City's Design Manual contains examples of buildings that are consistent with the aims of the Design Certification Program.~~

Unless otherwise indicated, the ~~RN-46~~ Design Principles and Standards shall apply to the front façade and those portions of the building that are readily visible from the public way.

Unless otherwise indicated, the ~~RN-46~~ Design Principles and Standards shall define "Neighborhood" as the buildings within a two block radius of the site. Special attention shall be given to the existing buildings on both sides of the street within the block of the proposed site. If the building is proposed on a corner lot, then buildings on the adjoining block shall also be considered. The Planning Authority may determine other considerations that shall be made of the proposed building in relation to the neighborhood, due to unique characteristics of a given site.

II. SUBMITTAL REQUIREMENTS

~~The applicant shall submit a site plan and building elevations in accordance with final application requirements of the Site Plan Ordinance (Sec. 14-525).~~ In order to illustrate neighborhood context for a proposal, the applicant shall submit photographs or other visual tools to depict the buildings within a two block radius of the site in order to determine the building elements that contribute to and are compatible with the predominant character defining architectural features of the neighborhood.

Special attention shall be given to the existing buildings on both sides of the street within the block of the proposed site. If the building is proposed on a corner lot, then depictions of buildings on the adjoining block shall also be required.

The Planning Authority may request that consideration be made of buildings in the neighborhood that are comparable in size, scale and use to that which is being proposed, or that consideration be made of the characteristics of buildings which were originally designed for a similar use to that which is proposed. The Planning Authority may determine other considerations that shall be made of the proposed building in relation to the neighborhood, due to unique characteristics of a given site. The Planning Authority may determine the neighborhood to be greater than a two block radius, due to unique characteristics of a given site. In such case, the Planning Authority shall determine the scope of the neighborhood.

Samples of the proposed exterior materials may be requested by the Planning Authority.

II. DESIGN PRINCIPLES AND STANDARDS

PRINCIPLE A Overall Context

A building design shall contribute to and be compatible with the predominant character-defining architectural features of the neighborhood.

Explanatory Note: The central idea behind good design in an established neighborhood is to reinforce positive features of the surrounding area, which provide its unique identity. To a large degree, the scale, mass, orientation, and articulation of an infill building should be compatible with that of the buildings that surround it.

Compatibility refers to the recognition of patterns and characteristics which exist in a given setting and the responsiveness of a new design with respect to these established patterns and characteristics. While there is no one specific solution for a given setting, there are a number of building characteristics which can be used to gauge visual compatibility of new residential construction in an existing neighborhood. These characteristics include design elements such as:

1. Scale and Form: height, massing, proportion of principal facades, roof shapes and scale of the architectural features of the structure.

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2. Composition of Principal Facades: proportion of facades; orientation of openings; ratio of solids to openings; rhythm of fenestration; entrance porches and other projections; and relations of materials, texture and color.
3. Relationship to the Street: walls of continuity; rhythm of spacing and structures on streets; and orientation of principal elevations and entrances to the street.

Each infill project will have a unique context of surrounding structures and sites with some strong, unifying characteristics, and some that are subtle and less obvious. The more definite and easily discernable traits within an established neighborhood should serve as a basis for a design solution, which can reinforce the positive characteristics of the surrounding development patterns. On corner properties, where the architecture has a greater visual impact upon adjacent public spaces, both public facades will be evaluated with equal care.

STANDARD A-1 Scale and Form Relate the scale and form of the new building to those found in residential buildings within a two-block radius of the site, that contribute to and are compatible with the predominant character-defining architectural features of the neighborhood. Special attention shall be given to the existing building forms on both sides of the street within the block of the proposed site.

STANDARD A-2 Composition of Principal Facades Relate the composition of the new building façade, including rhythm, size, orientation and proportion of window and door openings, to the facades of residential buildings within a two-block radius of the site that contribute to and are compatible with the predominant character-defining architectural features of the neighborhood. Special attention shall be given to the existing facades on both side of the street within the block of the proposed site.

STANDARD A-3 Relationship to the Street Respect the rhythm, spacing, and orientation of residential structures along a street within a two-block radius of the site that contribute to and are compatible with the predominant character-defining architectural features of the neighborhood. Special attention shall be given to the existing streetscape on both side of the street within the block of the proposed site.

PRINCIPLE B Massing

The massing of the building reflects and reinforces the traditional building character of the neighborhood through a well composed form, shape and volume.

Explanatory Note: Massing is a significant factor that contributes to the character of a building. The building's massing (as defined by its bulk, size, physical volume, scale, shape and form) should be harmonious with the massing of existing buildings in a two block radius. The massing of a building can be defined as the overall geometry (length, width, and height) of its perceived form. The overall height of the form (actual and perceived) as well as the geometry of its roof is of particular importance in defining the massing of a building.

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STANDARD B-1 Massing The building's massing (as defined by its bulk, size, physical volume, scale, shape and form) should be harmonious with the massing of existing buildings in a two block radius. Special attention shall be given to the existing building massing on both sides of the street within the block of the proposed site.

STANDARD B -2 Roof Forms Roof forms shall refer to the architectural forms found within a two-block radius of the site that contribute to and are compatible with the predominant character-defining architectural features of the neighborhood. Special attention shall be given to the existing roof forms on both side of the street within the block of the proposed site.

STANDARD B -3 Main Roofs and Subsidiary Roofs The building shall have a clear main roof form. Subsidiary roof forms and dormers shall be clearly subordinate to the main form in size, space and number. Where a building has multiple rooflines (e.g., main roof, dormer roof, porch roof, etc.) there shall not be more that two roof pitches or outlines overall.

STANDARD B-4 Roof Pitch Gable roofs shall be symmetrical with a pitch of between 7:12 and 12:12. Hip roofs with a shallow pitch and flat roofs shall have a cornice of at least 12 inches in width. The slope of the roof may be either parallel or perpendicular to the street. Monopitch (shed) roofs are allowed only if they are attached to the wall of the main building. No mono pitch roofs shall be less than 7:12, except for porch roofs. There is no minimum pitch for porch roofs.

STANDARD B-5 Facade Articulation Provide variety in the massing by incorporating at least two or more of the following architectural elements. Such features shall be applied to the front façade and those portions of the building that are readily visible from the public way.

1. Gables or dormers.
2. Balconies.
3. Recessed entries.
4. Covered porches, covered entries or stoops.
5. Bay windows. In the case of horizontally attached dwelling units, at least one-half of the ground floor units shall have a bay window to receive credit as a design feature.

STANDARD B-6 Garages Attached and detached garages are allowed provided that the street-facing façade of the garage is recessed behind the façade of the main structure by a minimum of four feet. However, if the garage is integrated into the building form, the garage door may be included into the front façade of the dwelling providing that there are at least one story of living space over the garage. In this instance, the garage door width may be no more than 40% of the width of the building's overall façade width, except that no garage door need be reduced to less than 9 feet in width. Standard C-2 is not required if there is no living space on the ground level.

PRINCIPLE C Orientation to the Street

The building's façade shall reinforce a sense of the public realm of the sidewalk while providing a sense of transition into the private realm of the home.

Explanatory Note: An important component of the neighborhood's character is the relation of dwellings to the sidewalk and the street. Design of dwellings can enhance the pedestrian friendliness and sociability of the streetscape while protecting the privacy of the residents' internal home life.

STANDARD C-1 Entrances Emphasize and orient the main entrance to the street. The main entrance of the structure shall either face the street and be clearly articulated through the use of architectural detailing and massing features such as a porch, stoop, portico, arcade, recessed entry, covered entry, trim or be located on the side and be accessed by a covered porch that extends to the front of the building, at the primary street frontage.

STANDARD C-2 Visual Privacy Ensure the visual privacy of occupants of dwellings through such means as placing the window sill height at least 48" above the adjoining sidewalk grade; providing the finished floor elevation of a residence a minimum of 24" above sidewalk elevation; incorporating porches along the front side of the building façade design; or other measures.

STANDARD C-3 Transition Spaces Create a transition space between the street and the front door with the use of such features as porches, stoops, porticos, arcades, recessed entries, covered entries, trim, sidewalk gardens or similar elements.

PRINCIPLE D Proportion and Scale

Building proportions must be harmonious and individual building elements shall be human scaled.

Explanatory Note: Throughout the history of architecture certain proportions have become known as classical proportions which have endured as aesthetically pleasing regardless of the style of architecture or the culture of origin. Scale has to do with the size of the architectural components in relation to the overall building size, and also in relation to the predominant character defining architectural features of the neighborhood.

STANDARD D-1 Windows The majority of windows shall be rectangular and vertically proportioned. The use of classical proportions is encouraged. Special accent windows may be circular, square or regular polygons. Doorways, windows and other openings in the façade (fenestrations) shall have a proportional relationship to the overall massing of the building.

STANDARD D-2 Fenestration Doorways, windows and other openings (fenestration) shall be scaled appropriately to the overall massing of the building. The area of fenestration of the front façade (and for corner lots, both street-facing facades) shall be at least 12% of the total

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façade area. Appropriately scaled windows or other building openings shall be included on all sides of a building.

STANDARD D-3 Porches When porches are attached to the front façade, ~~for for porches that are required as an open space amenity under Section 14-139(f))~~ the porches shall extend along a horizontal line at least 20% of the front façade. Porches and balconies must have a minimum depth of 6 feet and a minimum square footage of 48 square feet. The depth may be reduced to 5 feet provided that the square footage is increased to 60 square feet.

~~1. For porches and balconies that are required as open space amenities under Section 14-139(f), a porch or deck may have entries to two or more units provided that the required dimensions and square footage allocations are met.~~

PRINCIPLE E Balance

The building's façade elements must create a sense of balance by employing local or overall symmetry and by appropriate alignment of building forms, features and elements.

Explanatory Note: Balance refers to the composition of façade elements. Symmetry refers to the balanced distribution of equivalent forms and spaces about a common line (axis) or point (center). Overall symmetry refers to arrangements around an axis line that bisects the building façade equally. Local symmetry refers to arrangements around an axis line that focuses on a particular building element (e.g., a porch or bay window). A balanced façade composition generally employs overall or local symmetry.

Alignment refers to the position of building elements with each other and with the building form as determined by scale, mass, roofline, slopes, etc.

STANDARD E-1 Window and Door Height The majority of window's and door's head heights shall align along a common horizontal datum line.

STANDARD E-2: Window and Door Alignment The majority of windows shall stack so that centerlines of windows are in vertical alignment.

STANDARD E-3: Symmetricality Primary window compositions (the relationship of two or more windows) shall be arranged symmetrically around the building façade's centerline (overall symmetry) or around another discernable vertical axis line.

PRINCIPLE F Articulation

The design of the building is articulated to create a visually interesting and well composed residential façade.

Explanatory Note: Articulation refers to the manner in which the shapes, volumes, architectural elements and materials of a building's surface are differentiated yet work together. A well-composed building articulation adds visual interest and individual identity to a home while maintaining an overall composition.

STANDARD F-1 Articulation Buildings shall provide surface articulation by employing such features such as dimensional trim, window reveals, or similar elements appropriate to the style of the building. Trim and details shall be designed and detailed consistently on the facades visible from the public right of way.

STANDARD F-2 Window Types Window patterns shall be composed of no more than two window types and sizes except where there is a design justification for alternate window forms..

STANDARD F-3 Visual Cohesion Excessive variations in siding material shall not be allowed if such changes disrupt the visual cohesion of the façade. Materials shall be arranged so that the visually heavier material, such as masonry or material resembling masonry, is installed below lighter material, such as wood cladding.

STANDARD F-4 Delineation between Floors Buildings shall delineate the boundary between each floor of the structure through such features as belt courses, cornice lines, porch roofs, window head trim or similar architectural features.

STANDARD F-5: Porches, etc. Porches, decks, balconies, stoops and entryways shall be architecturally integrated into the overall design of the building in a manner that compliments its massing, material, and details. Multilevel porches and balconies on front facades shall not obscure the architectural features of the façade. Use of rail/baluster systems with appropriate openings between rails, stepping back balconies from the front plane of the building face, or other appropriate design features shall be employed to achieve this standard.

STANDARD F-6: Main Entries Main entries shall be emphasized and shall be integrated architecturally into the design of the building, using such features as porch or stoop forms, porticos, recessed entries, trim or a combination of such features, so that the entry is oriented to the street.

STANDARD F-8: Articulation Provide articulation to the building by incorporating the following architectural elements. Such features shall be on all façades facing and adjacent to the street.

1. Eaves and rakes shall have a minimum projection of 6 inches.

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2. All exterior façade trim such as that used for windows, doors, corner boards and other trim, shall have a minimum width of 4 inches except for buildings with masonry exteriors.
3. If there are off sets in building faces or roof forms, the off sets shall be a minimum of 12 inches.
4. Pronounced and decorative cornices.

PRINCIPLE G Materials

Building facades shall utilize appropriate building materials that are harmonious with the character defining materials and architectural features of the neighborhood.

STANDARD G-1 Materials Use materials and treatments for the exterior walls (including foundation walls) and roofing that are harmonious with those in buildings within a two-block radius of the site that contribute to and are compatible with the predominant character-defining architectural features of the neighborhood. Special attention shall be given to the existing building forms on both sides of the street within the block of the proposed site.

STANDARD G-2 Material and Façade Design The selection of façade materials shall be consistent with the façade design and appropriate to their nature. For example, brick facing should not appear to be thin layers on the façade, or to overhang without apparent support.

STANDARD G-3 Chimneys Chimneys shall be of brick, finished metal, stone or boxed-in and clad with materials to match the building.

STANDARD G-4 Window Types A variety of window treatments and skylights are acceptable. However, within a single building the types of windows shall be limited to two types, and window detailing shall be consistent throughout.

STANDARD G-5 Patios and Plazas Patios and plazas shall be constructed of permanent materials such as concrete, brick or stone.

IV. ALTERNATIVE DESIGN REVIEW (revised 5.8.18)

The Standards listed above are time-honored ways of achieving the Design Principles. With exceptional care, though, it is possible to apply a design approach that meets the Principles through alternatives that vary from the Standards, while maintaining and relating to the predominant character-defining architectural elements of the neighborhood, such as the building location on the site, its relationship to the street, and its mass, form, and materials. New construction under the Alternative Design Review should result in exemplary design and be compatible with the surrounding buildings in a two-block radius, in size, scale, materials and siting, but with consideration to building type, as well as the general character of the established neighborhood. The review authority may determine the neighborhood to differ from a two-block

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radius, due to unique characteristics of a given site or proposal. In such case, the review authority shall determine the scope of the neighborhood.

In review, special attention shall be given to the existing buildings on both sides of the street within the block of the proposed site. If the building is proposed on a corner lot, then depictions of buildings on the adjoining block shall also be required. The review authority should consider buildings in the neighborhood that are comparable in size, scale, type, and use to that which is being proposed, or that consideration be made of the characteristics of buildings which were originally designed for a similar use to that which is proposed. The review authority may determine other considerations that shall be made of the proposed building in relation to the neighborhood, due to unique characteristics of a given site. In addition, when evaluating a proposed project, the review authority may grant design flexibility when social and environmental public benefits are proposed as part of the project. Examples include designs that accommodate sustainable design best practices, alternative energy sources, green roofs, or affordable housing units that may require a design character that varies from the predominant built patterns. The applicant shall provide documentation of the contextual characteristics as guidance for review.

An applicant may propose an alternative design approach and request an Alternative Design Review Design Certificate. The Planning Authority under an Alternative Design Review may grant a Design Certificate to approve a design not meeting one or more of the individual standards provided that all of the conditions listed below are met. ~~In the case of an Alternative Design Review within the Munjoy Hill Neighborhood Conservation Overlay District, the Historic Preservation Board shall be the review authority and may grant a Design Certificate provided all of the conditions listed below are met. The final decision whether to issue an Alternative Design Review Design Certificate is at the discretion of the review authority and may only be appealed to the Historic Preservation Board.~~

A. The proposed design is consistent with all of the Principle Statements.

A-B. The majority of the Standards within each Principle are met.

B-C. The guiding principle for new construction under the alternative design review is to be compatible with the surrounding buildings in a two block radius in terms of size, scale, materials and siting, as well as the general character of the established neighborhood, thus Standards A-1 through A-3 shall be met.

C-D. The design plan is prepared by an architect registered in the State of Maine.

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BUILDING DESIGN STANDARDS

The **Building Design Standards (BDS)** contained herein address the quality of the India Street Neighborhood urban environment, recognizing that it is ultimately formed by numerous individual, private creative decisions. The BDS provide an overview of how to create a pedestrian-oriented, visually cohesive, and economically vital neighborhood. They are designed to promote a clear, consistent, and predictable process for the redevelopment of land within the India Street Neighborhood.

Description of Terms

Design review is mandatory for all new construction and ADDITION projects in the India Street Form-based Code zone. The goals and requirements of the design review are listed under three headings for each review issue: **Intent, Guidelines, and Standards**. Descriptions for each are as follows:

Intent: Intent statements are provided to define goals which the guidelines and standards have been created to achieve. In circumstances where the appropriateness or applicability of a guideline or standard is in question or under negotiation, the intent statement will provide additional direction.

Guidelines: Design Guidelines provide further considerations to promote the goals defined by the intent statements. Guidelines use the term "should" or "may" to denote they are considered relevant to achieving the stated intent, and will be pertinent to the review process but will not be required for approval. Guidelines will, however, be strongly considered when there is a request to waive a related standard.

Standards: Design standards are objective criteria that provide specific direction based on the stated intent. Standards are used to denote issues that are considered critical to achieving the stated intent. Standards use the term "shall" to indicate that compliance is required unless it can be demonstrated that an acceptable alternative meets one or more of the following conditions in which case a waiver may be requested:

- The alternative better achieves the stated intent;
- The intent which the standard was created to address will not be achieved by application of the standard in this particular circumstance;
- The application of the other standards and guidelines to achieve stated intents will be improved by not applying this standard;
- Unique site factors make the standard impractical or cost prohibitive.

1. Neighborhood Context

Intent

- Promote thoughtful architectural relationships between new and existing buildings and between adjacent urban neighborhoods
- Spatially define the street space to concentrate pedestrian activity and create a clear urban character and street wall edge
- Reinforce the distinctions between public and private spaces and uses
- Promote active ground levels and streets (**especially in the UA Subdistrict**)

Guidelines

- New construction and ADDITIONS should respect the surrounding context demonstrating recognition of patterns and characteristics that exist in the context sharing the same streetscape. Such patterns and characteristics include:
 - Rhythm of spacing and structures on the streetscape
 - Relationship of neighboring structures to the street
 - Proportion, directional expression, and composition of principal FACADES
 - Rhythm of solids to voids in FACADES
 - Rhythm and proportion of openings
 - Rhythm of entries and projections
 - Relationship of materials, texture, and color
 - Roof shapes

2. Massing & Proportion

Intent

- Ensure the provision of human-scaled architecture, especially at the pedestrian level
- Provide building massing that relates to the scale and proportions that exist in the context sharing the same streetscape

Guidelines

- Large scale architectural choices and variations in the building form, mass, and proportion should reflect surround lot and block patterns and relate to the scale of surrounding buildings and the context in which it is seen.
- The impact of large-scale forms should be mitigated by large-scale variations in the building form, mass, and proportion such as stepping back an upper floor, or a change in the direction of a wall or roof line.
- Variation in building massing may include changes in wall plane or height and may relate to primary building entries, important corners, or other significant architectural features.
- Building FACADES should be designed using simple proportions such as the rational (1:1, 2:1, 3:2, 4:3, etc.) or the irrational (the square root of 2 and the golden ratio).

Standards

- 2.1 In cases where a building uses ground floor partitions to achieve additional building length, the following applies:
- Partitions must extend from the FACADE at least 2/3rds of the building depth; pass-through openings are allowed
 - Partitions must be architecturally expressed on the exterior FACADE
 - Each module created by partition must have at least one functional, street-facing entry
 - Modules created by partition shall be sized to have reasonable function and proportion in relation to overall building length

3. Articulation & Composition

Intent

- Create a well-detailed and visually interesting urban environment through FACADE composition and architectural detail
- Provide for comfort and interest in the pedestrian environment through human-scaled architectural character
- Avoid creating large areas of inactive or inhospitable street wall
- Establish architectural scale patterns or features that relate to adjacent buildings

Guidelines

- Architectural scaling elements should be used to break down the appearance of large building FACADES into authentic architectural patterns and component building forms.
- Building FACADES should provide variation corresponding to architectural or structural bays.
- Find common reference lines to surrounding built context, examples of which include EXPRESSION LINES, change of material, delineation of floors, window alignment, and roof line alignment.
- Variation in building massing and detail should relate to the scale and function of pedestrian-oriented uses along the street.
- A sense of enclosure for the pedestrian environment should be provided using building articulation either at the ground level, upper floors, or roof line.
- The ground floor of buildings should be clearly expressed by the articulation of forms and details. Special ground level features such as canopies, awnings, storefront, and emphasized entrances lend richness to the street.
- Required articulation elements should be integral to the building form and construction, not a thinly applied veneer.
- Architectural detail may relate to but not necessarily mimic traditional building details to establish a human-scale vocabulary. Detail patterns may also relate to the inherent formal qualities of architectural structural systems.
- Projections such as balconies and terraces should be incorporated into vertical and horizontal shifts in building massing to avoid building FACADES that cantilever into the streetscape and public space.
- BLANK FACADES should be avoided.

BUILDING DESIGN STANDARDS (CONTINUED)

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Standards

- 3.1 Each building facade shall incorporate at least three of the following elements (listed in descending order of impact):
- Expression of building structural elements such as floors (e.g. banding, belt courses), columns (e.g. pilasters, piers), and/or foundations (e.g. watertables, rustication)
 - Projections such as stoops, porches, bay windows, overhangs
 - Recessed entrances and/or windows into the FACADE to create depth and shadow lines
 - Projections or unique design features at building entrances or corners such as trellises, canopies, awnings
 - EXPRESSION LINES such as at roof lines (e.g. cornices, moldings, trims, fascia boards, overhangs, parapets), and/or floor delineation (e.g. belt courses, railings, material changes)
 - Patterns of window and/or door openings that are emphasized through change of plane (not less than 4" deep) and/or the use of sills, lintels, mullions, muntins, and other scale-providing elements
 - Changes in material type, texture, pattern, module, and/or color
 - Patterns of architectural ornament integral to the building material
- 3.2 Each change of material shall involve at least 1" variation in wall plane. Reveals shall not be less than 1" deep and 1" wide.
- 3.3 BLANK FACADES shall be limited as follows:

	UN	UT	UA
BLANK FACADES			
Maximum Length	15'	30'	15'

Articulation Elements: Examples



Base/Middle/Top, Bay projections, Recessed entry, Delineation of floors, Lintels, Overhang cornice



Expressed structural elements, Arcade, Fenestration recessed from building face, Change of materials, Lintels, Cornice



Delineation of floors, Recessed entry, Window details create scale, Change of materials, Parapet rail, Stepback



Base/Middle/Top, Change of facade planes, Recessed entry, Storefront, Window details create scale, Stepback, Overhang Cornice line

Blank Facades: Examples



In-active wall with articulation - Preferred
Visual interest created with Expressed structural elements, Change in material, Material scale and texture, Change of planes



BLANK FACADE - Not preferred
Lack of visual interest because of No openings, Flat wall without change of planes, Lack of material scale or texture

4. Fenestration

Intent

- Provide visibility that reinforces the safety and activity of the street (**especially in the UA Subdistrict**)
- Emphasize and distinguish between uses and functions within the building
- Provide visual interest and scale through fenestration patterns, material variation, detail, and surface relief

Guidelines

- FACADE design facing streets where activity is encouraged (especially in the UA Subdistrict) should have a high level of visual transparency at the ground level.
- Fenestration should punctuate FACADES providing scale and pattern.
- Fenestration location, variation, and patterns should be used to emphasize building features such as entries, shifts in building form, or different functions.
- Recessed glazing, casement details, and mullion patterns may be used to provide depth and substance to the building façade and should consider the play of sunlight across the FACADE.

Standards

- 4.1 Between 60-90% of ground floor UA FACADES shall be constructed of transparent materials or otherwise designed to allow pedestrians to view activities inside the building or displays related to those activities (measured as a percentage of the ground-level FACADES 2' above sidewalk grade). (**UA Subdistrict**)
- 4.2 At least 25% of upper floor FACADES shall be transparent glazing.
- 4.3 Transparent glass shall have a Visual Transmittance (VT) of at least .61.
- 4.4 Areas of the building that are functionally restricted from providing vision glass may be exempted provided other architectural scaling techniques are employed.

5. Building Materials

Intent

- Encourage human-scaled buildings through the use of smaller material modules
- Ensure the consistent use of high-quality materials appropriate to the urban environment and climate

Guidelines

- High-quality materials and design techniques shall be applied. Developments shall use high quality, durable, and authentic materials that exhibit longevity and integrity.
- Building materials and techniques shall reflect or complement the existing materials and techniques within the India Street Form-based Code zone and shall be visually compatible with the predominant materials used in the structures to which they are visually related.
- Building materials used at the lower floors of FACADES shall be of the highest quality and most durable and authentic.
- Building materials used at the lower floors of FACADES should respond to the character of the pedestrian environment through such qualities as scale, texture, color, and detail.
- Carefully detailed combinations of materials should reinforce Section 3. Articulation & Composition requirements.

6. Building Entries

Intent

- Enhance the scale, activity, safety, and function of the public streets by providing frequent entries oriented to the streets
- Reinforce the convenience of pedestrian activity and circulation along the street by creating as many external, street oriented entries as possible to ground floor, pedestrian-active uses

Guidelines

- Each building should have one or more clearly identifiable PRINCIPAL ENTRANCES that addresses the street.
- PRINCIPAL ENTRANCES should be emphasized through changes in wall plane or building massing, canopies or overhangs, differentiation in material and/or color, greater level of detail, enhanced lighting, and/or permanent signage.
- Entries to ground floor uses should be direct and as numerous as possible to encourage active pedestrian use.
- Where possible, garage entrances should be oriented away from the street.

Standards

- 6.1 All buildings shall provide at least one PRINCIPAL ENTRANCE oriented directly to a public street.
- 6.2 If the lot has UA frontage, at least one (1) PRINCIPAL ENTRANCE must directly face the UA street. **(UA subdistrict)**
- 6.3 All street-oriented building entries shall be directly connected to the public sidewalk via paved walk, stair, or ramp.
- 6.4 Each active use with street-level, exterior exposure shall provide at least one direct pedestrian entry from the street.
- 6.5 Recessed entries shall be excluded from the setback requirements.
- 6.6 Garage doors shall not be placed within the 1st Lot Layer.
- 6.7 Frequency and orientation of entries shall be as follows:

	UN	UT	UA
BUILDING ENTRY CONFIGURATION - PRINCIPAL ENTRY(IES) (allowed)			
Street-facing Entry	X	X*	X*
Side Entry	X		
Corner Entry	X	X	X
Elevated Stoop (more than 1 step above sidewalk grade)	X	X	
*At least 1 principal entry must face an UA street			
BUILDING ENTRY CONFIGURATION - NON-PRINCIPAL ENTRY(IES) (allowed)			
Street-facing Entry	X	X	X
Side Entry	X	X	X
Corner Entry	X	X	X**
Elevated Stoop (more than 1 step above sidewalk grade)	X	X	X**
**If corner entry is at an intersection of two subdistricts, elevated stoop is allowed			
ENTRY FREQUENCY			
Entry provided at least every	35'	95'	40'

7. Roof Lines

Intent

- Integrate all building systems within a complete architectural form
- Respect the character of and views from the surrounding context
- Make a positive contribution to the Portland skyline

Guidelines

- The architecture of the building's upper floors and termination should complete the building form within an overall design concept for the base, middle, and top that works in concert with the Section 3. Articulation & Composition requirements.
- Roof forms should consider and respect the context in which it is viewed in terms of height, proportions, form, and materials, whether the context is surrounding buildings, view corridors, or the waterfront.

Standards

- 7.1 All rooftop building systems shall be incorporated into the building form in a manner integral to the building architecture in terms of form and material. All mechanical, electrical, and telecommunications systems shall be screened from view of surrounding streets and structures.
- 7.2 All simple roof forms are allowed in all Subdistricts.

8. Structured Parking

Intent

- Minimize the visual impact of parking structures on adjacent development and the street environment
- Minimize the impact of vehicle noise and headlights from within parking structures on adjacent streets
- Activate street level garage frontage (**especially in the UA Subdistrict**)

Guidelines

- Structured parking should not dominate (exceed 50% in length) any FACADE along a UA street. (**UA subdistrict**)
- Parking structures should use materials and architectural detailing found in the primary development being served.

Standards

- 8.1 Parking structures shall conform to the BDS for Section 3. Articulation & Composition and Section 5. Building Materials.
- 8.2 Parking structures shall be designed to conceal the view of parked cars and internal light sources from adjacent public rights-of-way or open space for the full height of the structure.
- 8.3 FACADE openings which face any public right-of-way or open space shall be vertically and horizontally aligned and the floors on such façades shall be level.
- 8.4 Parking structures shall provide adequate ground floor dimensions to allow use by or conversion to active uses. Adequate dimensions shall include floor-to-floor heights, structural, driving aisle, and utility layouts within 35' of the public right-of-way designed to accommodate occupancy by active uses.

Illustration: Private Residential Building

Typical of the Urban Neighborhood Subdistrict (UN)



Exemplary Design Features

- Building is positioned with a small front yard setback allowing for privacy and stoop but still maintaining the established street wall
- Private function of building is reinforced by raised first floor, elevated entry, and small front yard setback
- Entry is emphasized with stairs and canopy
- Bay window projections break up the building massing
- Fenestration patterns are consistent with surrounding context and function
- Building is grounded with the use of a rusticated masonry water table at the base
- Visual interest is created with fine grain material texture, corner board and trim, cornice, and shadow lines from bay projections and slight window recess
- Cornice line is articulated with a material change and an overhang which provides a sense of enclosure at the street
- Fence and landscaping are used to maintain the street wall edge

Illustration: Active Commercial Building

Typical of the Urban Active or Urban Transitional Subdistricts (UA or UT)



Exemplary Design Features

- Building is positioned at the property line creating a strong, urban street wall
- Principal Frontage is oriented to the Urban Active (UA) street
- Corner is emphasized with a chamfer and corner entrance
- Ground floor is activated with modular storefront and multiple entries
- Entries are no more than one step above the sidewalk and frequent
- Building structure is expressed with trabeation
- Upper floor fenestration pattern is frequent and consistent with building structure and function
- Visual interest is created with expression lines and material texture and patterns on upper floors, and recessed storefront creating shadow lines

19 Willis Street (formerly 33 Montreal Street)
Level III Site Plan and Subdivision
PL-000807-2019 | CBL: 015 B022
37 Montreal Street LLC, Applicant

Submitted to:	Portland Planning Board	Prepared By:	Matthew Grooms
Public Hearing Date:	December 10, 2024	Date:	December 6, 2024

I. INTRODUCTION

On September 30, 2024, the State of Maine Superior Court remanded Application PL-000807-2019 back to the Planning Board to make additional findings of fact regarding how the project complies with City land-use regulations around building height, setbacks, and the City's design review requirements. On November 12, 2024, the Planning Board voted to reopen the evidentiary record for Application PL-000807-2019 to permit the presentation of additional evidence from the applicant, the city and through public comment, limited only to information that is relevant to the three issues that were in front of the court, specifically, 1) the calculation of the height of the building, 2) whether the development meets the applicable setbacks and 3) whether the development complies with Section 14-526(d)(5)(b).

II. SUPPLEMENTAL INFORMATION

In order to supplement the record, the City has provided the approval record for multiple additional site plan applications, for other projects located either in close proximity to the development at 19 Willis Street, or similarly within the R-6 Residential zone, as further evidence clarifying the application of regulations around height measurement, setback measurement, and historic preservation advisory review.

III. 19 WILLIS STREET - PLANNING BOARD RECORD

- A. [Workshop \(September 24, 2019\)](#)
- B. [Public Hearing \(December 14, 2021\)](#)
- C. [Public Hearing for First Remand \(November 14, 2023\)](#)

IV. REPORT ATTACHMENTS

- A. Attachment 1 – Order of Remand – October 8, 2024
- B. 218 Washington Ave (PEZ 2016-280, PEZ 2016-281) Approval, Report, and Plans
- C. 102 State Street (PL-001840-2021) Approval, Report, and Plans
- D. 155 Sheridan Street (PEZ 2017-073) Approval, Report, and Plans
- E. 15 Crescent Street (PL-002466-2023) Approval, Report, and Plans
- F. 10 Hammond Street (PL-000418-2018) Approval, Report, and Plans
- G. 331 Cumberland Avenue (PL-002948-2024) Approval, Report, and Advisory Review.

I. BACKGROUND

This Rule 80B appeal concerns the Planning Board's decision to reapprove a four-story apartment complex (the "Project")¹, following remand by the Law Court in *Murray v. City of Portland*, 2023 ME 57, 301 A.3d 777. (Supplemental Record ("Supp. R.") 1.) The facts of this case prior to remand are more fully detailed in the Law Court's Order, familiarity with which is presumed. *See Murray*, 2023 ME 57, ¶¶ 3-12, 301 A.3d 777. Nonetheless, a brief recapitulation of the relevant factual background and procedural history following remand is warranted.

On August 12, 2019, 37 Montreal filed its initial application for Level III Site Plan, Subdivision and Inclusionary Zoning Conditional Use. (Administrative Record ("R.") 1.) The Planning Board held a public workshop on September 24, 2019. (R. 273.) At the workshop, the Planning Board accepted public comments and provided initial feedback. (R. 273.) Public comments focused primarily on the Project's scale, overbearing size, and compatibility with the neighborhood. (R. 335-350.)

In April 2021, 37 Montreal filed new plans with the Planning Board. (R. 200-210.) A public hearing was scheduled to address the new plans on July 13, 2021. (R. 199.) Petitioners, along with several other Munjoy Hill residents, submitted written statements echoing earlier objections to the Project. (R. 335-340, 342-345, 347.) The objections asserted the Project violated the maximum height for structures within the MHNCOD, did not adhere to applicable setback requirements, and did not conform to the architectural character of the neighborhood. (R. 335-340, 342-345, 347.)

¹ The Project involves combining two pre-existing lots on a parcel of land to develop a four-story apartment complex. (R. 273.) The apartment complex will be located at 19 Willis Street, Portland, Maine. (R. 273.) The Project is in Portland's R-6 zoning district and the Munjoy Hill Neighborhood Conservation Overlay District ("MHNCOD"). (R. 314.)

In November and early December 2021, 37 Montreal submitted final plans for the Project. (R. 2-129.) On December 14, 2021, the Planning Board held a final public hearing. (R. 728-787.) The meeting closed with a unanimous vote by six (6) members of the Planning Board approving the Project. (R. 782-786.) On January 15, 2022, Petitioners filed a timely appeal with the Superior Court pursuant to M.R. Civ. P. 80B. *See Peter Murray, et al. v. City of Portland, et al.*, Docket No. AP-22-03.

On August 1, 2022, this Court entered an Order denying Petitioner's 80B Appeal and denying Respondent's Motion to Supplement the Administrative Record. *See* Docket No. AP-22-03. Petitioners appealed to the Law Court. The Law Court concluded that the Planning Board's decision did not contain sufficient findings required for meaningful judicial review. *Murray*, 2023 ME 57, ¶ 15, 301 A.3d 777. The *Murray* Court stated, "the Planning Board did not explain its conclusions or reasoning related to the proposed development's height or setbacks" and did not "mention or discuss the historic-preservation design-review requirement". *Id.* The Law Court vacated judgment and remanded to this Court with instructions to remand to the Planning Board to make the required findings. *Id.* ¶ 19. Accordingly, this Court remanded to the Planning Board. *See* Docket No. AP-22-03.

On November 22, 2023, Planning Board staff prepared a report (the "Report") to address the issues on remand. (Supp. R. 10-17.) The Planning Board held a hearing on November 28, 2023 ("November 2023 Hearing"). (Supp. R. 59.) At the November 2023 Hearing, the Planning Board adopted statements contained in the Report regarding the height, setback, and design-review requirements as supplemental findings ("Supplemental Decision"). (Supp. R. 1.) The Supplemental Decision incorporated by reference the findings in the Report. (Supp. R. 1.) On

December 12, 2023, the Planning Board formally adopted the Supplemental Decision, and the Project was once again approved. (Supp. R. 1-5, 88-90.)

On January 9, 2024, Petitioners timely filed the current Rule 80B appeal. On February 20, 2024, Petitioners filed their Rule 80B Brief. On March 18, 2024, both 37 Montreal and the City filed their 80B Briefs. On March 29, 2024, Petitioners filed a Reply Brief. On August 22, 2024, this Court held oral argument on the matter.

II. STANDARD OF REVIEW

When the Superior Court acts in an appellate capacity pursuant to Maine Rules of Civil Procedure 80B, the court reviews the operative decision of a municipality for errors of law, abuse of discretion, or findings not supported by substantial evidence in the record. *Grant v. Town of Belgrade*, 2019 ME 160, ¶ 8, 221 A.3d 112 (quoting *Gensheimer v. Town of Phippsburg*, 2005 ME 22, ¶¶ 7, 16 868 A.2d 161). “Substantial evidence exists when a reasonable mind would rely on that evidence as sufficient support for a conclusion.” *Ouellette v. Saco River Corridor Comm’n*, 2022 ME 42, ¶ 20, 278 A.3d 1183 (quoting *Doane v. Dep’t of Health & Hum. Servs.*, 2021 ME 28, ¶ 38, 250 A.3d 1101). The court may not substitute its judgment for that of a board. *Hill v. Town of Wells*, 2021 ME 38, ¶ 8, 254, A.3d 1161. The party seeking to vacate the decision bears the burden of persuasion on appeal. *Olson v. Town of Yarmouth*, 2018 ME 27, ¶ 11, 179 A.3d 920.

III. DISCUSSION

In this 80B appeal, Petitioners argue that the Planning Board: (1) failed to correctly interpret and apply the height and setback requirements of the Portland City Land Use Code (the “Code”); (2) did not comply with the historic preservation design-review requirement; and (3) failed to make sufficient findings supported by substantial record evidence on remand. Because

the Court concludes the Planning Board's supplemental findings are insufficient, the Court will only address the sufficiency of the record.

A. Sufficiency of the Record

Petitioners assert that the Planning Board's findings on remand are insufficient. In short, Petitioner's argue that the Report set forth findings in advance of the hearing that were adopted by the Planning Board without critical analysis, deliberation, or discussion.² Respondents contend the Planning Board adopted additional findings of fact sufficient to support its conclusions to allow for meaningful judicial review.

On remand, the Planning Board was required to make findings of fact adequate for judicial review. *See Christian Fellowship & Renewal Ctr. V. Town of Limington*, 2001 ME 16, ¶¶ 15-16, 769 A.2d 834. "Every final decision of the planning board...shall include written findings of fact and shall specify the reason or reasons for such decision." Portland, Me., Code § 14-27(b) (Aug. 7, 1989). "[M]eaningful judicial review of a decision requires that the decision contain findings of fact sufficient to apprise the reviewing court of the decision's basis and that those findings be based on substantial evidence in the record." *LaMarre v. Town of China*, 2021 ME 45, ¶ 6, 259 A.3d 764. The Law court has explained that:

"In the absence of such findings, a reviewing court cannot effectively determine if an agency's decision is supported by the evidence, and there is a danger of judicial usurpation of administrative functions. Adequate findings also assure more careful administrative considerations, help parties plan cases for rehearing or judicial review and keep agencies within their jurisdiction." *Chapel Rd. Assocs. V. Town of Wells*, 2001 ME 178, ¶ 10, 787 A.2d 137 (citations and quotation marks omitted).

When there is no reviewable decision, the matter must be remanded. *LaMarre*, 2021 ME 45, ¶ 10, 259 A.3d 764; *see also Chapel Rd. Assocs.*, 2001 ME 178, ¶ 13, 787 A.2d 137 (explaining the

² Petitioners do not argue that the Planning Board needs to physically draft the findings. Rather, Petitioners assert that the Planning Board must deliberate and clearly articulate findings that form the basis of their conclusions.

remedy for an agency's failure to make sufficient and clear findings is remand for findings that permit meaningful judicial review).

i. Maximum Height Requirements

At the November 2023 Hearing, the Planning Board began by addressing the height requirement. (Supp. R. 75.) The Planning Board adopted a statement in the Report that says, "the City's longstanding practice has been to calculate allowable height on the mainland from average finished grade."³ (Supp. R. 13, 81.) The Report lacks factual support for this conclusion—the Report does not illustrate any examples of this historical precedent. (Supp. R. 12-13.) During the November 2023 Hearing, the Planning Board made a vague reference to calculating grade for a building project on Fore Street and a project on Hancock Street in this manner. (Supp. R. 80.) These references lack specificity and are not clear findings that support the conclusion that this is the City's "longstanding practice." (Supp. R. 80.) Similarly, Planning Board member Ms. Stanely's statement, "this is how we have historically always treated the measurement of grade that's come up over and over and over again and we have consistently used this method" is not an adequate finding of fact on the issue. (Supp. R. 76.)

Simply put, the Planning Board's conclusion the City has a "longstanding practice" to calculate height with this method is not tied to a sufficient factual basis in the record.⁴ The

³ The Code defines the height of a building as "[t]he vertical measurement from grade, or the predevelopment grade on the islands, to the highest point" of the building. Portland, Me. Code § 14-47 (Feb. 20, 2019). The dispute here is whether height is to be measured from the natural, unfinished grade or from the finished grade created by imported fill.

⁴ As this Court noted during oral argument, there is a due process concern lingering in the background. Members of the public who oppose a project are entitled to due process throughout a planning board's permit application review and hearing processes under both the United States and Maine Constitutions. *See Duffy v. Town of Berwick*, 2013 ME 105, ¶¶ 15-17, 82 A.3d 148; *see also* U.S. Const. amend. XIV § 1; *see also* Me. Const. art. I, § 6-A; *see also Lane Constr. Corp. v. Town of Washington*, 2008 ME 45, ¶¶ 28-29, 942 A.2d 1202 (recognizing the procedural due process rights of a project's opponents before a municipal planning board). In terms of fundamental due process, if a consideration of a governmental organization is based on "longstanding" historical practice, but that

Planning Board adopted statements in the Report as supplemental findings without engaging in substantive deliberation to flesh out the factual basis for their conclusion that the Project conforms to the height requirement. At this juncture, the record does not set forth findings that establish the clear collective judgment of the Planning Board on the height requirement issue. Therefore, the Court concludes that the record lacks sufficient factual support to apprise the Court of the rational basis for the decision regarding the height requirement and is thus not susceptible to meaningful judicial review. *See LaMarre*, 2021 ME 45, ¶ 6, 259 A.3d 764.

ii. Setback Requirements

The Planning Board next addressed the setback requirements at the November 2023 Hearing. (Supp. R. 81-82.) Again, the Planning Board adopted statements in the Report as supplemental findings. (Supp. R. 82-83.) The Report states, “certain miscellaneous auxiliary structures such as retaining walls that are not part of the foundational support for the building . . . are not considered ‘conforming structures’ which need to be setback from the street or lot line and are therefore exempt from setback dimensional requirements.” (Supp. R. 14.) This assertion appears in the Report without adequate factual support. At the November 2023 Hearing, the Planning Board did not engage in substantive deliberation to provide a factual basis for the conclusion that retaining walls are not structures. (Supp. R. 81-82.)

The Court concludes that judicial review is hampered by a lack of findings to support the conclusion that retaining walls are not “structures” and that the Project conforms to the setback requirements. This issue could be considered a mixed question of law and fact. Thus, the Court

practice is not memorialized anywhere, there is cause for concern that an individual dealing with the agency will not know how to conduct themselves in a way that conforms to that practice.

remands to the Planning Board to establish a clear factual and analytical basis regarding why a retaining wall does not fit within the definition of structure.

iii. Historic Preservation Board

The Law Court noted that the Planning Board's initial decision did not mention or discuss the historic-preservation design-review requirement. *See Murray*, 2023 ME 57, ¶ 15, 301 A.3d 777. Land Use Code Section 14-526(d)(5)(b) provides in pertinent part:

When any proposed development is within one hundred feet of any designated historic district . . . such development shall be generally compatible with the major character defining elements of the landmark or portion of the district in the immediate vicinity of the proposed development To aid the planning board in its deliberations, historic preservation staff shall provide 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.

At the November 2023 Hearing, the Planning Board adopted a statement in the Report that says, "Deb Andrews' participation in the design-review memorandum met the clear intent of giving [the Planning Board] the analysis that the ordinance required to be provided by someone from HP." (Supp. R. 15, 83-84.) The Planning Board did not engage in substantive deliberation or discussion regarding the factual basis for concluding that the memorandum met the requirements of Section 14-526(d)(5)(b). (Supp. R. 83-84). Section 14-526(d)(5)(b) specifically provides that the historic preservation written analysis is intended *to aid the planning board in deliberations*. The Planning Board did not deliberate or make factual findings that the Project was compatible with the character of the neighborhood. (Supp. R. 83-84.) Because the record is devoid of clear factual findings on these issues, there are insufficient facts to apprise the Court of the rational basis for the Planning Board's conclusions. *See LaMarre*, 2021 ME 45, ¶ 6, 259 A.3d 764.

B. Remand to the Planning Board

There are two options when the Superior Court is confronted with an inadequate record. *Sanborn v. Town of Eliot*, 425 A.2d 629, 631 (Me. 1981). “First, the court may set aside the decision and require a new hearing.” *Id.* Second, the court can “remand to the Board for further findings to develop the record within a stated time period, while explicitly retaining jurisdiction in order to demonstrate that the decision is not a final judgment.” *Id.* The first course strikes the Court as inappropriate because the Law Court remanded to the Planning Board to make sufficient findings of fact. *See Murray*, 2023 ME 57, ¶ 19, 301 A.3d 777. Accordingly, this Court will retain jurisdiction and remand the matter to the Planning Board to deliberate and make clear factual findings on the record regarding the height, setback, and design-review requirements.

IV. CONCLUSION

In sum, the Planning Board’s findings should be the result of a deliberative process that clearly sets forth the factual basis for its reasoning and conclusions. The Court concludes that there is a defect in the record because there are insufficient facts to permit meaningful judicial review.

Entry Is:

The matter is remanded to the Planning Board to make sufficient findings of fact regarding the height, setback, and design-review requirements. The Planning Board must make clear findings to support its reasoning and conclusions.

The Court assumes the Planning Board will be able to address this matter and return the case to the Court within 90 days of entry of this Remand Order. The parties will report to the Court if the case has not returned within 90 days. Upon filing the supplemental record reflecting the Planning Board’s action on remand and any further filings made by the parties during remand, the

following further briefing schedule applies: (a) Petitioners may file a supplemental brief within 20 days of the filing the supplemental record; (b) Respondents may file supplemental briefs within 40 days of filing of the supplemental record; and (c) Petitioners may file a reply brief within 50 days of the filing of the supplemental record. The Court retains jurisdiction, meaning there is no need to commence a new Rule 80B action.

Pursuant to M.R. Civ. P. 79(a), the Clerk is directed to incorporate this Remand Order by reference in the docket.

Dated: 9/30/24



John O'Neil Jr.
Justice, Maine Superior Court

Entered on the Docket: 10/3/24

CITY OF PORTLAND, MAINE

PLANNING BOARD

Elizabeth Boepple, Chair
Sean Dundon, Vice Chair
David Eaton
Brandon Mazer
Carol Morrisette
Maggie Stanley
Lisa Whited

October 11, 2017

218-220 Washington Avenue LLC
199 Elderberry Road
South Portland, ME 04106

Sebago Technics fao Will Conway
75 John Roberts Road
South Portland, ME 04106

Project Name: Forty-five unit residential Condominium Building
Project ID: Project #2016-280 (Subdivision & Site Plan)
Project #2016-281 (Conditional Use Inclusionary Zoning)
Address: 218 Washington Avenue CBL: 010 A015001
Applicant: 218-220 Washington Avenue LLC
Planner: Jean Fraser

Dear Sirs:

On October 10, 2017 the Planning Board considered the proposal for a four story building comprising 45 condominium dwelling units at 218 Washington Avenue. The Planning Board reviewed the proposal for conformance with the standards of the Inclusionary Zoning, Subdivision and Site Plan Ordinances, as well as the B-1b Neighborhood Business Zone Standards. The Planning Board voted unanimously 5-0 (Boepple absent; Morrisette recused) to approve the application with the following waiver and conditions as presented below.

A. WAIVER

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 October 10, 2017 for application 2016-280 (218 Washington Avenue) relevant to Portland's technical and design standards and other regulations; and the testimony presented at the Planning Board hearing:

The Planning Board voted unanimously (5-0, Boepple absent; Morrisette recused) that it finds, based upon the consulting traffic engineer's review ([Attachment 2](#)), that extraordinary conditions exist or undue hardship may result from strict compliance with the Technical Manual Section 1.7.2.7 *Location and spacing of driveways*. The Planning Board waives the *Technical Manual* standard (Technical Manual Section 1.7.2.7) to allow the driveway serving the new development to be located as shown in the Site Plans in [Plan P5](#) and as described in [Attachment F](#).

B. INCLUSIONARY ZONING – CONDITIONAL USE

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board Report for the public hearing on October 10, 2017 for application 2016-281 (218 Washington Avenue) relevant to the Conditional Use as authorized by Division 30, Section 14-487 Ensuring Workforce Housing; and the testimony presented at the Planning Board hearing:

The Planning Board voted unanimously (5-0 Boepple absent; Morrisette recused) that it finds that the Conditional Use is in conformance with the standards of the land use code and approves the application, subject to the following condition of approval:

- i. That the Applicant shall pay a fee of \$461,250 into the City's Housing Trust Fund prior to the issuance of a Certificate of Occupancy.

C. SUBDIVISION

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board report for the public hearing on October 10, 2017 for application 2016-280 (218 Washington Avenue) relevant to the subdivision regulations; and the testimony presented at the Planning Board hearing:

The Planning Board voted unanimously (5-0 Boepple absent; Morrisette recused) that it finds that the plan is in conformance with the subdivision standards of the land use code and approves the application, subject to the following conditions of approval, which must be met prior to the signing of the plat unless stated otherwise:

- i. The applicant shall submit a final subdivision plat for review and approval by Corporation Counsel, the Department of Public Works, and the Planning Authority; and
- ii. That the applicant shall develop and submit, for review and approval by the City Arborist prior to signature of the plat, a plan for the ongoing and future control of the invasive species that are along the site boundary and likely to spread within the site if not controlled. The invasive species found at the site include "Multi-flora Rose" and "Japanese Knotweed", both of which are on the State of Maine Invasive Plant List and subject of recent State legislation to control. This plan, once approved, shall be referenced on the subdivision plat and in the condominium documents; and
- iii. The subdivision plat and Condominium Association documents shall include reference to the plan for the control of invasive species and clarify responsibilities for the future control of invasive species, use and appearance of the rooftop decks, snow storage, and maintenance of landscaping and sylvia cells in the ROW; and
- iv. The Condominium Association documents shall be finalized to the satisfaction of the Associate Corporation Counsel and Planning Authority; and
- v. The applicant shall obtain licenses for the planted areas that encroach into the City's ROW prior to the issuance of a building permit; and
- vi. That this decision represents a finding by the Planning Board that the application satisfies the requirements of the City Code. It is approved on the basis of the information provided by the applicant in the record regarding his/her ownership of the property. The applicant has the burden of ensuring that he/she has a legal right to use the property. This approval in no way relieves the applicant of this burden. Nor does this approval constitute a resolution in favor of the applicant on any issues regarding property boundaries, easement rights, ownership or other similar title issues. The applicant is advised to resolve such disputes before expending money in reliance on this approval.

D. SITE PLAN

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in Planning Board report for the public hearing on October 10, 2017 for application 2016-280 (218 Washington Avenue) relevant to the Site Plan Ordinance and other regulations and the testimony presented at the Planning Board hearing:

The Planning Board voted unanimously (5-0 Boepple absent; Morrisette recused) that it finds that the plan is in conformance with the site plan standards of the land use code, subject to the following conditions:

- i. That the applicant shall submit, for review and approval by the Department of Public Works and the Planning Authority prior to the issuance of a building permit, a revised Utility Plan and Stormwater Management Plan that clarifies the way the stormwater from the development site will be managed in Anderson Street. The applicant has been advised during the review that the existing storm drain in Anderson Street does not have capacity to accept additional flows from the proposed project and that Anderson Street is a moratorium street with a recently installed gas main that will constrain the

stormwater connections. The applicant shall be responsible for all work in Anderson Street required to provide an acceptable stormwater discharge system and for all associated moratorium street fees; and

- ii. That the applicant and all assigns shall comply with the conditions of Chapter 32 stormwater including Article III, post-construction storm water management, which specifies the annual inspections and reporting requirements. The developer/contractor/subcontractor must comply with conditions of the submitted construction stormwater management plan and sediment and erosion control plan prepared by Sebago Technics and dated June 2017 based on City standards and State guidelines. A Maintenance Agreement for the stormwater drainage system shall be approved by Corporation Counsel and the Department of Public Works, and submitted, signed and recorded prior to the issuance of a Certificate of Occupancy with a copy to the Department of Public Works; and
- iii. That the Construction Management Plan shall be revised for review and approval by the Department of Public Works and the Planning Authority prior to the issuance of a building permit, to address the comments from the Traffic Engineer dated 10.5.2017, the Peer Engineer comments dated 10.6.2017, and the Transportation Program Manager comments dated 10.6.2017; and
- iv. That the following plans shall be revised and submitted for review and approval by the Planning Authority prior to the issuance of a building permit:
 - a. Site Plan (Plan P5) to revise the parking space layout to show 45 parking spaces (or the applicant may submit proposals for meeting the B1b zone requirements in other ways as allowed in the land use ordinance, also for review and approval prior to the issuance of a building permit);
 - b. Detail Plans sheet 10 (Plan 8) and Landscaping Plan sheet 8 (Plan 9) to address the comments of the Transportation Program Manager dated 10.6.2017 and to show that the Street Lamps are Bayside medium in black and part of the projects cost and construction;
 - c. Landscaping Plan (Plan 9) to address the planting comments of the City Arborist dated 6.28.2017.
- v. That the lighting plan shall be revised for review and approval by the Planning Authority prior to the issuance of a building permit, to show adequate lighting in the vicinity of the parking garage entrance/door; and
- vi. That a plan showing the location and screening of all HVAC and other mechanical equipment on the roof shall be submitted for review and approval by the Planning Authority prior to ordering of the equipment; and
- vii. That the applicant has demonstrated that site constraints prevent the planting of all of the 45 required street trees (one per unit for multi-family development) in the right-of-way, and therefore the applicant shall contribute \$14,400 for 36 street trees to Portland's tree fund. This figure will be reduced by the cost of the nine sylvia cells, subject to the applicant submitting evidence of the costs to the Planning Authority and City Arborist; and
- viii. That the building design shall be revised to address the Planning Board comments and reviewed and approved by the Planning Authority.

The approval is based on the submitted plans and the findings related to Inclusionary Zoning, Subdivision and Site Plan review standards as contained in Planning Report for applications #2016-280 and #2016-281 which is attached.

STANDARD CONDITIONS OF APPROVAL

Please Note: The following standard conditions of approval and requirements apply to all approved site plans:

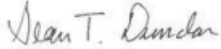
1. **Subdivision Recording Plat** A revised recording plat, listing all conditions of subdivision approval, must be submitted to the Planning and Urban Development Department for review. Once approved, the plat shall be signed by the Planning Board prior to the issuance of a performance guarantee. The performance guarantee must be issued, prior to the release of the recording plat, for recording at the Cumberland County Registry of Deeds.

2. **Subdivision Waivers** Pursuant to 30-A MRSA section 4406(B)(1), any waiver must be specified on the subdivision plan or outlined in a notice. The plan or notice must be recorded in the Cumberland County Registry of Deeds within 90 days of the final subdivision approval.
3. **Develop Site According to Plan** The site shall be developed and maintained as depicted on the site plan and in the written submission of the applicant. Modification of any approved site plan or alteration of a parcel which was the subject of site plan approval after May 20, 1974, shall require the prior approval of a revised site plan by the Planning Board or Planning Authority pursuant to the terms of Chapter 14, Land Use, of the Portland City Code.
4. **Separate Building Permits Are Required** This approval does not constitute approval of building plans, which must be reviewed and approved by the City of Portland's Permitting and Inspections Department.
5. **Site Plan Expiration** The site plan approval will be deemed to have expired unless work has commenced within one (1) year of the approval or within a time period up to three (3) years from the approval date as agreed upon in writing by the City and the applicant. Requests to extend approvals must be received before the one (1) year expiration date.
6. **Performance Guarantee and Inspection Fees** A performance guarantee covering the site improvements, inspection fee payment of 2.0% of the guarantee amount and five (5) final sets of plans must be submitted to and approved by the Planning and Urban Development Department and Public Works Department prior to the release of a building permit, street opening permit or certificate of occupancy for site plans. If you need to make any modifications to the approved plans, you must submit a revised site plan application for staff review and approval.
7. **Defect Guarantee** A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.
8. **Preconstruction Meeting** Prior to the release of a building permit or site construction, a pre-construction meeting shall be held at the project site. This meeting will be held with the contractor, Development Review Coordinator, Public Works representative and owner to review the construction schedule and critical aspects of the site work. At that time, the Development Review Coordinator will confirm that the contractor is working from the approved site plan. The site/building contractor shall provide three (3) copies of a detailed construction schedule to the attending City representatives. It shall be the contractor's responsibility to arrange a mutually agreeable time for the pre-construction meeting.
9. **Department of Public Works Permits** If work or obstructions will occur within the public right-of-way, such as utilities, curb, sidewalk, driveway construction, site deliveries and equipment siting, a Street Opening and/or Occupancy Permit (s) is required for your site. Please contact the Department of Public Works Permit Clerk at 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)
10. **As-Built Final Plans** Final sets of as-built plans shall be submitted digitally to the Planning and Urban Development Department, on a CD or DVD, in AutoCAD format (*.dwg), release AutoCAD 2005 or greater.
11. **Mylar Copies** Mylar copies of the as-built drawings for the public streets and other public infrastructure in the subdivision must be submitted to Public Works prior to the issuance of a certificate of occupancy.

The Development Review Coordinator must be notified five (5) working days prior to the date required for final site inspection. The Development Review Coordinator can be reached at the Planning and Urban Development Department at 874-8632. All site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact Jean Fraser at (207) 874-8728.

Sincerely,



Sean Dundon, Vice Chair
Portland Planning Board

Attachments:

1. Traffic Engineer dated 10.5.2017 (extract)
2. Peer Engineer comments dated 10.6.2017
3. Transportation Program Manager comments dated 10.6.2017
4. City Arborist comments dated 6.28.2017 (extract)
5. Planning Board Report
6. City Code, Chapter 32
7. Sample Stormwater Maintenance Agreement
8. Performance Guarantee Packet

Electronic Distribution:

cc: Jeff Levine, AICP, Director of Planning and Urban Development
Stuart G. O'Brien, City Planning Director, Planning and Urban Development
Barbara Barhydt, Development Review Services Manager, Planning and Urban Development
Jean Fraser, Planner, Planning and Urban Development
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Mike Russell, Director of Permitting and Inspections
Ann Machado, Zoning Administrator, Permitting and Inspections
Jonathan Rioux, Deputy Director, Permitting and Inspections
Jenie Bourke, Plan Reviewer/CEO, Permitting and Inspections
Chris Branch, Director of Public Works
Katherine Earley, Engineering Manager, Public Works
Keith Gray, Senior Engineer, Public Works
Doug Roncarati, Stormwater Coordinator, Public Works
Jane Ward, Engineering, Public Works
Rhonda Zazzara, Construction Engineering Coordinator, Public Works
Jeff Tarling, City Arborist, Public Works
Jeremiah Bartlett, Transportation Systems Engineer, Public Works
William Scott, Chief Surveyor, Public Works
Keith Gautreau, Fire
Mike Thompson, Fire
Danielle West-Chuhta, Corporation Counsel
Jennifer Thompson, Corporation Counsel
Victoria Volent, Housing Program Manager, Housing and Community Development
Thomas Errico, P.E., TY Lin Associates
Lauren Swett, P.E., Woodard and Curran
Christopher Huff, Assessor



PLANNING BOARD REPORT PORTLAND, MAINE

Forty-five unit residential Condominium Building
218 Washington Avenue
Subdivision, Level III Site Plan
and Conditional Use Inclusionary Zoning

218-220 Washington Avenue LLC, Applicant

Project #2016-280 (Subdivision & Site Plan)
Project #2016-281 (Conditional Use Inclusionary Zoning)
CBL: 010 A015001

Submitted to: Portland Planning Board Public Hearing Date: October 10 th , 2017	Prepared by: Jean Fraser, Planner Date: October 5 th , 2017
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I. INTRODUCTION

The applicant has requested a hearing on their project for a 4 story building of 45 condominium dwelling units on Washington Avenue at 218 Washington Avenue on the west side of Washington Avenue near the slip road onto I-295. The mix of dwelling units will be 21 one-bedroom units and 24 two-bedroom units, slightly changed from the original proposal for 22 one-bedroom units and 23 two-bedroom units. The project is located in the B1b zone on a steeply sloping site that overlooks Back Cove; it is within 100 feet of the Eastern Promenade Historic Landscape District.

The proposal is also subject to the Inclusionary Zoning (IZ) ordinance and the initial proposal was to provide on site workforce housing units ([Attachment W](#)). The applicant has since decided to make a fee-in-lieu payment into the Housing Fund as confirmed in an email dated 10.6.17 (also in [Attachment W](#)).

The proposals were originally submitted in December 2016. Following the resolution of right, title and interest questions, the Planning Board held two Workshops in May and July, 2017 where the Board raised concerns about the buffering of the retaining wall; the roof design, and the appearance when viewed from above.

This Hearing was noticed to 94 neighbors and interested parties, and the public notice appeared in the *Portland Press-Herald* on October 2nd and 3rd, 2017. The applicant held a Neighborhood Meeting on January 4th, 2017 and the notes are included in [Attachment U](#). At the Workshops the Planning Division received three letters of objection from the attorney acting for the abutter at 202 Washington ([PC 1](#), [2](#) and [5](#)); a comment (PC3) raising concerns about the design and scale of the building; and a comment (PC4) suggesting a different approach to the shared bike/pedestrian path along the frontage. No additional public comments have been received.



Applicant: 218-220 Washington Avenue LLC (represented by Maietta)
Agent and Engineer: Sebago Technics (Will Conway)
Architect: Archetype (Bill Hopkins)

Required reviews and requested waivers:

Applicant's Proposal	Applicable Standards
New structure of 45 dwelling units	Subdivision Review
Multifamily building of 69,459 sq ft	Level III Site Plan Review and B-1b Design Review
New structure of 45 dwelling units	Inclusionary Zoning Section 14-484
Waiver Requests	Applicable Standards
Location and spacing of driveways- To allow driveway spacing to be 145 ft from the Eastern Promenade intersection and 45 feet from the adjacent parcel's driveway. Staff Comments: Staff supports both waivers as the proposed driveway is as far as possible from the Eastern Promenade intersection (<u>Att. 2</u>)	Technical Manual Section 1.7.2.7 Location and spacing of driveways <i>shall be determined as follows: Along arterial, collector and local streets, minimum acceptable spacing between double or multiple driveways for driveways on adjacent lots or on the same parcel shall meet the criteria of 100 feet, and corner clearance to a nearby intersection (arterial or collector streets) should be 150 feet.</i>

II. PROJECT DATA

SUBJECT	DATA
Total area of the site	28,382 sq ft
Total Disturbed Area	22,532 sq ft
Existing Zoning	B1b
Existing Use	Small 2-family residential building and otherwise vacant
Proposed Use	Residential; 45 condo units
Impervious Surface Area	
--Existing	2,375 sq ft
--Proposed	22,532 sq ft
--Net Change	20,157 sq ft
Building Footprint	
--Existing	1,100 sq ft
--Proposed	13,751 sq ft
--Net Change	12,651 sq ft
Building Floor Area	
--Existing	2,200 sq ft
--Proposed	69,459 sq ft
-Net Change	67,259 sq ft
Proposed Bedroom Mix	
-One-Bedroom Units	21 One-Bedroom Units
-Two-Bedroom Units	24 Two-Bedroom Units
-Three-Bedroom Units	0 Three-Bedroom Units
	(Located as follows:
	• 1st floor- 12 units; 7 one-bedroom; 5 two-bedrooms • 2nd floor- 12 units; 6 one-bedroom; 6 two-bedrooms • 3rd floor- 12 units; 6 one-bedroom; 6 two-bedrooms • 4th floor- 9 units; 2 one-bedroom; 7 two-bedrooms)
	Total units- 45 units
	Total bedrooms: 69 bedrooms
Parking Spaces	45 under building (3 existing)
Bicycle parking Spaces	18 (none existing)
Estimated Cost of the project:	\$5,850,000

III. EXISTING CONDITIONS

The development site is made up of three parcels previously in different ownerships, including one parcel that contains a two family home that will be demolished as part of the project [see right].

This section of Washington Avenue abuts the IL-b zone that runs along Anderson Street, to the west and below the site. To the north is land owned by the MDOT as part of the I-295 buffer; at this location the buffer is wide so that the land may not be permanently needed for I295 purposes.

To the east is the intersection of the Washington Avenue slip road connecting to I295, and the Eastern Prom which winds down from the east End School and Back Cove overlook. Only a small part of the open area to the east is part of the historic landscape and the rest is parkland. To the south is a two family residential property.

The site contains some mature vegetation on the northern half, but from the house (to be demolished) to the rear and south is mainly scrub and invasive species.



Building to be demolished is at right of this photo

The site includes a 20 foot wide section of relatively flat area nearest to Washington Avenue and then drops steeply by about 25 feet to the rear property line (see the Boundary Survey in [Plan 2](#)). This presents constraints on the development and construction techniques, which are discussed in greater detail as part of the review.

The site, along with other properties along Washington Avenue, benefits from long views over Back Cove.

IV PLANNING BOARD WORKSHOP DISCUSSION AND PUBLIC COMMENT

There have been two Planning Board Workshops on this project. At the first meeting in May the Board expressed concern about:

- the need to buffer the high retaining walls from nearby residents;
- whether the first floor could have some other use to better activate the street;
- incorporation of a unbroken flat roof; and
- potential prominence of the mechanicals on the roof.

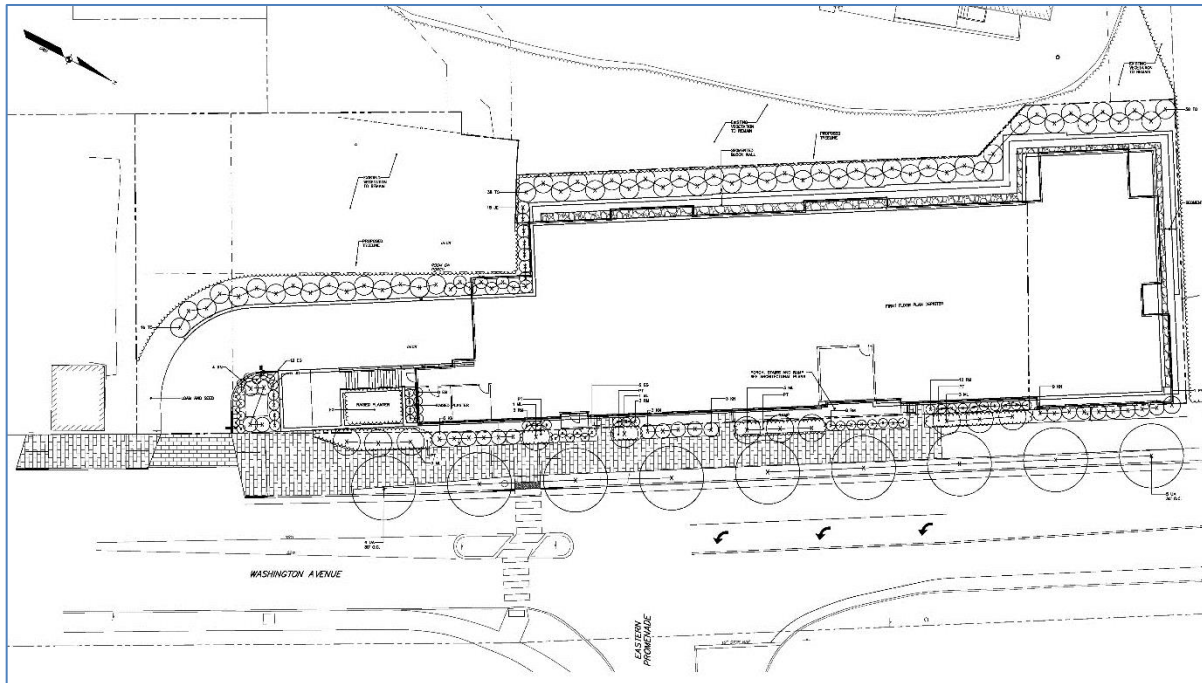
At the July Workshop the applicant presented revised the proposals to address these comments and the Board generally considered that the “scenic beauty” subdivision standard had been met but concerned about the roof design and requested the applicant to reconsider the way the doghouses on the roof were integrated. The Board

also identified the need for the condominium documents to control the use/appearance of roof top decks as they were so prominent.

The public comments included one comment (PC3) that also raised concerns about the scale and design of the proposed building. Three of the five public comments were from the neighbor's attorney regarding the question of right, title and interest and that question is discussed below in Section VI a. The other public comment (PC4) suggested an approach to the sidewalk and bicycle path along the frontage that was supported by staff and now incorporated into the final proposals.

V. PROPOSED DEVELOPMENT

The proposals, including elevations and perspectives, are shown in the Plan set and described in the applicant's submittal. This extract (Plan P9) shows the building footprint and landscaping:



The final proposals include:

- 45 condo units (one and two bedroom);
- Main access from Washington Avenue;
- Lower level parking for 45 vehicles accessed from drive off of Washington Avenue;
- High retaining wall ranging from about 8 to 23 feet in height;
- Planting along the Washington Avenue frontage along with 9 street trees with sylva cells;
- Planting buffers for all of the retaining wall facing west
- An unimproved ("preserved") area of grass and low vegetation below the retaining wall towards the south and west;
- Restriping of Washington Avenue to create a left-turn lane for vehicles coming up from I-295 and turning into the Eastern Promenade;
- Bike path and sidewalk along the frontage, and bike access ramp within the sidewalk on the other side of Washington to create an access to the bike path for cyclists travelling northbound.

The final proposals have relocated the retaining wall (around the drive access) nearer to Washington Avenue so it can be lower and also be set back from the negative easement area. This allows for buffer/screen planting all along the face of the wall - see revised plans and renderings in the plan set.

The elevations and the treatment of the roofline (as viewed from the west) has developed over the course of the review as shown below:



As presented to May 9 PB Workshop



Submitted for July 11 PB Workshop



Submitted for October 10 PB Hearing

The Floor Plans have also been submitted along with a total of 11 renderings illustrating how the building would appear from both near and distant views (Plans P16 and P17).

VI STAFF REVIEW

A. RIGHT, TITLE AND INTEREST

The applicant has submitted the deeds in respect of to the northern part of the site, and provided a Purchase and Sale Agreement for the parcel that makes up the southern part of the site (Attachment B). In addition, this property benefits from easements or land transfers with adjoining property owners along Anderson Street (referred to in Attachment E and included in Attachment B).

The southern parcel is of most concern as it includes a residential building that will be demolished to allow for the construction of a retaining wall (up to about 15 feet high in places) that supports the access drive into the garage under the condos. The remainder of the parcel is constrained by a “Boundary Agreement” with an “Amendment to Boundary Agreement” (see applicant’s submittal Attachment B, last two documents). This agreement stems from the fact that this area has been the subject of several development concepts in the past, and it became apparent during those earlier reviews that the boundary surveys for the two adjoining properties (202 Washington and 218 Washington) overlapped. Prior to proceeding with any development reviews of the former plans, the city requested that clear right title and interest be presented. The current Boundary Agreement (with Amendment) is the result of private negotiations.

The submitted right, title and interest was reviewed by Corporation Counsel and determined to meet the site plan requirement for evidence of “Right, Title and Interest” and suggested that in view of the questions that had been raised by the neighbor (three letters of objection from the attorney representing the neighbor at 202 Washington Avenue (PC 1, 2 and 5)) that a suggested condition of approval clarify that the Planning Board review does not include a determination on this matter. The applicant’s attorney submitted their opinion in Attachment B.

Below is a summary of the boundary agreement limitations:

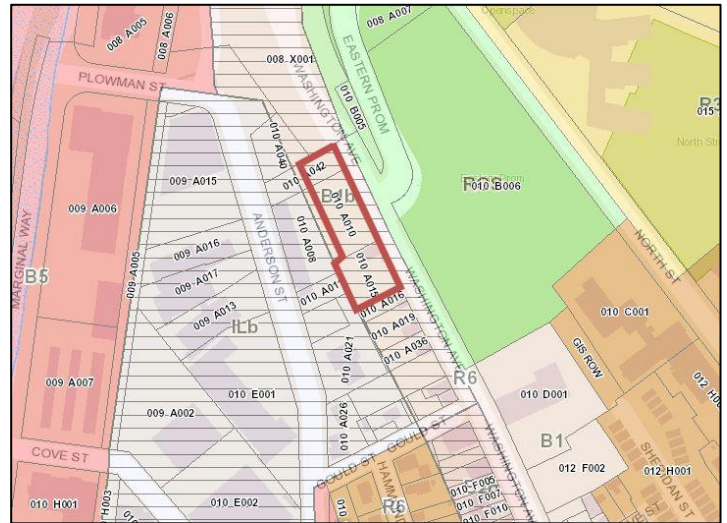
- Perpetual maintenance easement 30 feet in width along the common boundary, which allows for an access drive to be constructed (not a building) and requires a maintenance access along the boundary. The proposed drive access is at grade near Washington Avenue;
- “Negative Easement” that prohibits buildings or improvements within 50 feet of the NE boundary with Washington Avenue. The current proposals show "Existing vegetation to remain" (Plan 9).

B. ZONING ASSESSMENT

The proposed building is located in the B1b zone which allows for a building height of 45 feet; the proposed building is 45 feet as from the average grade. It appears to be about slightly less than 45 feet high as measured from the level of Washington Avenue (see P14).

The proposal meets all of the other dimensional requirements of the B1b zone.

The Design Standards specify “*In B-1b zone buildings shall be multi-storied with mixed uses.*” However, the over-riding B1b ordinance states “*a) The following uses [which includes residential] are permitted in the B-1 zone and on the ground floor level of buildings in the B-1b zone.*” (Attachment 7) Therefore under the zoning the proposed all-residential development is in compliance.



The applicant previously showed 45 parking spaces in the parking level underneath the residential units which met the zoning requirement of one space per unit (45 spaces). The final Site Plans (Plan P5) show a total of 43 parking spaces, including one compact space and 2 handicapped spaces. The previous plan had included tandem spaces which was questioned by the Traffic Engineering reviewer and have now been omitted. However, the parking provision does not meet the zoning requirement and a suggested condition of approval requests that the parking layout be revised to show 45 parking spaces or otherwise meet the B1b parking standards that would allow for other ways to address the parking space shortfall.

C. SUBDIVISION STANDARDS

14-496. Subdivision Plat Requirements: The applicant has submitted a draft plat (Plan P3) which is generally acceptable but needs to add references related to the suggested conditions of approval.

14-497. General Requirements (a) Review Criteria

Water, Air Pollution and Soil Erosion

The applicant has submitted the capacity letter from the Portland Water District (Attachment N). The applicant revised the stormwater management system to address previous comments concerning the depth of the system, and further revisions are specified in a suggested condition to ensure that the stormwater system can be connected to the City’s system in Anderson Street (Attachment 3).

Traffic

The applicant has submitted a Traffic Study that provides a trip generation estimate that shows a Traffic Movement Permit is not required (Attachment J). The Traffic Engineering reviewer concurs with this assessment and requested a revised lane layout (for a left turn lane) that has been incorporated into the proposals and a suggested

condition requests final details and confirms that the applicant is responsible for the costs of implementing the new lane layout. ([Attachment 2](#)).

Parking

As noted above, the parking layout does not provide enough parking spaces to meet the zoning requirement and will need to be revised. The Traffic Engineer considers the general layout to be acceptable based on additional information regarding how all of the internal vehicle movements can occur without any need for vehicles to back out of the site ([Attachment 2](#)).

Sanitary Sewer/Soils

The application has been reviewed by the Peer Engineering Reviewer ([Attachment 3](#)) and is generally acceptable, and the wastewater capacity letter has been received ([Attachment N](#)).

Storm water

The applicant has submitted an updated Stormwater and Erosion Control Plan ([Attachment L](#)) that proposes to manage stormwater impacts by utilizing a StormTech chamber system with an underdrained subsurface sand filter to control peak runoff and provide treatment. The updated Plan addresses the earlier comments of the Peer Engineering Reviewer except that the applicant has not finalized the proposals for overcoming some of the challenges in connecting into the City's system in Anderson Street ([Attachment 3](#)). Discussions between the applicant's engineers and the City's Department of Public Works are taking place and the suggested condition allows for this to be finalized.

Scenic Beauty

At the July PB Workshop this standard was discussed and the Board indicated that it had been addressed in principle but raised several design questions that needed further consideration, including concerns about the appearance of the rooftop mechanicals since they would be viewed from above. The applicant has addressed this question to some extent and a detailed discussion is included under the Site Plan Design review. A suggested condition relates to the mitigation of the rooftop mechanical equipment.

The applicant was requested to provide additional renderings showing how the proposed building would appear from different vantage points both close to and more distant from the site. The applicant has submitted 11 perspectives as included in [Plans 16 and 17](#), including the one to the right which is from a point near North Street. This section of open space is not within the designated Historic Landscape.



Comprehensive Plan

The project is consistent with the Housing Goals and Policies of the Comprehensive Plan.

D. SITE PLAN STANDARDS - [14-526 Site Plan Standards](#)

1. Transportation Standards

Traffic - Access, Circulation, Loading and Servicing

The proposals retain an existing curbcut (currently used for parking of several vehicles) to provide the access drive to the parking level. The Traffic Engineering Reviewer has noted that the access does not meet the City's Technical Standards regarding driveway separation and corner clearance and supports waivers that reflect the existing condition and that the access drive has been located as far away as possible from the corner. ([Att. 2](#)).

Sidewalks

The final proposals incorporate the treatment of the ROW along Washington Avenue that staff had suggested which integrates a wide sidewalk, a wide bike path, 9 street trees and streetlighting. The applicant has also provided a way for cyclists heading northwest to transition from Washington Avenue to the bike path along the frontage of the site via a new ramp in the opposite sidewalk and this is welcomed. This is a particularly complex design and the final proposals are broadly acceptable subject to revision of details as outlined in the Transportation Program Managers comments ([Attachment 6](#)) as referenced in a suggested condition of approval.

Construction Management Plan

A Construction Management Plan has been updated to address the City's CMP template ([Attachment I](#)), but several reviewers have concerns regarding the safety of pedestrian and bicycle movements; the management of truck deliveries and contractor parking; impact on existing lights and signage; and the final details for the construction of the retaining walls on such a steeply sloping site ([Attachments 2,3 and 6](#)).

A suggested condition of approval requests that the applicant revise the Construction Management Plan to address all of these review comments.

Public Transit Access

The project would need to address the ordinance requirements as part of the final submissions, which may require provision of a bus transit shelter. At this time it is understood that METRO do not wish to have a shelter on Washington Avenue opposite the proposed development. The proposed work to improve the cycling infrastructure at this location may be considered as a substitute improvement.

Parking: The proposed parking provision is discussed under Sections VI B *Zoning* and C *Subdivision Standards*.

Snow Storage

This may apply to the garage access drive and should be addressed in the Condominium Documents.

Transportation Demand Management: The project is not subject to these ordinance provisions.

2. Environmental Quality Standards

Landscape Preservation / Site Landscaping and Screening

During the review the applicant addressed previous concerns regarding the buffering of the high retaining walls; this is generally acceptable though the City Arborist has made several minor suggestions that are incorporated in the motion for the Board to consider ([Attachment 4](#)).

The City Arborist particularly identified a key requirement, relating to the area within the negative easement, to prevent the encroachment of invasive plants. A suggested condition of approval requires the development of a plan (for the control of invasive species) for review and approval prior to the issuance of a building permit that would also be referenced in the condominium Documents.

Street Trees

The applicant has proposed 9 street trees (based on the Landscape Plan in [Plan P9](#)) and requested to make a contribution in respect of 23 street trees. Staff consider that the contribution should cover 36 street trees and this would be a contribution of \$14,400. The applicant has proposed sylvia cells for the nine proposed street trees, and per the Technical Standards the cost of the sylvia cells can be put toward the street tree contribution. A suggested condition of approval sets out this arrangement for meeting the street tree requirement.

Water quality, Stormwater Management and Erosion Control - see above under VI C *Subdivision Standards*.

3. Public Infrastructure and Community Safety Standards

Public Safety

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

The proposals indicate a garage door at the entrance to the garage and do not appear to represent any particular concern. The final submissions include a lighting plan that covers the driveway but not the area near the garage door. Staff suggest that further lighting is required at that location and this is the subject of a suggested condition.

Fire Prevention and Public Utilities: The Fire Department has not identified any concerns regarding the final proposal.

4. Site Design Standards

Massing, Ventilation and Wind Impact and Shadows: Generally addressed in the Design Review.

Historic Resources: Although technically within 100 feet of the Historic Landscape of the Eastern Promenade. The historic part is the “toe” on the far side of the intersection, and does not include the park area immediately opposite the site on Washington Avenue. The Historic Preservation Program Manager has indicated that there is no direct impact and therefore no need for any further review.

Exterior Lighting incl Street Lighting

The applicant has submitted the specifications and a photometric for the site lighting and staff consider some revisions are necessary to meet CPTED objectives.

Street Lights: Reviewers have noted that the project will need to install new street lights along the frontage in the ROW (at the applicant’s cost). The lights would need to meet the Technical Standards for street lighting and match the lights installed elsewhere along Washington Avenue (Bayside medium, black). The comments from the Transportation Program Manager (Attachment 6) and the associated suggested condition confirm the requirement.

Noise and Vibration

The applicant has confirmed that the exact HVAC equipment has not been chosen at this time and requests that is information be provided prior to the issuance of a full building permit. The site plan ordinance requires:

- (i) All heating, ventilation and air conditioning equipment (HVAC), air handling units (AHU), emergency generators, and similar equipment shall meet applicable state and federal emissions requirements and shall comply with the following:
 - (a) Be located to the interior of the site, away from abutting residential properties;
 - (b) Be screened from view from any public street and from adjacent sites by structure walls, evergreen landscaping, fencing, masonry wall or a combination thereof.

The elevations (Plan P14) suggest that some HVAC will be on the roof and a suggested condition of approval requires the submission of a detailed plan showing what and where the HVAC will be located and how it will be screened.

E. DESIGN STANDARDS

Zoning: The site is located within the B1b Zone and the City’s Urban Designer has concluded that the project is generally in compliance with the somewhat limited design standards that apply in this zone (see Att. 1). The Design comments include the following update regarding the applicant’s revisions to the roof design/doghouse and materials since the July Workshop:

- The applicant revised the elevations by varying the roofline and changing the cornice detail per Planning Board comment. In addition, the stair overruns were revised with glazing to minimize their visibility from views above and below. Staff finds these changes to have some mitigating impact but the overruns are still prevalent from long views. The roofline variation appears arbitrary except in the case of the central stair tower – staff supports raising the parapet walls to mask the rooftop appurtenance and to create a more consistent roofline.

- Planning Board members suggested incorporating more masonry into the design to ground the building and break up the use of fiber cement board. However, no significant changes to the materials are indicated in the revised drawings.

Please see the discussion under *Zoning* regarding the issue of multiuse on the first floor.

The local context is B1b and ILb zones with open space on the other side of Washington Avenue. There are longer distance views of the building from North Street and nearby parkland and from across Back Cove (illustrated in [Plan 17](#)) but there are no specific design standards that particularly apply to this issue (though the *Subdivision Standards* re Scenic Beauty does apply - see VI C above).

Multi-family and Other Housing Types Design Standard - This design standard also applies to the proposal, is outlined below with associated staff review comments:

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

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

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

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

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

Staff comment: as noted in the Urban Design Review comments ([Attachment 1](#)), there is little surrounding built context; the neighborhood is largely composed of industrial, business and open space uses. The perspective below and three others are included in [Plan 16](#) and illustrate how the project may appear locally.



3. Open space on the site for all two-family, special needs independent living unit, bed and breakfast and multiple-family development shall be integrated into the development site. Such open space in a special needs independent living unit or a multiple-family development shall be designed to complement and enhance the building form and development proposed on the site. Open space functions may include but are not limited to buffers and screening from streets and

neighboring properties, yard space for residents, play areas, and planting strips along the perimeter of proposed buildings;

Staff comment: The final project includes balconies and the site is adjacent to the parkland between Washington Avenue and North Street. The negative easement prevents a specific open space area being created on the site.

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: This standard appears to be met.

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

Staff comment: The parking is located underneath the units.

F. WORKFORCE HOUSING CONDITIONAL USE (INCLUSIONARY ZONING)

This project is subject to the Inclusionary Zoning ordinance that ensures the provision of workforce housing. A development of ten or more units of housing in the City is required to provide on-site workforce housing units or make an in-lieu payment to the City's Housing Trust.

As applied to this project the applicant could provide 4 deed-restricted units on site, 4 deed-restricted units off site, or \$461,250 fee-in-lieu to the Housing Trust. If the provision of on-site units is chosen, the number of bedrooms also must be at least 10% of the total and has confirmed that this meets the minimum requirements of Section 14-487 (Attachment al number of bedrooms included in the project.

The applicant had recently confirmed (see Attachment W and floor plans) that they had chosen to meet the IZ requirement by providing 4 units on site. Just as this report was being finalized the applicant decided to make an in-lieu payment to the Housing Trust instead, and an e-mail confirmation of the \$461,250 payment is included in Attachment W. (Please note that the note on the floor plans regarding workforce housing has now been superseded).

The Housing Program Manager has reviewed the latest proposal and confirms that the proposal meets the requirements of Section 14-487 (Attachment 5).

VII STAFF RECOMMENDATION

Subject to the proposed motions and conditions of approval listed below, Planning Division staff recommends that the Planning Board approve the proposed residential development at 218 Washington Avenue.

VIII PROPOSED MOTIONS

A. WAIVERS

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board Report for the public hearing on October 10, 2017 for application 2016-280 (218 Washington Avenue) relevant to Portland's technical and design standards and other regulations; and the testimony presented at the Planning Board hearing:

1. The Planning Board [**finds/does not find**], based upon the consulting traffic engineer's review (Attachment 2), that extraordinary conditions exist or undue hardship may result from strict compliance with the Technical Manual Section 1.7.2.7 *Location and spacing of driveways*. The Planning Board [**waives/does not waive**] the *Technical Manual* standard (Technical Manual Section 1.7.2.7) to allow the driveway serving the new development to be located as shown in the Site Plans in Plan P5 and as described in Attachment F.

B. INCLUSIONARY ZONING – CONDITIONAL USE

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board Report for the public hearing on October 10, 2017 for application 2016-281 (218 Washington Avenue) relevant to the Conditional Use as authorized by Division 30, Section 14-487 Ensuring Workforce Housing; and the testimony presented at the Planning Board hearing:

The Planning Board finds that the Conditional Use **is/is not** in conformance with the standards of the land use code and **approves/does not approve** the application, subject to the following conditions of approval:

- i. That the Applicant shall pay a fee of \$461,250 into the City's Housing Trust Fund prior to the issuance of a Certificate of Occupancy.

C. SUBDIVISION

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board report for the public hearing on October 10, 2017 for application 2016-280 (218 Washington Avenue) relevant to the subdivision regulations; and the testimony presented at the Planning Board hearing:

The Planning Board finds that the plan **is/is not** in conformance with the subdivision standards of the land use code and **approves/does not approve** the application, subject to the following conditions of approval, which must be met prior to the signing of the plat unless stated otherwise:

- i. The applicant shall submit a final subdivision plat for review and approval by Corporation Counsel, the Department of Public Works, and the Planning Authority; and
- ii. That the applicant shall develop and submit, for review and approval by the City Arborist prior to signature of the plat, a plan for the ongoing and future control of the invasive species that are along the site boundary and likely to spread within the site if not controlled. The invasive species found at the site include "Multi-flora Rose" and "Japanese Knotweed", both of which are on the State of Maine Invasive Plant List and subject of recent State legislation to control. This plan, once approved, shall be referenced on the subdivision plat and in the condominium documents; and
- iii. The subdivision plat and Condominium Association documents shall include reference to the plan for the control of invasive species and clarify responsibilities for the future control of invasive species, use and appearance of the rooftop decks, snow storage, and maintenance of landscaping and sylvia cells in the ROW; and
- iv. The Condominium Association documents shall be finalized to the satisfaction of the Associate Corporation Counsel and Planning Authority.
- v. The applicant shall obtain licenses for the planted areas that encroach into the City's ROW prior to the issuance of a building permit.
- vi. That this decision represents a finding by the Planning Board that the application satisfies the requirements of the City Code. It is approved on the basis of the information provided by the applicant in the record regarding his/her ownership of the property. The applicant has the burden of ensuring that he/she has a legal right to use the property. This approval in no way relieves the applicant of this burden. Nor does this approval constitute a resolution in favor of the applicant on any issues regarding property boundaries, easement rights, ownership or other similar title issues. The applicant is advised to resolve such disputes before expending money in reliance on this approval.

D. SITE PLAN

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in Planning Board report for the public hearing on October 10, 2017 for application 2016-280 (218 Washington Avenue) relevant to the Site Plan Ordinance and other regulations and the testimony presented at the Planning Board hearing:

The Planning Board finds that the plan **is / is not** in conformance with the site plan standards of the land use code, subject to the following conditions:

- i. That the applicant shall submit, for review and approval by the Department of Public Works and the Planning Authority prior to the issuance of a building permit, a revised Utility Plan and Stormwater Management Plan that clarifies the way the stormwater from the development site will be managed in Anderson Street. The applicant has been advised during the review that the existing storm drain in Anderson Street does not have capacity to accept additional flows from the proposed project and that Anderson Street is a moratorium street with a recently installed gas main that will constrain the stormwater connections. The applicant shall be responsible for all work in Anderson Street required to provide an acceptable stormwater discharge system and for all associated moratorium street fees; and
- ii. That the applicant and all assigns shall comply with the conditions of Chapter 32 stormwater including Article III, post-construction storm water management, which specifies the annual inspections and reporting requirements. The developer/contractor/subcontractor must comply with conditions of the submitted construction stormwater management plan and sediment and erosion control plan prepared by Sebago Technics and dated June 2017 based on City standards and State guidelines. A Maintenance Agreement for the stormwater drainage system shall be approved by Corporation Counsel and the Department of Public Works, and submitted, signed and recorded prior to the issuance of a Certificate of Occupancy with a copy to the Department of Public Works; and
- iii. That the Construction Management Plan shall be revised for review and approval by the Department of Public Works and the Planning Authority prior to the issuance of a building permit, to address the comments from the Traffic Engineer dated 10.5.2017, the Peer Engineer comments dated 10.6.2017, and the Transportation Program Manager comments dated 10.6.2017; and
- iv. That the following plans shall be revised and submitted for review and approval by the Planning Authority prior to the issuance of a building permit:
 - a. Site Plan (Plan P5) to revise the parking space layout to show 45 parking spaces (or the applicant may submit proposals for meeting the B1b zone requirements in other ways as allowed in the land use ordinance, also for review and approval prior to the issuance of a building permit);
 - b. Detail Plans sheet 10 (Plan 8) and Landscaping Plan sheet 8 (Plan 9) to address the comments of the Transportation Program Manager dated 10.6.2017 and to show that the Street Lamps are Bayside medium in black and part of the projects cost and construction;
 - c. Landscaping Plan (Plan 9) to address the planting comments of the City Arborist dated 6.28.2017.
- v. That the lighting plan shall be revised for review and approval by the Planning Authority prior to the issuance of a building permit, to show adequate lighting in the vicinity of the parking garage entrance/door; and
- vi. That a plan showing the location and screening of all HVAC and other mechanical equipment on the roof shall be submitted for review and approval by the Planning Authority prior to ordering of the equipment; and

- vii. That the applicant has demonstrated that site constraints prevent the planting of all of the 45 required street trees (one per unit for multi-family development) in the right-of-way, and therefore the applicant shall contribute \$14400 for 36 street trees to Portland's tree fund. This figure will be reduced by the cost of the nine sylvia cells, subject to the applicant submitting evidence of the costs to the Planning Authority and City Arborist.

ATTACHMENTS:

Attachments to Staff Report

1. Design Review - Final comments
2. Traffic Engineering Preliminary Review comments
3. Peer Engineer final review comments
4. City Arborist comments
5. Housing Program Manager review of Conditional Use IZ
6. Transportation Program Manager
7. B1b Use requirements re ground floor

Public Comments

PC1 Attorney Schofield on behalf 202 Washington 1.19.17
PC2 Attorney Schofield on behalf 202 Washington 5.9.17
PC3 K Snyder 5.9.17
PC4 C MilNeil
PC5 Attorney Schofield on behalf 202 Washington 7.10.17

Applicant's Submittal

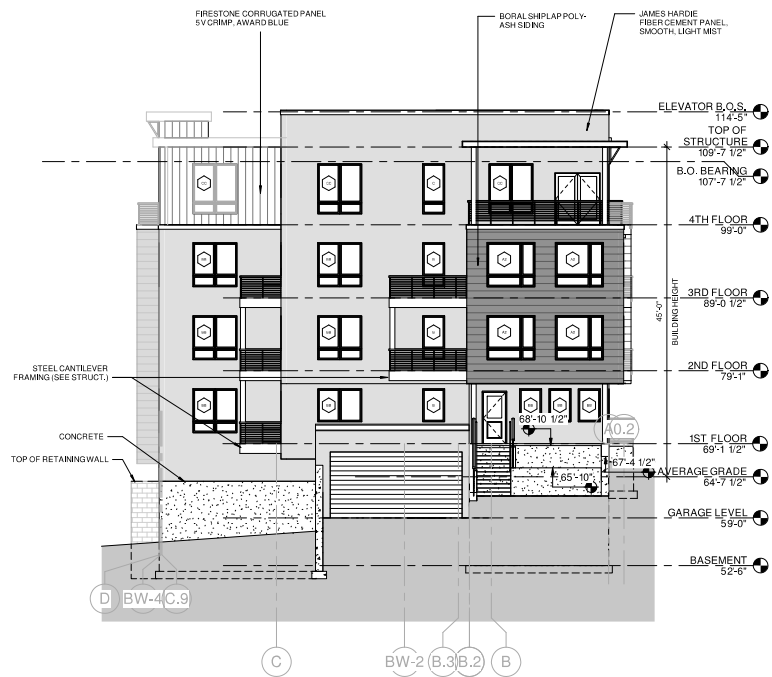
- A. Application (Site Plan/subdivision)
- B. Right, title and Interest (updated for final)
- C. State & Federal Approvals
- D. Zoning analysis
- E. Easements
- F. Waiver requests (updated for final)
- G. Financial and Technical Capacity
- H. Boundary survey
- I. Construction management Plan (updated for final)
- J. Traffic Study
- K. Natural Features
- L. Stormwater Management Plan
- M. City Master plans
- N. Utilities (updated for final (docs)
- O. Solid Waste
- P. Fire
- Q. Design Review
- R. HVAC
- S. Lighting Specs (updated for final)
- T. Retaining Wall Specs (updated for final)
- U. Neighborhood Meeting
- V. Narrative re Multi-Family Design Standards
- W. Workforce Housing application and plans

Since July Workshop

- X. Parking access templates
- Y. Response to Comments
- Z. Condominium documents

Plans

- P1 Cover sheet
- P2 Boundary Survey & Existing Conditions
- P3 Draft Plat
- P4 Demolition Plans
- P5 Site Plans (2 sheets)
- P6 Utility Plan
- P7 Grading Plans (2 sheets)
- P8 Details (4 sheets)
- P9 Landscaping Plan
- P10 Watershed Plans (2 sheets)
- P11 Site Context (2 sheets)
- P12 Site Section
- P13 Floor Plans
- P14 Elevations (2 sheets)
- P15 Context Aerials (2 sheets)
- P16 Renderings- Local Views (6 sheets)
- P17 Renderings- Distant Views (3 views)



1 | EAST ELEVATION
1/8" = 1'-0"



2 | WEST ELEVATION
1/8" = 1'-0"

FOR REFERENCE



Prepared For: **218-220 Washington Ave, LLC**
199 Elderberry Street, South Portland, Maine 04106

Consultant:

Architect: **ARCHETYPE Architects**
At Union Wharf, Portland, Maine 04101
C30772-9022 ARCHETYPE@ARCHETYPE.COM

Project: **218 WASHINGTON**

Revisions: **1.18-10-2020** Issued For Permit

Scale: **1/8" = 1'-0"**

DATE OF APPROVAL: **10/10/2017** As amended **10/10/2020**

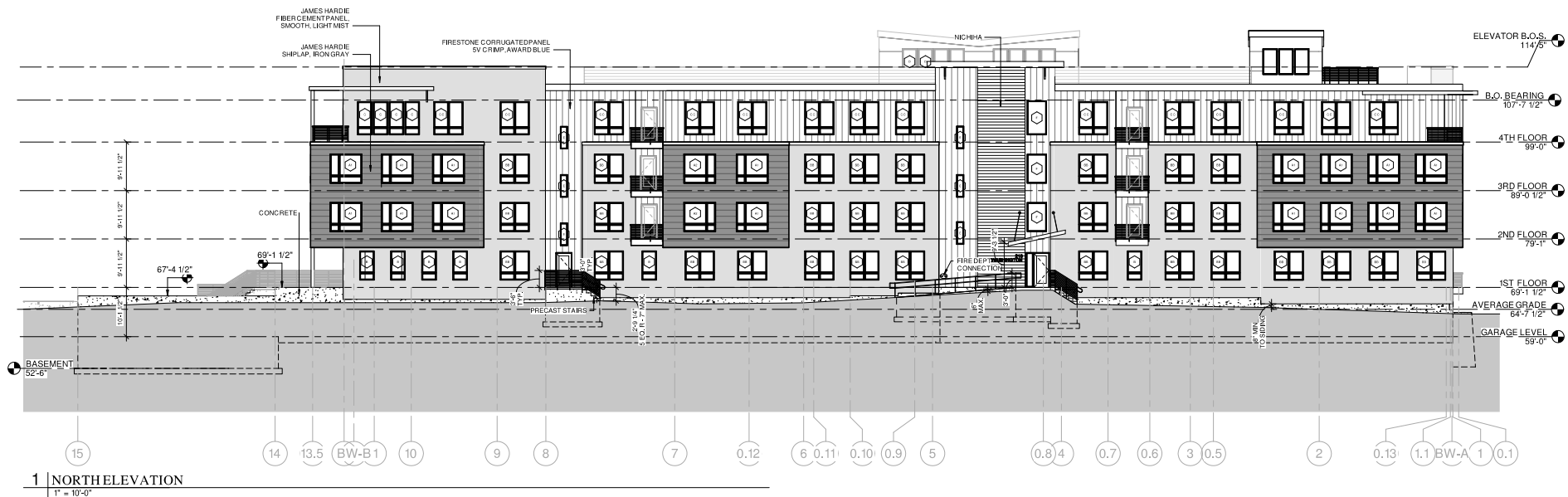
PLANNER: **James C. Smith**

PROJECT NO: **2018-020 & 2018-281**



CITY OF PORTLAND
APPROVED SITE PLAN
Subject to Conditions of Approval and Standard Conditions

10/10/2020



Prepared For: **218-220 Washington Ave., LLC**
199 E. Main Street, Portland, Maine 04106

Consultant:

Architect: **ARCHETYPE Architects**
44 Union Wharf, Portland, Maine 04106
207.772.9622 ARCHETYPEARCHITECTS.COM

Project: **218 WASHINGTON**

Revisions:

Scale: 1" = 10'-0"

04-2020

NORTH ELEVATION



CITY OF PORTLAND
APPROVED SITE PLAN
Subject to Conditions of Approval
and Standard Conditions

DATE OF APPROVAL 10/10/2017 as amended 10/02/2020
PLANNER: James J. Sullivan
PROJECT NO: 2018-020 & 2018-281



1 | SOUTH ELEVATION
3/32" = 1'-0"



Prepared For:
**218-220
Washington Ave.,
LLC**
109 Elmhurst Drive, South Portland,
ME 04106

Consultant:

Architect:
**ARCHETYPE
architects**
At Union Wharf Portland, Maine 04101
207.772.9622 ARCHETYPEARCHTYPEA.COM

Project:
218 WASHINGTON

Map:
04106

Revisions:

Scale:
3/32" = 1'-0"

SOUTH ELEVATION



**CITY OF PORTLAND
APPROVED SITE PLAN**
Subject to Conditions of Approval
and Standard Conditions

DATE OF APPROVAL 10/10/2017 **10/9/2020**
PLANNER James Cashman
PROJECT NO. 2016-280 & 2016-281

A2.02

CITY OF PORTLAND, MAINE

PLANNING BOARD

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

March 10, 2022

Erin Cooperrider
NewHeight Group
217 Commercial Street
Portland, ME 04101

Peter Heil
Acorn Engineering
65 Hanover Street
Portland, ME 04101

Project Name: Winter Street Townhomes
Address: 102 State Street
Applicant: NewHeight Redfern, LLC

Project ID: PL-001840-2021
CBL: 45D-001
Planner: Charles Tetelman

Dear Ms. Cooperrider and Mr. Heil:

On March 8, 2022, the Planning Board approved a Major Site Plan application to facilitate the construction of a four-story residential development (27,558 sq. ft.) including nine townhouse-style condominium units along Winter Street in the B-3 Downtown Business zone. The decision is based upon the application, documents, and plans as submitted. The Planning Board reviewed the proposal for conformance with the standards of the Site Plan Ordinance. The Planning Board unanimously voted 6-0 (Barker absent) to approve the application with the following conditions:

Site Plan Review

The Planning Board finds that the plan is in conformance with the site plan standards (Section 14.6) of the Land Use Code subject to the following conditions:

PRIOR TO APPLYING FOR A BUILDING PERMIT

1. The applicant shall submit a final plan set that reflects the underground electric utility layout recommendations from Central Maine Power for review and approval by the Planning Authority and Department of Public Works.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

2. The applicant shall submit all Ability to Serve letters for review and approval by the Planning Authority and Department of Public Works.
3. The applicant shall submit a final Construction Management Plan for review and approval by the Planning Authority and the Department of Public Works.

PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY

4. The applicant shall submit a Homeowner's Association agreement and documentation for review and approval by Corporation Counsel and the Planning Authority.

The approval is based on the submitted plans and findings related to the site plan review standards as contained in the Planning Board report dated March 4, 2022 for application PL-001840-2021 which is attached.

Standard Procedures

Note: The following standard procedures and requirements apply to all approved site plans:

1. Site Plan Expiration: The site plan approval will be deemed to have expired unless work has commenced within one (1) year of the approval or within a time period up to three (3) years from the approval date as agreed upon in writing by the City and the applicant. Requests to extend approvals must be received before the one (1) year expiration date.
2. Separate Building Permits Are Required: This approval does not constitute approval of building plans, which must be reviewed and approved by the City of Portland's Permitting and Inspections Department.
3. Performance Guarantee and Inspection Fees: A performance guarantee covering the site improvements and an inspection fee payment of 2.0% of the guarantee amount and three (3) final sets of plans must be submitted to and approved by the Planning and Urban Development Department and Public Works Department prior to the release of a building permit, street opening permit or certificate of occupancy for site plans.
4. Construction Management Plans: The applicant, contractor and subcontractors are required to conform to the approved Construction Management Plan, and all conditions contained within the project's approval, for the entire duration of the project. Any amendments to the approved Construction Management Plan shall be reviewed and approved by the Department of Public Works prior to the execution. The Planning Authority and the Department of Public Works have the right to seek revisions to an approved Construction Management Plan. The applicant shall coordinate the project's construction schedule with the timing of nearby construction activities to avoid cumulative impacts on a neighborhood and prevent unsafe vehicle and pedestrian movements. Accordingly, nearby construction activities could involve a delay in the commencement of construction.
5. Preconstruction Meeting: Prior to the release of a building permit and scheduling of a preconstruction meeting, a hard copy set of approved plans shall be submitted to the Development Review Coordinator. A pre-construction meeting shall be held at the project site with the contractor, Development Review Coordinator, Public Works representative, and owner to review the construction schedule and critical aspects of the site work. At that time, the

Development Review Coordinator will confirm that the contractor is working from the approved site plan and the approved Construction Management Plan. The site/building contractor shall provide one (1) copy 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 pre-construction meeting.

6. Department of Public Works Permits: If work or obstructions will occur within the public right-of-way, such as utilities, curb, sidewalk, driveway construction, site deliveries and equipment siting, a Street Opening and/or Occupancy Permits are required for your site. Please contact the Department of Public Works Permit Clerk at (207) 874-8300, ext. 8828 (only excavators licensed by the City of Portland are eligible).
7. Develop Site According to Plan: The site shall be developed and maintained as depicted on the site plan and in the written submission of the applicant. Any modifications of an approved site plan or alteration of a parcel, or of any approved exterior elevations, which were the subject of site plan approval after May 20, 1974, shall require the prior approval of an amended site plan by the Planning Board or Planning Authority pursuant to the terms of Chapter 14, Land Use, of the Portland City Code.
8. Stormwater Management: The owner/operator of an approved stormwater management system, and all assigns shall comply with the conditions of Chapter 32, Stormwater including Article III, Post Construction Stormwater Management, which specifies the annual inspections and reporting requirements.

A maintenance agreement for the stormwater drainage system, as attached, or in substantially the same form, shall be submitted for review by Corporation Counsel. Once approved, the document shall be signed and recorded at the Cumberland County Registry of Deeds prior to the issuance of a building permit. Final copies shall be submitted to both the Department of Planning and Urban Development and the Department of Public Works.
9. Defect Guarantee: A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.
10. As-Built Final Plans: Final sets of as-built plans shall be submitted digitally to the Planning and Urban Development Department, on a CD or DVD, in AutoCAD format (.dwg), release AutoCAD 2005 or greater.
11. Impact Fees: New development or changes of use that result in net new residential dwelling units, non-residential building square footage, or water meters, are subject to the City of Portland's impact fee ordinance (Chapter 14, Article XVII). Impact fees are calculated at the time of building permit and must be paid prior to the certificate of occupancy. For more information, visit <https://www.portlandmaine.gov/2409/Impact-Fees>.

The Development Review Coordinator must be notified **five (5) working days** prior to the date required for final site inspection. The Development Review Coordinator can be reached at the Planning and Urban Development Department at (207) 874-8901. All site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. **Please schedule any property closing with these requirements in mind.**

If there are any questions, please contact Charles Tetelman at (207) 874-8724 or via ctetelman@portlandmaine.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Maggie Stanley", written in a cursive style.

Maggie Stanley, Chair

Attachments:

1. Planning Board Staff Report, March 4, 2022
2. Portland City Code: Chapter 32
3. Sample Stormwater Maintenance Agreement
4. Performance Guarantee Packet

PLANNING BOARD REPORT PORTLAND, MAINE

Winter Street Townhomes
102 State Street
Major Site Plan
PL-001840-2021
NewHeight Redfern, LLC



Submitted to:	Portland Planning Board	Prepared By:	Charles Tetelman
Public Hearing Date:	March 8, 2022	Date:	March 4, 2022

I. INTRODUCTION

NewHeight Redfern, LLC has submitted a Major Site Plan application to facilitate the development of a four-story residential development including nine townhouse-style condominium units along the Winter Street portion of the lot. This application is being referred to the Planning Board for compliance with the City of Portland's Land Use Code Site Plan Standards, Section 14.6.

The Planning and Urban Development Department mailed 269 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the February 25, 2022 and February 26, 2022 editions of the *Portland Press Herald*.

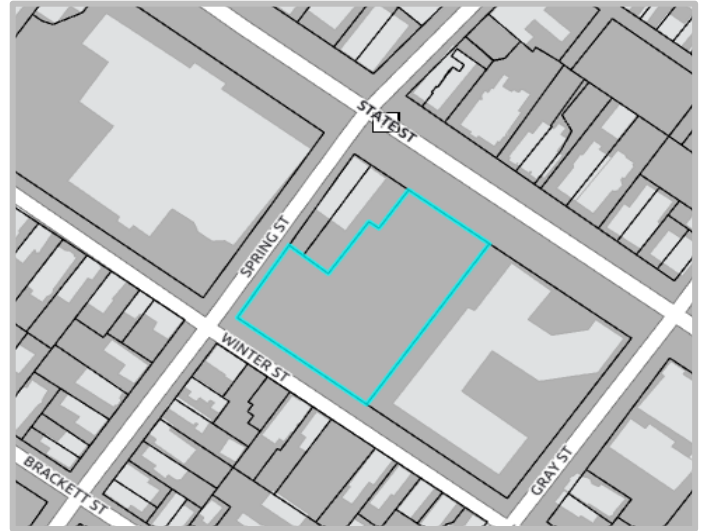


Figure 1: Location of 102 State Street

The Planning Board held a workshop on February 8, 2022.

Applicant: NewHeight Redfern, LLC
Applicant Acorn Engineering, Inc.
Representatives:

II. REQUIRED REVIEWS

<i>Review</i>	<i>Applicable Standards</i>
Site Plan	Section 14.6
West End Historic District	Certificate of Appropriateness (for approval by Historic Preservation Board)

III. PROJECT DATA

Existing Zoning	B-3 Downtown Business
Property Size	45,025 sq. ft.
Existing Use	Parking Lot
Proposed Use	Residential

	<i>Existing</i>	<i>Proposed</i>	<i>Net Change</i>
Building Footprint	0	9,493 sq. ft.	+9,493 sq. ft.
Building Floor Area	0	27,558 sq. ft.	+27,558 sq. ft.

Impervious Surface Area	41,928 sq. ft.	40,985 sq. ft.	-943 sq. ft.
Parking Spaces	144	18	-126

IV. BACKGROUND

In 2021, the City Council approved a zoning map amendment that rezoned the 102 State Street property and surrounding blocks from R-6 to B-3 ([Council Order 164-20/21](#)), along with changes to the Downtown Height Overlay Map ([Council Order 165-20/21](#)) to facilitate the redevelopment of the former Northern Light Mercy Hospital campus. In 2021, the Planning Board approved the adaptive reuse of the existing building at 144 State Street ([PL-001259-2020](#)) which included residential units, commercial retail space, and self-storage space. Community Housing of Maine and the Portland Housing Authority received approval to build two new residential buildings at 73 and 91 Winter Street ([PL-001371-2020](#)).

V. EXISTING CONDITIONS AND SURROUNDING AREA

The location of the proposed project is within the B-3 zone, in the West End neighborhood. Most of the West End is zoned R-4 and R-6; however, there is some variety throughout. Pine and Congress streets are mapped with mixed-use B-1 and B-3 zones, respectively. The surrounding neighborhood context includes State Street, a wide, historic thoroughfare identified as a priority corridor in the City's Comprehensive Plan that has wide sidewalks and established street trees lined with a variety of building types. The buildings fronting State Street range from residential, retail, and places of assembly to historic mansions converted to other uses including a funeral home, the Portland Club, and offices. The character of Spring and Winter streets is predominantly small-to-mid scale residential, with some exceptions. Immediately to the east of the proposed project is 100 State Street, a six-story tower in the park style multi-family building constructed in 1979. As mentioned above, major housing projects have been approved for the former Northern Light Mercy Hospital building and two new residential buildings at 73 and 91 Winter Street that will bring a mix of affordable and market-rate units to the neighboring properties.

Portland's main thoroughfare, Congress Street, is approximately two blocks north and provides a variety of



Figure 2: Winter Street view of the proposed site

mixed-use residential and commercial buildings. Both Congress Street and the West End are characterized by vibrant historic districts – the Congress Street Historic District and the West End Historic District. The proposed projects falls within the bounds of the West End Historic District and is subject to review under the Historic Preservation Ordinance (see below for more information).

The site is directly along METRO Route 8 and is within a ten minute walk to most Routes running along Congress Street and High Street (nearest transfer point located at the corner of Congress Street and Forest Ave.).

VI. PROPOSED DEVELOPMENT

The proposed project will split the parcel Chart 45, Block D, Lot 1 to create two new parcels (Lot 1 28,288 sq. ft. and Lot 2 20,737 sq. ft.) located along State Street and Winter Street. The site currently consists of a surface parking lot with entrances along Spring Street and Winter Street. The proposed Major Site Plan application would facilitate the development of a four-story residential building (9,493 sq. ft. footprint) with nine proposed units (27,558 sq. ft. total floor area) in the Winter Street Lot. The proposed development will have a street wall height of approximately 33 feet, rising to 43 feet on the fourth floor, with an approximately 37 foot setback (creating space for a roof deck). Each unit will be allocated two parking spots in the garage totaling 18 parking spaces.



Figure 3: Proposed Building Elevations along Winter

With the proposed building extending across the entire frontage of Winter Street, the existing entrance to the parking lot along Winter Street will be eliminated and the Spring Street entrance will be the sole entrance for both lots. The applicant is seeking to relocate the electric lines along Winter Street underground and have proposed eight street trees along the Winter Street and Spring Street bounds of the townhome lot. There are no major alterations to the State Street lot as part of this application and will remain as parking. However, the applicant has included some minor utility work along State Street to allow for future development of the parcel. Other minor changes include grading, restriping, and the removal of the ADA parking spots next to the Spring Street entrance (the applicant noted these spots would have to be located closer to any future structure in the lot).

VII. PREVIOUS WORKSHOPS

The Planning Board held a workshop for this project on February 8, 2022. At the meeting, the Planning Board discussed the proposed landscaping focusing on the street trees. There were concerns that similar projects in the neighborhood had street trees not survive after the required one year warranty from the developers. Members were curious if the street tree layout alongside the underground electric would lead to difficult street tree conditions. In response to these concerns the applicant worked with the Department of Public Works and the City Arborist to find an optimal solution that bolsters street tree survivability (more information below).

The Planning Board noted that this project, as it relates to nearby developments, contributed to the overall diversity of new housing developments in Portland.

VIII. RIGHT, TITLE, & INTEREST

The applicant submitted a deed transferring two parcels (102 and 144 State Street) from Northern Light Mercy Hospital to NewHeight Redfern, LLC (Attachment C).

IX. FINANCIAL & TECHNICAL CAPACITY

The applicant submitted a letter dated December 1, 2021 from Machias Savings Bank Senior Vice President Francine V. Cam which demonstrates that the applicant NewHeight Redfern, LLC has adequate financial capacity to complete the proposed project (Attachments G + H).

X. ZONING ANALYSIS

The proposed project is located in the B-3 Downtown Business zone and the proposed use (residential) is an allowed use within the zone. The B-3 zone allows a variety of uses including residential, medical clinics, schools, commercial retail & office, restaurants, and hotels. The table below shows the relevant dimensional standards required as described in Table 7-E Mixed-Use Zone Dimensional Standards:

	Required	Proposed
Minimum Street Frontage	15 ft.	126 ft.
Front Setback Maximum	5 ft.	7 ft.*
Step Back	30 ft. State >35 ft. Winter	37.7 ft.
Height	85 ft. State 45 ft. Winter	48.4 ft. 37.7 ft.
Maximum Impervious Area	100%	91%
Off Street Parking Spaces	9	18

***B-3 Build-to Line:** The project proposes to have seven-foot front yard setbacks and therefore is subject to the standards for increasing the setback beyond the build-to-line found in the B-3 Downtown Design Guidelines (within the *City of Portland Design Manual*).

City Staff requested an analysis demonstrating to the Planning Board that the introduction of additional setbacks at the street level meet the B-3 Downtown Design Guidelines (Attachment R). The applicant noted that “substantial and viable accessible open space” is provided to the premises that contribute to the overall neighborhood. Furthermore, they mentioned that the additional setback did not detract from the Winter Street street wall and is consistent to the neighborhood character. City Staff find their analysis adequate and that the additional setback meets the standards set forth in the *City of Portland Design Manual*.

XI. SITE PLAN 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 project would not be expected to have a significant traffic or safety impact to the adjacent roadway system. The existing parking lot contains 144 parking spaces utilized for medical and commercial office space. In addition, the applicant proposes to remove the existing site entrance on Winter Street. In addition, the applicant proposes to reduce the total number of parking spaces on the lot and provide two parking spaces for each condo unit built into the first floor of each townhome, which minimizes the need for on-street parking spaces for residents.

B. Access and circulation

The applicant is proposing to eliminate the existing entrance to the parking lot along Winter Street making the Spring Street entrance the only way to access both lots. The townhomes can be accessed via street level entrances along Winter Street and from the rear of the building (internal site access). The applicant is proposing to reconstruct the sidewalks along the frontages including Winter Street and Spring Street.

C. Public transit access

METRO Route 8 runs along the State Street side of the site and there is a bus stop directly adjacent to the site on Spring Street. The site is within a few blocks of other METRO routes and within a 15 minute walk to the transfer station located on the corner of Congress Street and Forest Ave.

D. Parking

The applicant proposes to reduce the total number of parking spaces on the lot and provide two parking spaces for each condo unit built into the first floor, which minimizes the need for on-street parking spaces for residents. The applicant exceeded 10% of the minimum requirement of one space per unit for multi-family housing and provided a Parking Demand Memo (Attachment E). The memo discusses demand for multiple spaces in similar units. According to the applicant, additional parking spaces within the townhomes will reduce the need for on-street parking.

City Staff discussed with the applicant about potential locations for bicycle parking on the exterior of the site either on Spring Street or Winter Street. After considering changes to the underground electric utilities and street tree layouts, the applicant deemed that the exterior bicycle racks would be difficult to fit along the sidewalks. City Staff concluded that the proposed bicycle parking in the garage of each unit would meet the bicycle parking requirement.

E. Transportation demand management (TDM)

A TDM plan is not required.

2. Environmental Quality Standards (Section 14.6.2)

A. Preservation of significant natural features

The site is an existing surface parking lot and there are no significant natural features on site.

B. Landscape preservation

One existing tree is proposed to be preserved on site. The remainder of the site is currently a surface parking lot with little to no vegetation on site.

C. Site landscaping and buffers

The applicant is proposing to underground the electric utility along Winter Street and add eight street trees along Winter Street and Spring Street. The applicant is keeping existing street trees and landscaping along State Street. The applicant worked with the City Arborist to select appropriate street tree species, using City standard NEENA tree grates, and employing additional base frame systems.

Following comments from the Planning Board, the applicant team has included a Street Tree Maintenance Plan (Attachment T) to be maintained by the Winter Street Town Homes HOA.

The applicant noted that loading and servicing areas, trash and recycling, and roof/ground-mounted utility structures will be located in areas away from the public and screened.

D. Water quality/storm water management/erosion control

The existing site is a surface parking lot and the applicant is proposing only minor grading work on the interior of the lot to accommodate construction. The applicant provided a report stating the project as designed is not anticipated to cause flooding or erosion problems on site, with abutting properties, nor within the right-of-way (Attachment K).

The applicant's proposal includes a proprietary modular wetland system to provide water quality treatment and stormwater attenuation which will serve both the State Street lot and the Winter Street lot. City Staff find that the water quality treatment and stormwater management on site are adequate and meet City Standards.

3. Public Infrastructure and Community Safety Standards (Section 14.6.3)**A. Consistency with City Master Plans**

The proposed project is in keeping with the stated goals of Portland Plan 2030 regarding housing and the policy of creating complete neighborhoods. The project takes advantage of a central, downtown location near transit and walkable services.

Livable City: Housing – local goals met by this project:

- Increase, preserve, and modify the overall supply of housing city-wide to meet the needs, preferences, and financial capabilities of all Portland residents.
- Encourage additional contextually appropriate housing density in and proximate to neighborhood centers, concentrations of services, and transit nodes and corridors as a means of supporting complete neighborhoods.
- Pursue policies to enable people who work in Portland to have the option to live in Portland.

A Healthy City: Environment – local goals met by this project:

- Adopt sustainable land use and transportation policies that support connectivity, walkable neighborhoods, and multi-modal transportation.

An Enduring City: Historic Resources – local goals met by this project

- 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.

B. Public safety and fire prevention

The applicant has incorporated a variety of Crime Prevention through Environmental Design (CPTED) standards into the site design. The site limits public spaces beyond street frontages and public right of ways. The townhomes will all have a garage providing separation from the parking spaces located in the 102 State Street lot.

Emergency vehicles will be able to readily access the townhome sites directly on Winter Street and will be able to access the rear of the buildings through an entrance along Spring Street.

C. Availability and capacity of public utilities

The applicant has reached out to all utility providers and requested ability to serve letters to be provided to the City once received.

The applicant is proposing to underground the electric utilities along Winter Street. The applicant worked with the Department of Public Works and have made changes to the utility plan (Attachment Plan 18). Most of the underground electrical conduits have been moved closer to the edge of the Winter Street Right of Way bordering the site project line to provide additional separation between the conduit duct bank and the proposed street trees. The City Arborist confirmed that this utility layout would provide enough space for required ADA access width and ensure street tree health.

4. Site Design Standards (Section 14.6.4)

A. Massing, ventilation, and wind impact

The architects provided an Architectural Design Narrative (Attachment N) that noted the design reflected the scale and textures of buildings along Winter Street to mirror the surrounding buildings and residential neighborhood. The buildings all have access along Winter Street and the roof top is setback approximately 37 feet before rising up to a maximum height of approximately 43 feet.

HVAC units are in two potential locations: 1) behind the units adjacent to the garages and below the rear decks and 2) on the top story wall (not on the roof), which is setback approximately 30 feet from Winter Street and out of view from Winter Street (approved by Historic Preservation Board).

B. Shadows

The project is not adjacent to any public park or open space. The height of the structure is comparable to surrounding buildings along Winter Street and within the wider neighborhood and no shadow impacts are anticipated.

C. Snow and ice loading

The structures will not distribute snow and ice onto adjacent properties. The proposed snow area is shown on the Site Plan (Attachment Plan 17).

D. View corridors

This project is not located in any designated view corridors.

E. Historic resources

The proposed project is located in the West End Historic District and the Historic Preservation Board has approved a Certificate of Appropriateness (Attachment 1).

F. Exterior lighting

The applicant has provided a photometric plan (Attachment M) which meets the requirements of Section 12 of the Technical Manual.

Existing street lighting within the public right of way is proposed to remain as existing.

G. Noise and vibration

N/A

H. Signage and wayfinding

N/A

I. Zoning-related design standards

As a project located in the West End Historic District, the project is required to comply with the historic preservation standards and received a Certificate of Appropriateness. City Staff provided a more detailed review of the Historic Preservation Board's determination at the Historic Preservation Board Public Hearing on February 16, 2022 (Attachment 1).

The applicant noted the City of Portland Design Manual allows for standards for increasing the maximum front setback. The proposed design has a setback of seven feet to allow for ADA access to the front doors. The applicant also believes the additional setback would provide more space for landscaping thus enhancing the street view of the development (see analysis above).

XII. NEIGHBORHOOD MEETING & PUBLIC COMMENT

On January 27, 2022, the applicants held a virtual neighborhood meeting with 13 attendees and six members of the applicant team (Attachment S). The applicant introduced the project and guided the neighborhood attendees through the project scope and design. There were a handful of questions regarding future development of the 102 State St. parcel and the applicant clarified that there were no further plans at the moment but there would be future conversations. The attendees also asked clarifying questions regarding sidewalks, underground electric, and street tree maintenance.

As of the writing of this report, one public comment has been submitted to the Planning & Urban Development Department (Attachment PC 1).

XIII. STAFF RECOMMENDATION

Subject to the proposed motions and conditions of approval listed below, Planning Department staff recommends to the Planning Board that the proposed project, PL-001840-2021, to construct nine four-story townhomes along Winter Street meets the applicable standards of Portland's Land Use Code.

XIV. PROPOSED MOTIONS

A. SITE PLAN REVIEW

On the basis of the application, plans, reports and other information for the public hearing on March 8, 2022 for application PL-001840-2021 relevant to the site plan regulations; and the testimony presented at the Planning Board hearing, the Planning Board [finds/does not find] that the plan is in conformance with the site plan standards of the Land Use Code subject to the following conditions of approval:

PRIOR TO APPLYING FOR A BUILDING PERMIT

1. The applicant shall submit a final plan set that reflects the underground electric utility layout recommendations from Central Maine Power for review and approval by the Planning Authority and Department of Public Works.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

2. The applicant shall submit all Ability to Serve letters for review and approval by the Planning Authority and Department of Public Works
3. The applicant shall submit a final Construction Management Plan for review and approval by the Planning Authority and the Department of Public Works.

PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY

4. The applicant shall submit a Homeowner's Association agreement and documentation for review and approval by Corporation Counsel and the Planning Authority.

XV. ATTACHMENTS

REPORT ATTACHMENTS

1. Historic Preservation Certificate of Appropriateness 2.16.22

APPLICANT SUBMITTAL

- A. Cover Letter
- B. Site Plan Checklist
- C. Right, Title, Interest
- D. Zoning Assessment
- E. Parking Demand Memo
- F. Waivers
- G. Financial Capacity
- H. Technical Capacity
- I. Conformity With Land Use Ordinance
- J. Stormwater Management Plan
- K. Erosion & Sediment Control Report
- L. Fire Department Letter
- M. Lighting
- N. Architectural Design Narrative
- O. Utilities
- P. Construction Management Plan
- Q. Solid Waste Disposal
- R. Comment Response Letter 3.22.22
- S. Neighborhood Meeting Certification
- T. Tree Maintenance Plan

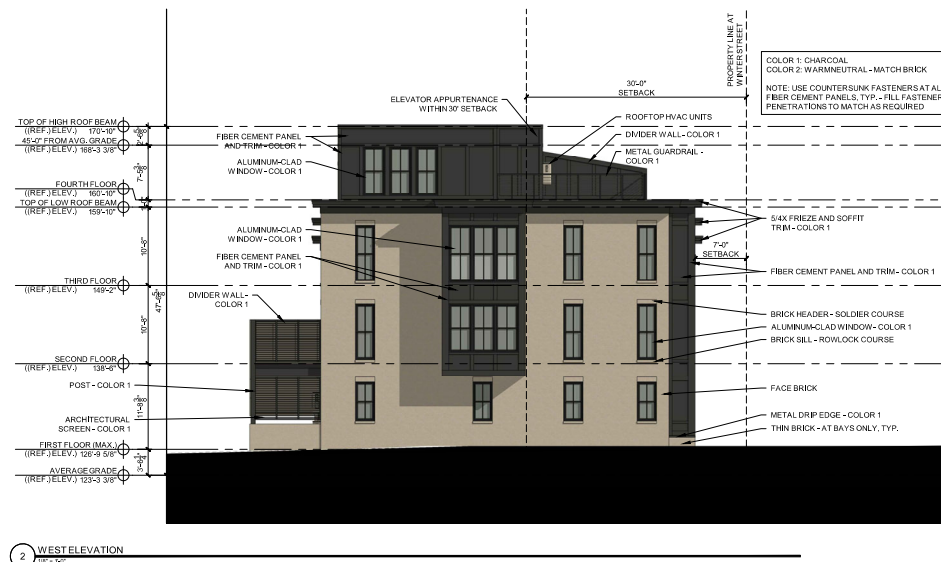
DRAWINGS

- Plan 1. First Floor Plan
- Plan 2. Second Floor Plan
- Plan 3. Third Floor Plan
- Plan 4. Roof Plan
- Plan 5. Elevations
- Plan 6. Elevations II
- Plan 7. Perspective Views
- Plan 8. Sections
- Plan 9. Wall Sections
- Plan 10. Privacy Screen Details
- Plan 11. Typical Unit
- Plan 12. Window Schedule
- Plan 13. Architectural Renderings
- Plan 14. Cover Sheet & Legend
- Plan 15. General Notes
- Plan 16. Construction Management Plan
- Plan 17. Site Plan
- Plan 18. Utility Plan
- Plan 19. Grading Plan
- Plan 20. Site Details 1
- Plan 21. Site Details 2

Plan 22. Utility Details 1
Plan 23. Utility Details 2
Plan 24. Utility Details 3
Plan 25. Drainage Details
Plan 26. Erosion & Sediment Control Notes
Plan 27. Existing Conditions Plan
Plan 28. Landscaping Plan
Plan 29. Materials Plan
Plan 30. Planing Plan
Plan 31. Landscape Details 1
Plan 32. Landscape Details 2
Plan 33. Landscaping Renderings
Plan 34. Photometric Plan
Plan 35. Plat
Plan 36. Street View Plan
Plan 37. Typical Unit Plan

PUBLIC COMMENT

PC 1. GR – 3.3.22



2 WEST ELEVATION
18' x 12'



1 SOUTH ELEVATION
18' x 12'



**CITY OF PORTLAND
APPROVED SITE PLAN**
Subject to Conditions of Approval
and Standard Conditions

DATE OF APPROVAL March 8, 2022
PLANNER Charles Tetelman
PROJECT NO. PL-001840-2021

© 2021 RYAN SENATORE
ARCHITECTURE

WINTER STREET TOWNHOMES
WINTER STREET
PORTLAND, MAINE

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senatorearchitect.com

CONSULTANTS

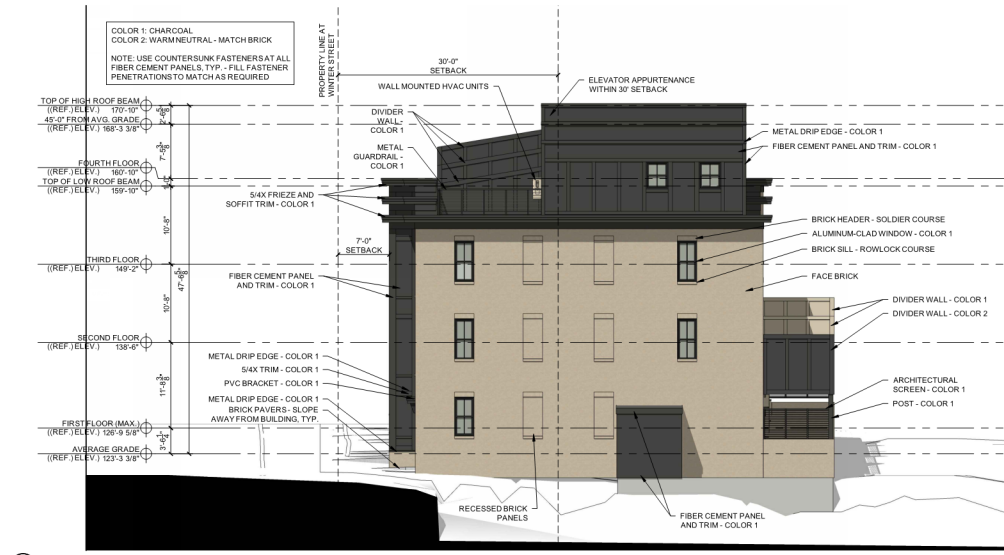
REVISIONS
PROJECT PRINT ONLY
Not for Construction
FEBRUARY 24, 2022

CITY OF PORTLAND
APPROVED SITE PLAN

DATE OF APPROVAL March 8, 2022
PLANNER Charles Tetelman
PROJECT NO. PL-001840-2021

DRAWN BY: RJS/ES
CHECKED BY: RJS
SCALE: AS NOTED
SHEET TITLE:
**ELEVATIONS FOR
PLANNING BOARD**

A2-0A



2 EAST ELEVATION
1/8" = 1'-0"



1 NORTH ELEVATION
1/8" = 1'-0"



**CITY OF PORTLAND
APPROVED SITE PLAN**
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DATE OF APPROVAL March 8, 2022
PLANNER Charles Tetelman
PROJECT NO. PL-001840-2021

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ARCHITECTURE

WINTER STREET TOWNHOMES
WINTER STREET
PORTLAND, MAINE



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CONSULTANTS:

REVISIONS:
PROCESSED ONLY
Not for Construction
FEBRUARY 24, 2022



**CITY OF PORTLAND
APPROVED SITE PLAN**
Subject to Conditions of Approval
and Standard Conditions

DATE OF APPROVAL March 8, 2022

PLANNER Charles Tetelman

PROJECT NO. PL-001840-2021

DRAWN BY: RJS ES

CHECKED BY: RJS

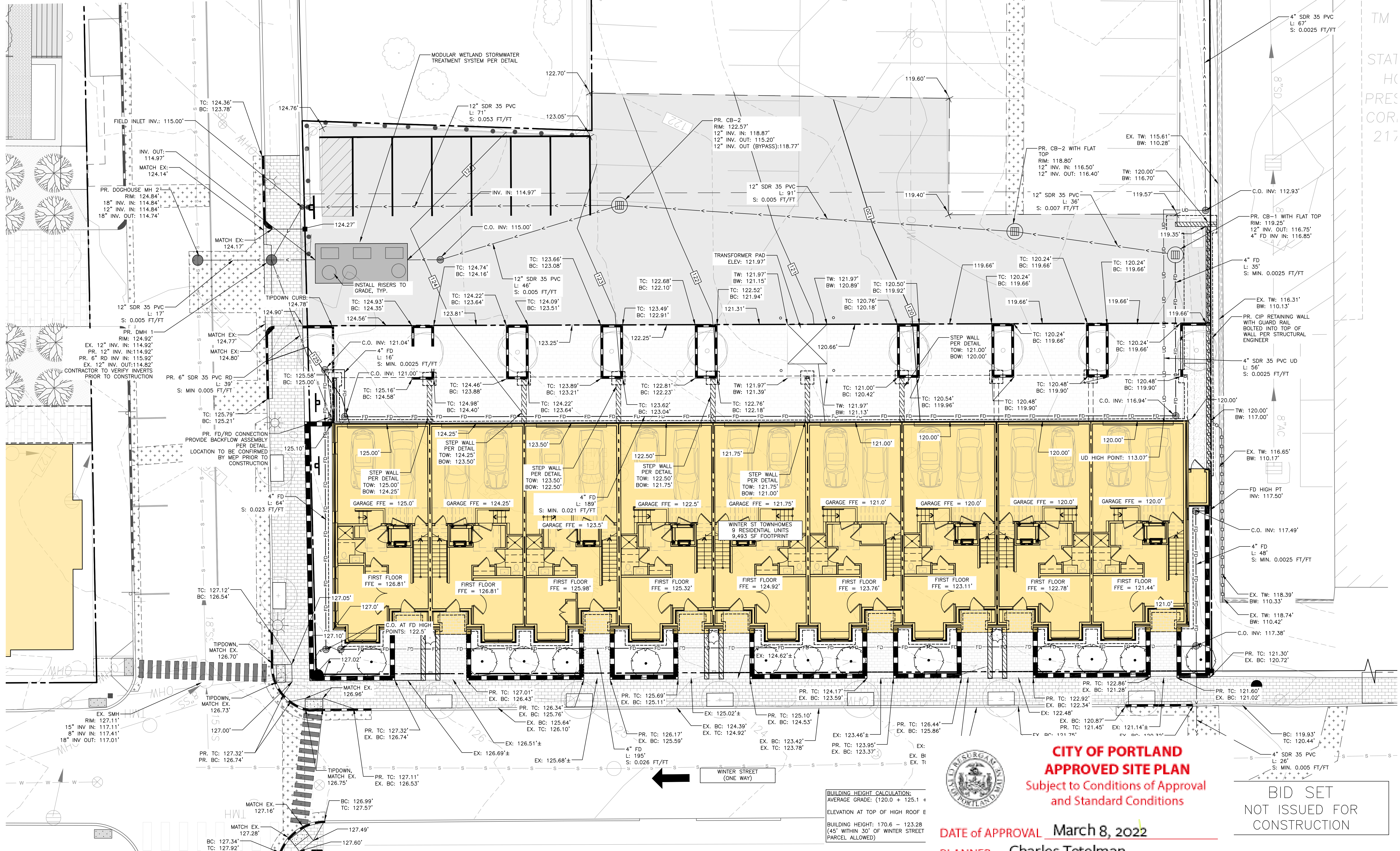
SCALE: AS NOTED

SHEET TITLE:
**ELEVATIONS
FOR PLANNING
BOARD**

A2-1A

GENERAL NOTES:

1. ALL WORK WITHIN THE CITY STREET RIGHT OF WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.
2. DESIGN OF TEMPORARY SOIL RESTRAINT MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IF NECESSARY FOR CONSTRUCTION.
3. CONTRACTOR SHALL ENSURE THAT UNDERDRAINS ARE CONSTRUCTED WITH POSITIVE OUTLET TO PROPOSED CONNECTIONS.
4. CATCH BASIN INLET PROTECTION TO BE INSTALLED WITHIN ANY STRUCTURES DOWNGRADIENT OF ACTIVE CONSTRUCTION.
5. SEDIMENTATION BARRIERS ARE TO BE INSTALLED DOWNGRADIENT OF ALL ACTIVE CONSTRUCTION WORK PER DETAIL. BARRIERS TO NOT EXTEND PAST PROPERTY LINES; BARRIERS SHOWN OFFSET FROM PROPERTY LINES ON PLANS FOR VISUAL PURPOSES ONLY.



**CITY OF PORTLAND
APPROVED SITE PLAN**
Subject to Conditions of Approval
and Standard Conditions

DATE of APPROVAL March 8, 2022
PLANNER Charles Tetelman
PROJECT NO. PL-001840-2021

BID SET
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY	DATE
SITE PLAN	PFH	12/21
SUBMISSION	PFH	12/21
PARKING LAYOUT	PFH	12/22
COMMENT	PFH	12/22
RESPONSE	PFH	3/2/23
BID SET	PFH	3/15/23

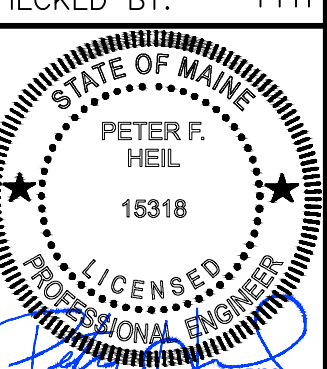
GRADING & DRAINAGE PLAN
WINTER STREET TOWNHOMES
PORTLAND, MAINE
NEWHEIGHT REDFERN, LLC
167 NEWBURY STREET, SUITE 503 PORTLAND, ME, 04101

DESIGNED BY: MKT
DRAWN BY: MKT
CHECKED BY: PFH
ACORN ENGINEERING, INC.
303 3372, PORTLAND MAINE 04104
(207) 775-2655

CITY OF PORTLAND
APPROVED SITE PLAN
Subject to Conditions of Approval
and Standard Conditions

DATE of APPROVAL March 8, 2022
PLANNER Charles Tetelman
PROJECT NO. PL-001840-2021

DESIGNED BY: MKT
DRAWN BY: MKT
CHECKED BY: PFH



DRAWING NO.
C-30

CITY OF PORTLAND, MAINE

PLANNING BOARD

Elizabeth Boepple, Chair
Sean Dundon, Vice Chair
David Eaton
Brandon Mazer
Carol Morrisette
Maggie Stanley
Lisa Whited

September 27, 2017

Bernie Saulnier
BD Sheridan, LLC
1266 Furnace Brook Parkway
Quincy, MA 02169

Will Savage, P.E.
Acorn Engineering, INC
158 Danforth Street
Portland, ME 04102

Project Name: Nineteen-Unit Condominium
Address: 155 Sheridan
Applicant: Bernie Saulnier
Planner: Matthew Grooms

Project ID: 2017-073, 2017-115
CBL: 012 Q012

Dear Mr. Saulnier and Mr. Savage

On September 12, 2017, the Planning Board approved the Level III Site Plan/Subdivision application and the Conditional Use application for inclusionary zoning for the nineteen-unit residential condominium project located at 155 Sheridan Street in the R-6 Residential District and Fort Sumner Park Overlay Zone. This project includes demolition of an existing single-family structure and extensive regrading of the site so as to accommodate the proposed four-story building. Other site improvements include the construction of a pile and lag retaining wall around the exterior of the proposed building with site landscaping along the property's frontage and along the rear portion of the retaining wall. The Planning Board reviewed the proposal for conformance with the standards of the Site Plan Ordinance, Subdivision Ordinance, Stormwater Permit and Divisions 7 (R-6 and R-6A Residential Zones inclusive of the Fort Sumner Park Overlay Zone), and 20 (Off-Street Parking) of the Land Use Code. The Board also reviewed the Conditional Use application to Ensure Workforce Housing under Division 30 (Affordable Housing) of the Land Use Code. The Planning Board voted 6-0 (Chair Boepple absent) to approve the application with the following waiver(s) and condition(s) as presented below:

WAIVERS

1. The Planning Board voted unanimously 6-0 (Boepple absent) to waive the Section 14-526(c)(3)(b) standard of the Site Plan Ordinance requiring electrical service to be placed underground unless otherwise specified for industrial uses, or determined to be unfeasible due to extreme cost subject to the following conditions:
 - a. The proposed overhead utilities shall conform to the standards of the Fort Sumner Park Overlay Zone; and

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- b. The final proposed overhead configuration shall be reviewed and approved by the Fire Department, Department of Public Works and Planning Authority.
2. The Planning Board voted unanimously 6-0 (Boepple absent) to waive the Section 14-499(h) standard of the Subdivision Ordinance requiring that all utility lines be placed underground unless otherwise approved by the Planning Board subject to the following conditions:
 - a. The proposed overhead utilities shall conform to the standards of the Fort Sumner Park Overlay Zone; and
 - b. The final proposed overhead configuration shall be reviewed and approved by the Fire Department, Department of Public Works and Planning Authority.

SUBDIVISION REVIEW

The Planning Board voted 6-0 (Boepple absent) that the plan is in conformance with the subdivision standards of the Land Use Code subject to the following condition(s) of approval:

1. Requiring that draft Condominium Association documents addressing Planning Board feedback regarding maintenance of the green roof and be finalized to the satisfaction of Corporation Counsel; and
2. A final subdivision plan and recording plat shall be reviewed and approved by the Department of Public Works and the Planning Authority.

SITE PLAN REVIEW

The Planning Board voted 6-0 (Boepple absent) that the plan is in conformance with the site plan standards of the Land Use Code subject to the following condition(s) of approval:

1. The applicant shall provide a revised construction management plan that incorporates a sidewalk detour to the west side of Sheridan Street. Two temporary crosswalks will be required which shall both be ADA accessible. The southerly temporary crosswalk shall be located at the location of the Fort Sumner path as requested by the city's consulting traffic engineer;
2. That the applicant shall provide a stormwater maintenance agreement for the stormwater drainage system, shall be submitted, signed, and recorded prior to the issuance of a building permit with a copy to the Department of Public Works;
3. The applicant shall provide an updated landscaping plan which provides additional buffering of the project site from Fort Sumner Park as detailed in the comments raised in the City Arborist's email dated September 1, 2017 or otherwise approved by the City Arborist;
4. A contribution of \$4,000 in lieu of ten street trees to the Tree Fund, which staff recommends be utilized for landscaping improvements to the lower slope of Fort Sumner Park;
5. The applicant shall work with the Department of Public Works to revise their proposed stormdrain connection per comment 2 of Woodard and Curran's memo dated August 29, 2017; and
6. After submitting plans for review and approval by the Planning Authority, the Applicant shall construct a sidewalk meeting city standards in front of Fort Sumner Park creating a continuous

Site Plan and Conditional Use Approval letter

sidewalk along the east side of Sheridan Street, as well as install a crosswalk connecting the Marion Street pedestrian pathway with this new sidewalk. The applicant is entitled to recoup up to \$9,400 in project costs for the sidewalk construction from contributions related to the conditions of approval of the project at 88 Walnut Street (2017-099), specifically the grant of waiver of Section 14-498 8(a) included in that project's approval.

The approval is based on the submitted plans and the findings related to site plan review standards as contained in the Planning Report for application (2017-063) which is attached.

CONDITIONAL USE FOR ENSURING WORKFORCE HOUSING

The Planning Board voted 6-0 (Boepple absent) that the plan is in conformance with the conditional use standards of the Land Use Code, subject to the following condition(s) of approval:

1. That the Applicant shall provide one unit of on-site workforce housing restricted to households earning up to 120% of the Area Median Income (AMI) per the submitted application prior; and
2. The applicant shall enter into an Affordable Housing Agreement (AHA) with the City. This agreement shall outline the details of the affordability restrictions placed on Workforce Units and will be filed as covenant to the property's deed with the Cumberland County Registry of Deeds before a Certificate of Occupancy shall be issued.

STANDARD CONDITIONS OF APPROVAL

Please Note: The following standard conditions of approval and requirements apply to all approved site plans:

1. **Subdivision Recording Plat** A revised recording plat, listing all conditions of subdivision approval, must be submitted to the Planning and Urban Development Department for review. Once approved, the plat shall be signed by the Planning Board prior to the issuance of a performance guarantee. The performance guarantee must be issued, prior to the release of the recording plat, for recording at the Cumberland County Registry of Deeds.
2. **Subdivision Waivers** Pursuant to 30-A MRSA section 4406(B)(1), any waiver must be specified on the subdivision plan or outlined in a notice. The plan or notice must be recorded in the Cumberland County Registry of Deeds within 90 days of the final subdivision approval.
3. **Develop Site According to Plan** The site shall be developed and maintained as depicted on the site plan and in the written submission of the applicant. Modification of any approved site plan or alteration of a parcel which was the subject of site plan approval after May 20, 1974, shall require the prior approval of a revised site plan by the Planning Board or Planning Authority pursuant to the terms of Chapter 14, Land Use, of the Portland City Code.
4. **Separate Building Permits Are Required** This approval does not constitute approval of building plans, which must be reviewed and approved by the City of Portland's Permitting and Inspections Department.
5. **Site Plan Expiration** The site plan approval will be deemed to have expired unless work has commenced within one (1) year of the approval or within a time period up to three (3) years from the approval date as agreed upon in writing by the City and the applicant. Requests to extend approvals must be received before the one (1) year expiration date.

Site Plan and Conditional Use Approval letter

6. **Storm Water Management Condition of Approval** The developer/contractor/subcontractor must comply with conditions of the construction stormwater management plan and sediment and erosion control plan based on City standards and state guidelines.

The owner/operator of the approved stormwater management system, and all assigns. shall comply with the conditions of Chapter 32 Stormwater including Article III, Post Construction Stormwater Management, which specifies the annual inspections and reporting requirements.

A maintenance agreement for the stormwater drainage system, as attached, or in substantially the same form, shall be submitted for review by Corporation Counsel. Once approved, the document shall be signed and recorded at the Cumberland County Registry of Deeds prior to the issuance of a building permit. Please submit final copies to both the Department of Planning and Urban Development and the Department of Public Works.

7. **Performance Guarantee and Inspection Fees** A performance guarantee covering the site improvements, inspection fee payment of 2.0% of the guarantee amount and seven (7) final sets of plans must be submitted to and approved by the Planning and Urban Development Department and Public Works Department prior to the release of a building permit, street opening permit or certificate of occupancy for site plans. If you need to make any modifications to the approved plans, you must submit a revised site plan application for staff review and approval.
8. **Defect Guarantee** A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.
9. **Preconstruction Meeting** Prior to the release of a building permit or site construction, a pre-construction meeting shall be held at the project site. This meeting will be held with the contractor, Development Review Coordinator, Public Works representative and owner to review the construction schedule and critical aspects of the site work. At that time, the Development Review Coordinator will confirm that the contractor is working from the approved site plan. The site/building contractor shall provide three (3) copies of a detailed construction schedule to the attending City representatives. It shall be the contractor's responsibility to arrange a mutually agreeable time for the pre-construction meeting.
10. **Department of Public Works Permits** If work will occur within the public right-of-way such as utilities, curb, sidewalk and driveway construction, a street opening permit(s) is required for your site. Please contact Carol Merritt at 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)
11. **As-Built Final Plans** Final sets of as-built plans shall be submitted digitally to the Planning and Urban Development Department, on a CD or DVD, in AutoCAD format (*.dwg), release AutoCAD 2005 or greater.
12. **Mylar Copies** Mylar copies of the as-built drawings for the public streets and other public infrastructure in the subdivision must be submitted to Public Works prior to the issuance of a certificate of occupancy.

The Development Review Coordinator must be notified five (5) working days prior to the date required for final site inspection. The Development Review Coordinator can be reached at the Planning and Urban Site Plan and Conditional Use Approval letter

Development Department at 874-8632. All site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact Matthew Grooms at (207) 874-8725

Sincerely,



Elizabeth Boepple, Chair
Portland Planning Board

Attachments:

1. Staff Review Memo (6.30/17)
2. Woodard and Curran Memo (8.29.17)
3. T.Y. Lin Email (8.30.17)
4. City Arborist Review Comments (9.1.17)
5. DPW Review Memo (9.1.17)
6. Housing Program Manager Memo (9.5.17)
7. Final Design Review Memo (9.6.17)
8. Planning Board Report
9. Portland City Code: Chapter 32
10. Sample Stormwater Maintenance Agreement
11. Performance Guarantee Packet

Electronic Distribution:

cc: Jeff Levine, AICP, Director of Planning and Urban Development
Stuart G. O'Brien, City Planning Director, Planning and Urban Development
Barbara Barhydt, Development Review Services Manager, Planning and Urban Development
Matthew Grooms, Planner, Planning and Urban Development
Philip DiPierro, DRC, Planning and Urban Development
Mike Russell, Director of Permitting and Inspections
Ann Machado, Zoning Administrator, Permitting and Inspections
Jonathan Rioux, Deputy Director, Permitting and Inspections
Jeanie Bourke, Plan Reviewer/CEO, Permitting and Inspections
Chris Branch, Director of Public Works
Katherine Earley, Engineering Manager, Public Works
Keith Gray, Senior Engineer, Public Works
Doug Roncarati, Stormwater Coordinator, Public Works
Jane Ward, Engineering, Public Works
Rhonda Zazzara, Construction Engineering Coordinator, Public Works
Jeff Tarling, City Arborist, Public Works
Jeremiah Bartlett, Transportation Systems Engineer, Public Works
William Scott, Chief Surveyor, Public Works
Keith Gautreau, Fire
Danielle West-Chuhta, Corporation Counsel
Victoria Volent, Housing Program Manager, Housing and Community Development

Site Plan and Conditional Use Approval letter

Thomas Errico, P.E., TY Lin Associates
Lauren Swett, P.E., Woodard and Curran
Christopher Huff, Assessor

PLANNING BOARD REPORT PORTLAND, MAINE



19-Unit Condominium Development
155 Sheridan Street

Level III Site Plan and Subdivision Plan and Conditional Use Application for Inclusionary Zoning

Submitted to: Portland Planning Board Date: September 8, 2017 Public Hearing Date: September 12, 2017	Prepared by: Matthew Grooms, Planner CBL: 012-Q-010, 012-Q-012 Project #: 2017-073, 2017-115
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I. INTRODUCTION

BD Sheridan, LLC requests a Level III site plan, subdivision and conditional use review for a four-story, 34,555 SF housing development on Sheridan Street in the East End. The proposed development consists of nineteen residential units including one on-site workforce housing unit with ground-floor structured parking for nineteen vehicles on a property located immediately north of Fort Sumner Park. The site is currently occupied by a one and a half story single-family home.



Figure 1: Project Site (Note: Existing Single-Family House to be Demolished)

This development is being referred to the Planning Board for compliance with the site plan and subdivision standards of the land use code.

The applicant has submitted a final site plan for review by the Planning Board. As this project is located within the Fort Sumner Park Overlay Zone, this project was required to go before the Parks Commission for an advisory review to the Planning Board. The Parks Commission met on September 7, 2017, and unanimously recommended approval of the proposed project.

A total of 374 notices were sent to property owners within 500 feet of the site and a legal ad ran on September 4, and 5 2017.

Applicant: BD Sheridan, LLC

Consultants: Will Savage, Acorn Engineering, INC; Rex Croteau, Titcomb Associates; Ryan Senatore, Ryan Senatore Architecture; Tom Jewell; Olivia Dawson; Patrick Venne

II. REQUIRED REVIEWS

Waiver Requests	Applicable Standards
Overhead utilities – To retrofit existing overhead utility lines to serve this site and meet fire department access requirements and the standards of the Fort Sumner Park Overlay Zone	Site Plan Ordinance, Section 14-526(c)(3)(b) - Electrical service shall be underground unless otherwise specified for industrial uses, or if it is determined to be unfeasible due to extreme cost, the need to retrofit properties not owned by the applicant or complexity of revising existing overhead facilities.
<u>Staff Comments:</u> The review staff recommends waiving this standard if the formal cost estimate for underground utilities is greater than \$150,000 based upon CMP's non-binding initial estimate.	Subdivision Ordinance, Section 14-499(h) - All utility lines shall be placed underground unless otherwise approved by the Planning Board.

Review	Applicable Standards
Subdivision	Section 14-497
Site Plan	Section 14-526

III. PROJECT DATA

Existing Zoning	R-6, Fort Sumner Park Overlay
Existing Use	Single-Family Home
Proposed Use	Residential
Proposed Development Program	19 units, 19 parking spaces
Parcel Size	18,140 SF

	<i>Existing</i>	<i>Proposed</i>	<i>Net Change</i>
Building Footprint	640 SF	9,708 SF	9,068 SF
Building Floor Area	1,280 SF	34,555 SF	33,275 SF
Impervious Surface Area	1,287 SF	11,070 SF	9,783 SF
Parking Spaces (on site)	1	19	18
Bicycle Parking Spaces	0	8	8
Estimated Cost of Project	\$5,000,000		

IV. EXISTING CONDITIONS

The applicant proposes to develop on a 18,140 SF site on the east side of Sheridan Street immediately north of Fort Sumner Park. The site is steeply sloped, with a maximum grade differential of 43 feet from west to east along the southerly property line. Surrounding uses include both single-family homes and multi-family developments, with several nearby projects having been completed in recent years; 152-156 Sheridan Street (2014) located immediately across the street and 135 Sheridan Street (2006) located just to the south. Fort Sumner Park, located immediately to the south, is accessible via footpath from Sheridan Street. The city has recently completed work to stabilize the toe of this slope.

The site lies in the R-6 zone within the Fort Sumner Park Overlay Zone, intended to protect the panorama from Fort Sumner Park. The properties across Sheridan Street are zoned B-2b.

V. PROPOSED DEVELOPMENT

The applicant proposes to develop nineteen residential condominiums on this site, including five two-bedroom units and fourteen one-bedroom units on the second through fourth floor. One, one-bedroom unit of comparable size and appointment is set aside for workforce housing. As currently depicted, the units would range in size from 836 SF to 1,438 SF, and all would have either a balcony or patio with small yard. Extensive site grading is planned. In order to maintain the cut slope, a permanent soldier pile and lagging wall is proposed along the south, east and north portions of the site with a maximum exposed height of 24 feet.

The proposed building is set back five feet from Sheridan Street and is four stories tall with its northern most extent being reduced to three stories in order to satisfy the requirements of the Fort Sumner Park Overlay Zone. The exterior façade consists of a mixture of composite lap siding with a cedar shingle appearance and composite siding panel. Building articulation and massing is further managed by means of projecting bays, street-facing balconies, an entrance canopy and a ranged color palette. Three pedestrian entrances are proposed along the west (street-facing) façade with a further 18' foot wide vehicular entrance and associated new curb cut also being provided off Sheridan Street. The



Figure 2: Proposed Site with Zoning Information with Topography

associated new curb cut also being provided off Sheridan Street. The

first and primary entrance is located in the center of the west façade and provides access to the mail room, parking area and one of two building stairwells. The two secondary entrances are located at either end of the building's west façade, with one entrance adjacent to the proposed garage entrance, and the other at the southwest corner of the building which provides direct pedestrian access to the building's elevator and second stairwell.

Given the extensive grade differential, the applicant is proposing to regrade large portions of the site and has submitted a geotechnical report in support of the necessary site work. In accordance with the Fort Sumner Park Overlay Zone, the applicant has provided a fifteen-foot setback along the southerly property line adjacent with the park property and building elevations demonstrating that all portions of the proposed roof structure including appurtenances fall within the limits set by the overlay zone. In order to further mitigate the impacts of a building in this location as it relates to the panorama from Fort Sumner Park, the applicant is proposing to construct a green (vegetated) roof in order to soften the appearance of the building from the park. The green roof would not be accessible to residents of the development, and during the workshop on July 11th, the Planning Board suggested that the roof be maintained by an independent contractor hired by the condominium association. According to the applicant, maintenance of this feature is covered under both the stormwater maintenance agreement and condominium documents for this project.

The first floor of the proposed building will consist of structured parking for nineteen vehicles including one compact parking space as well as a resident lobby, mail room, solid waste storage, mechanical closets and elevator. The upper floors will consist of nineteen one and two-bedroom residential units, ranging from 836 SF to 1,438 SF. Each unit is provided with either a patio or a balcony. There is an additional common roof deck available to residents located on the fourth floor and similarly residents have private access to Fort Sumner Park via a proposed pathway accessible by an entrance located on the fourth floor.

Additional site improvements include the reconstruction of the sidewalk along Sheridan Street and dedication of one foot of the applicant's frontage along a portion of their property as a public access easement in order to widen the sidewalk. According to the applicant's engineer, this would provide sufficient space for the proposed street trees and adequate pedestrian passing access. The developer intends to install landscaping along both the property's street frontage and along the rear property line. A total of four Armstrong Red Maples are proposed as street trees with eight additional Dwarf Alberta Spruce and perennial beds proposed along the front façade of the building. At the northern extent of the building, a CMP compliant 6-foot cedar stockade fence is proposed to screen the proposed transformer pad and at the southern extent of the building, one Downy Service Berry is proposed to soften the appearance of the retaining walls per suggestions raised by the Planning Board at the July 11th workshop. At the rear of the property, 55 Virginia Rose, which is a thorny bush, are proposed to run along the top perimeter of the pile and slag retaining wall as both a visual buffer and natural deterrent to site access from North Street. A five-foot chain link fence will also be installed along the top of the retaining wall for additional safety. No street lights are proposed.

VI. DISCUSSION OF WAIVER REQUEST FOR OVERHEAD UTILITIES

Both the site plan ordinance and subdivision ordinance contain language which require developers to install electrical service lines underground for new development. The site plan ordinance under Section 14-526(c)(2)(3)(b) states:

Electrical service shall be underground unless otherwise specified for industrial uses, or if it is determined to be unfeasible due to extreme cost, the need to retrofit properties not owned by the applicant or complexity of revising existing overhead facilities.

The subdivision ordinance, under Section 14-499(h) states:

All utility lines shall be placed underground unless otherwise approved by the Planning Board.

In response to preliminary plan review comments from Planning, the Department of Public Works and Fire Department requesting that utility lines be placed underground, the applicant met with and discussed cost estimates with Central Maine Power for the placement of electrical service lines underground. It was initially determined to be cost prohibitive, which prompted the developer to pursue an alternative option in which the lines would be located on elevated poles and moved away from the building by means of alley arms. Given that this alternative does not

meet city standards as stated above and is not a preferred alternative for the fire department, city staff have solicited additional information to inform the recommendation to the Planning Board.

On August 17, 2017, staff met with the applicant's engineer, architect and attorney to discuss the cost of this improvement and standards under the site plan and subdivision ordinance as listed above. Staff asked that the applicant meet with CMP and determine a formal cost estimate for both options so as to weigh a waiver request. This meeting was followed up by a site visit on August 24th attended by members of staff, the applicant's engineer and architect, and Paul Duperre from Central Maine Power. At this meeting, Mr. Duperre provided a rough approximation of the cost and layout of the two alternatives, stating that a formal cost estimate would take six weeks to prepare.

According to Mr. Duperre, the cost of an overhead configuration with raised poles and alley arms would likely be around \$70,000, based upon a similar configuration installed on India Street. This proposal would involve relocating poles 20 and 21 away from the proposed building's frontage and raising the poles approximately seven feet in elevation. The non-binding estimate for the underground configuration would be between \$120,000 and \$140,000. This proposal would involve relocation of pole 21 from the east side of Sheridan Street to the west side, and removal of existing poles 20 and 22, currently along the building's frontage and to the north of the project site, with the installation of two underground vaults along the property's frontage. This proposal would involve work to be completed within Sheridan Street (*Plans 31 and 32*).

The overhead configuration is considered acceptable though not preferable from a life/safety perspective and would meet fire department standards for building access. Keith Gautreau, Assistant Fire Chief, has indicated his preference to see the lines installed underground. This consideration is being addressed as a waiver request, and is further being reviewed as a condition for approval, subject to the final cost estimate provided by CMP.

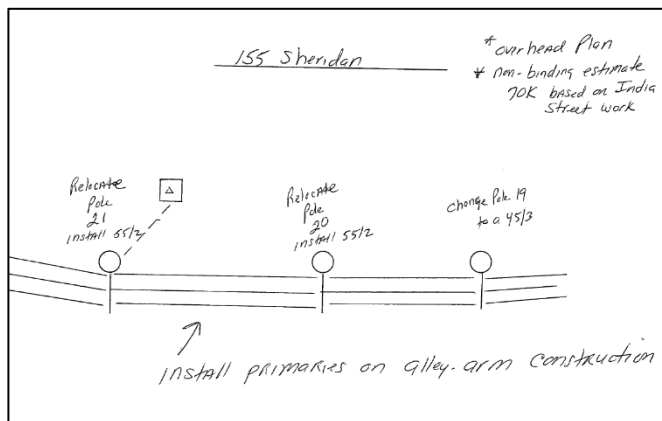


Figure 3: Proposed Overhead Configuration

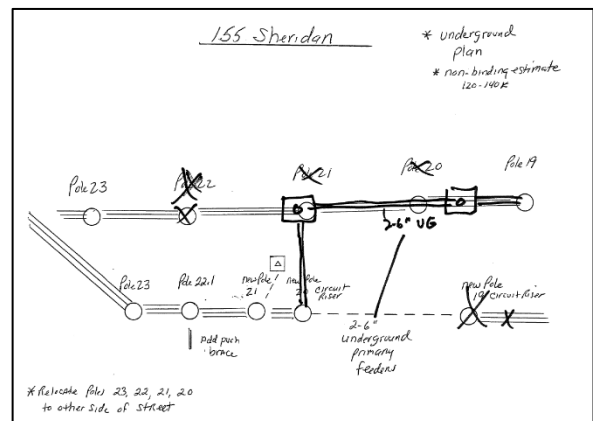


Figure 4: Proposed Underground Configuration



Figure 3: West Elevation Demonstrating Compliance with Fort Sumner Park Overlay



Figure 6: Building Rendering Looking South



Figure 7: Building Rendering Looking North

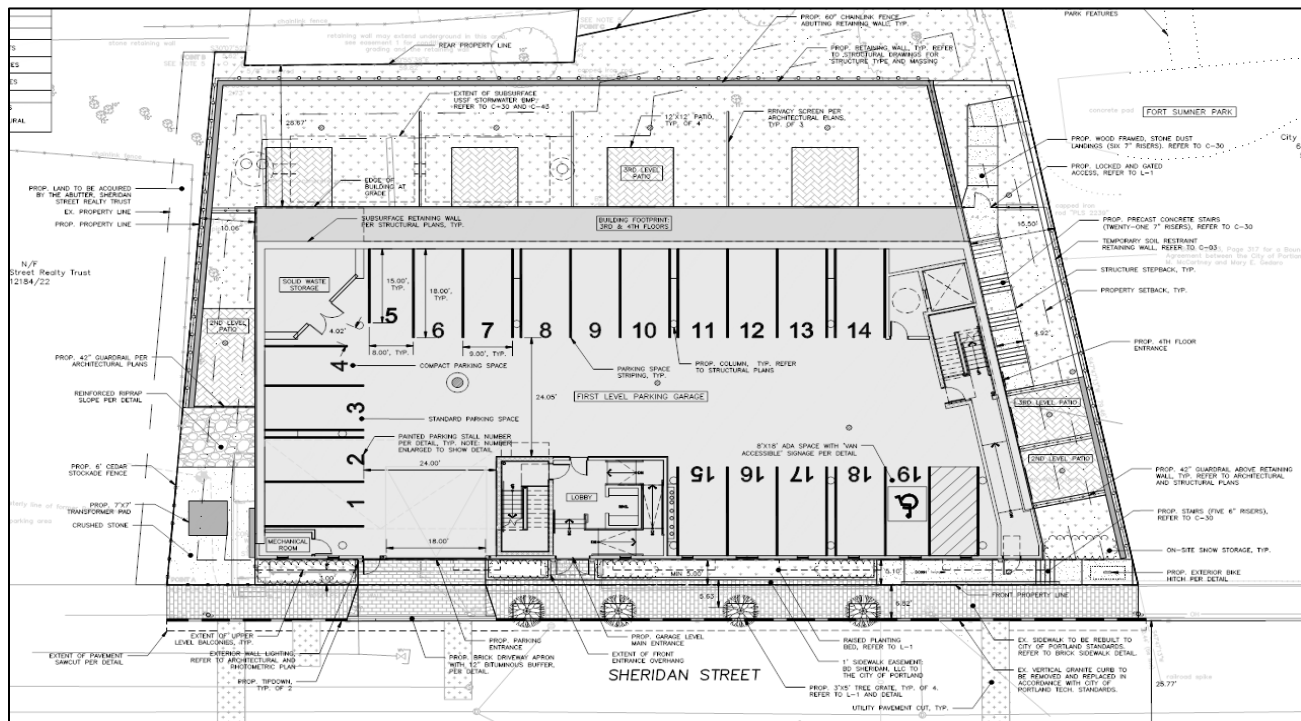


Figure 4: Proposed Site Plan

VI. PUBLIC COMMENT

The Planning Division has received one written comment in regards to this project (*Attachment 8*). This individual requested that the applicant in coordination with the city, make additional off-site improvements as follows: install landscaping to the slope beneath Fort Sumner Park, expand the width of the sidewalk along the east side of Sheridan Street, and install a crosswalk across Sheridan Street at the Marion Street intersection. Two additional members of the public have raised concerns regarding the parking of construction vehicles and both noise and safety concerns related to the construction process.

While off-site improvements are not required of this project, staff has suggested that in lieu of proposed street trees, an alternative could consist of landscaping improvements to the slope beneath Fort Sumner Park. The applicant has stated that they intend to pursue the planting of street trees in front of their property and that they do not wish to

provide off-site improvements. In regards to the other raised concerns, these issues are addressed in the applicant's construction management plan which has been reviewed by the city's consulting traffic engineer, Tom Errico and Senior Engineer with DPW, Keith Gray.

The applicant did hold a neighborhood meeting on June 21st at the East End School, attended by 12 individuals. Questions asked at this meeting were in regards to the parking, the proposed work-force housing unit, the construction management process, site stabilization, view impacts from Fort Sumner Park, the proposed green roof and project timeline (*Attachment Y*). Comments are discussed below where relevant.

VII. PARKS COMMISSION ADVISORY REVIEW

On September 7, 2017, the Parks Commission voted unanimously to recommend approval of the project at 155 Sheridan Street to the Planning Board. The applicant provided a comprehensive overview including compliance with the standards of the Fort Sumner Park Overlay Zone, and revisions based upon both staff and Planning Board feedback. The Commission's recommendation to the Planning Board included a suggestion that the applicant work with other proposed developments occurring in the vicinity, notably the project at 88 Walnut Street, to provide monetary contributions for off-site improvements, specifically extension of the sidewalk along the east side of Sheridan Street by 200 feet to south across the Fort Sumner Park property, and installation of a cross-walk at the Marion Street intersection. No public testimony was received during this meeting.

Staff has not formally requested contributions from the applicant for off-site improvements, though the Parks Commission recommendation may be pursued by the Planning Board as a possible condition for approval.

VIII. RIGHT, TITLE, & INTEREST

The applicant has provided a deed demonstrating ownership of the subject property, which, as described above, consists of two separate parcels. (*Attachment C*).

VIII. FINANCIAL & TECHNICAL CAPACITY

The estimated cost of the development is \$5 million. The applicant has submitted a letter from Northern Bank & Trust Company indicating that BD Sheridan, LLC has the financial capacity to fund the project (*Attachment G*).

IX. ZONING ANALYSIS

BD Sheridan, LLC is proposing a nineteen-unit multi-family development located entirely within the R-6 Residential zoning district and within the Fort Sumner Park Overlay District. This structure meets the maximum and minimum setback requirements, including the required fifteen-foot setback from Fort Sumner Park. Building height within the R-6 is limited to 45' feet above average grade with further limitations imposed by the Fort Sumner Park Overlay Zone, which limits the absolute height of the building, including roof forms and rooftop mechanical equipment, to 160.27' feet above mean sea level, with a further reduction of one vertical foot for each 25' feet radially away from the identified apex point within Fort Sumner Park. The average building height is approximately 43.75' feet above grade, with the proposed elevator override being located just under the maximum allowable height under the Fort Sumner Park Overlay Zone. Proposed landscaped open space exceeds 20% of the property as is required, and the lot contains a total of 954 square feet per unit, whereas the requirements is for a minimum of 750 square feet.

At this time, overhead utilities are proposed along the property's frontage. In order to provide for adequate Fire Department access, the installation of taller utility poles utilizing alley arms would be necessary. Per both the site plan and subdivision ordinance, new projects are required to install underground utilities, though this requirement may be waived by the Planning Board if the installation of underground utilities proves cost prohibitive. In the event that overhead utilities are permitted, the applicant has stated that overhead lines will fully comply with the standards of the Fort Sumner Park Overlay. This has been drafted as condition for approval.

The standards of the Fort Sumner Park Overlay Zone require that projects located within the zone go before the Parks Commission for an advisory review to the Planning Board. A preliminary presentation was made to the Parks Commission on July 6, 2017, with a follow-up advisory meeting held on September 7, 2017. The Parks Commission voted unanimously to recommend this project for approval by the Planning Board.

The project as proposed meets the standards of both the R-6 Residential district and the Fort Sumner Park Overlay Zone.

X. SUBDIVISION REVIEW (14-497(a). Review Criteria; 14-198. Technical and Design Standards; & 14-499. Required Improvements)

The final plans have been reviewed by staff for conformance with the relevant review standards of the City of Portland's subdivision ordinance. Staff comments are below.

1. Water, Air Pollution

The site is currently occupied by a single-family structure and is largely vegetated, and steeply sloped to the east. An impervious area of 11,070 square feet is proposed. The applicant has submitted stormwater management plans which have been reviewed and approved by the city's consulting storm water engineer, Lauren Swett, P.E. of Woodard and Curran. No detrimental air quality impacts are anticipated.

2 & 3. Adequacy of Water Supply

The applicant has supplied a letter from the Portland Water District dated August 2, 2017 which states that there is adequate capacity to serve this project. (*Attachment M*)

4. Soil Erosion

As noted above, the site is sloped such that the grade changes by approximately 43 feet from west to east. There will be a retaining wall around the exterior of the property, where the site abuts residential buildings on the west side of North Street. Vegetation currently covers most of the slope. The submittal includes a geotechnical report which found that no blasting would be required as part of this development. Piles will be driven into the ground for support of the pile and lag retaining wall. The applicant states that the building will be constructed as a slab-on-grade with development with a soldier pile and lagging wall retaining the cut slope along the easterly property line (*Attachment Q*).

5. Impacts on Existing or Proposed Highways and Public Roads

The applicant has supplied a Traffic Impact Study which projects that this development would result in fewer than 10 new peak hour trips, and further states that Sheridan Street currently has the capacity to handle this traffic. The project has been reviewed by Mr. Thomas Errico, consulting traffic engineer, who has indicated that he generally finds it acceptable (*Attachment 3*). If approved, proposed underground utilities would require work within the public Right-of-Way to install an underground primary feeder across Sheridan Street.

6. Sanitary Sewer/Stormwater

The applicant has submitted a wastewater capacity application to the Department of Public Works which was approved by the Department of Public Works on July 19, 2017 (*Attachment M*).

An underdrained subsurface sand filter (USSF) is proposed as a stormwater mitigation measure. Catch basins are to be installed around the exterior of the property with stormdrains directing discharge to the northwest corner of the site where it will connect with a storm sewer in Sheridan Street.

7. Solid Waste

The applicant states that a private contractor would be used for waste management purposes. Temporary storage of trash and recyclables in an interior trash room is proposed.

8. Scenic Beauty

The applicant proposes to remove existing vegetation on the site and replace it with a three-story structure. As with many projects in this area, the proposal takes advantage of existing views from Sheridan Street looking westward over Back Cove and the city skyline. It should be noted that the view from Fort Sumner Park, which sits uphill from the site with a grade change of approximately 40 feet, should remain relatively unchanged. A rendering of the development as seen from Fort Sumner Park has been provided. (*Attachment Plan 28*)

9. Comprehensive Plan

The project is highly compatible with Comprehensive Plan goals and policies, specifically the city's identified local goals as stated:

1. Increase, preserve and modify the overall supply of housing City-wide to meet the needs, preferences and financial capabilities of all Portland households;
2. Encourage additional contextually appropriate housing density in and proximate to neighborhood centers, concentrations of services, and transit nodes and corridors as a means of supporting complete neighborhoods;
3. Pursue policies to enable people who work in Portland to have the option to live in Portland;
4. Encourage quality, sustainable design in new housing development.

This project provides significant additional housing in a location that is readily accessible and nearby to a variety of services, amenities and public transit. Additionally, this project is contextually sensitive in its construction, specifically as it related to nearby Fort Sumner Park, and meets the city's standards for workforce housing.

10. Financial and Technical Capacity

As noted above, the applicant has submitted a letter from Northern Bank & Trust Company indicating that BD Sheridan, LLC has the financial capacity to fund the project (*Attachment G*).

11. Wetland Impacts

There are no anticipated impacts to wetlands.

12. Groundwater Impacts

There are no anticipated impacts to groundwater supplies.

13. Flood-Prone Area

The project is not located in a flood-prone area.

Technical and Design Standards and Required Improvements

Generally, many of the technical and design standards of *Section 14-498* do not apply in this case. The application incorporates most of the required improvements outlined in *Section 14-499*. A subdivision plan and recording plat will be required demonstrating compliance with these standards. Street trees are required per both the subdivision ordinance (*Section 14-499(f)*) and the site plan ordinance (*Section 14-526.2.b(iii)*), both of which refer to the city's Technical Manual, which sets a standard of one street tree/unit for multi-family developments. Based on this standard, nineteen street trees are required and four street trees are proposed. In speaking with the applicant, it is understood that street tree contribution will be made a condition for approval.

XII. SITE PLAN REVIEW

The preliminary plans for the Sheridan Street Apartments have been reviewed by staff for conformance with the relevant review standards of the City of Portland's site plan ordinance. Staff comments are below.

1. Transportation Standards

a. Impact on Surrounding Street Systems

The applicant has stated that less than 10 peak hour trips will be generated by the proposed development. Mr. Errico has reviewed the submittal and reports that he finds it generally acceptable (*Attachment 3*).

b. Access and Circulation

The preliminary plans include a new curb cut on Sheridan Street, with a garage door providing access to an interior parking area. Pedestrian access is proposed via two doors on the Sheridan Street frontage, one at each end of the building. The applicant proposes to reconstruct the existing sidewalk and replace concrete with brick pavers. Tom Errico, the city's consulting traffic engineer, has reviewed the plans and offers the following comments (*Attachment 3*):

1. *In an attempt to maintain on-street parking and avoid the use of barriers in the street, the City requests that the applicant provide a draft construction management plan (for review and approval) that*

incorporates a sidewalk detour to the west side of Sheridan Street. Two temporary crosswalks will be required and shall be ADA accessible. The southerly temporary crosswalk shall be located at the location of the Fort Sumner path.

c. Public Transit Access

The proposed development is not located along a public transit route and is not of sufficient size to require transit access.

d. Parking

Division 20 of the land use ordinance requires one parking space/unit for residential development located on the peninsula (*Section 14-332(a)3*) with the requirement for the first three spaces within the R-6 zone being waived. At this ratio, the project requires a minimum of sixteen parking spaces. As noted above, these are proposed in an interior parking area, with door-controlled access from Sheridan Street.

Per the preliminary submittal, bike parking is proposed for eight bicycles. While this meets the city's standard of two spaces for every five dwelling units per *Section 14-526(a)4.b*). Bicycle racks shall be located in an interior storage room on the second floor of the development and as well outside of the southerly most pedestrian entrance to the building.

e. Transportation Demand Management

A transportation demand management plan is not required.

2. Environmental Quality Standards

a. Preservation of Significant Natural Features

There are no known significant natural features on the site.

b. Landscaping and Landscape Preservation

The preliminary plans show eight Dwarf Alberta Spruce along the property's frontage, set amongst ornamental grasses and perennial planting beds. Along Sheridan Street, the applicant is proposing four Armstrong Red Maple street trees. Virginia Roses are proposed towards the rear of the property atop the proposed retaining wall, intended to visually buffer the site from adjacent residential properties and act as a deterrent to site access from North Street.

Jeff Tarling, the City Arborist, has stated that plantings along the property frontage should be placed in raised granite boxes, and has indicated that the narrow width of the sidewalk with proposed street trees does not provide sufficient maneuvering for pedestrian access and wintertime sidewalk plows. He notes that few if any street trees are present elsewhere along Sheridan Street due to narrow sidewalks. He recommends contribution to the Tree Fund in lieu of providing street trees on-site. Mr. Tarling further suggests that additional plantings be provided along the rear and sides of the property in order to further buffer the project from North Street and Fort Sumner Park.

Given the unique context of the project in close proximity to Fort Sumner Park, Mr. Tarling has stated a desire to see additional contributions made towards the improvement of the park property:

- 1. The 155 Sheridan Street project has many site related challenges given the lay of the land and the desired building density. Trees and landscape, greenery do not appear to be primary in the overall design intent, unfortunately. Unlike the condo project next door that contributed to the lower Fort Sumner Park lower Sheridan Street trail access and public landscape we do not see similar attempts here, although it could benefit the overall streetscape.*

Requesting a small contingent landscape budget to address post development needs once the project is complete. This is an unusual request but perhaps the best approach given the uncertainty of how the project will appear

In line with Section 14-526(b)(2)(b)(iii) Street Trees, Planning staff recommends that the applicant either provide a contribution in lieu of providing on-site street trees, or propose landscaping improvement to the lower slope of Fort Sumner Park.

c. *Water Quality/Storm Water Management/Erosion Control*

The project's water quality, storm water management and erosion control plans were peer reviewed by the city's consulting project engineer, Lauren Swett, P.E. of Woodard and Curran. She has reviewed the revised plans submitted following the initial workshop and finds that the applicant has addressed all but one comment.

1. *The applicant is proposing a direct connection to the stormdrain in Sheridan Street. Based on the referenced note, it appears that the proposed stormdrain pipe will be 8" connecting to an existing 12" pipe. The applicant should confirm with Public Works that an Inserta Tee connection will be allowed for these pipe sizes, and that a new manhole will not be required.*

Bradley Roland, Senior Project Engineer with the Department of Public Works reviewed the proposed connection and offered the following comment:

1. *An 8" insert-a-tee on a 12" pipe in my opinion will not work. Historically we have not allowed insert-a-tee's on any pipe less than 15". And an insert-a-tee that is more than half the diameter of the receiving pipe is just wrong.*

By technical manual (2.6.7) building sewers and drains over 8" require a manhole. Also by technical manual (2.3.4) service laterals shall not connect to either stormwater or sewer manholes. I would suggest to the applicant that they cut out a portion of the existing 12" storm drain and install a 12"x8" Wye with two Fernco couplings. They can then tie their storm drain into the 8" side of the Wye.

Resolution of this comment has been drafted as a condition for approval.

3. Public Infrastructure and Community Safety Standards

a. *Consistency with Related Master Plans*

As noted above, the project is generally consistent with related master plans.

b. *Public Safety and Fire Prevention*

Keith Gautreau, Deputy Fire Chief, has reviewed the final plans submitted for this project and has indicated that his initial comments were addressed with the applicant's resubmittal and that he has no further comments. As noted above, Mr. Gautreau did state that his preference was to see all utilities placed underground, though he finds the proposed raised utility poles with alley arms acceptable from a public safety and fire prevention perspective.

c. *Availability and Capacity of Public Utilities*

The applicant proposes to extend an existing 6" water line across Sheridan Street that would divert into a 4" domestic line and 6" fire line and connect at the southwest corner of the proposed building. A connection to an existing 12" sanitary sewer line, which flows north towards Walnut Street, is proposed from the northwest corner of the building. The applicant proposes underground electric from a new pole to be located at the northwest corner of the building.

The applicant has supplied all requisite 'ability to serve' letters for electrical service, water and wastewater that there are sufficient utilities, in particular, sewer and water capacity, to service the residential units on the site.

At this time, the Board shall consider a waiver request to allow for the reconfiguration of overhead utilities to serve this development. The waiver should be considered on the basis of extreme financial burden based around the formal cost-estimate as provided by CMP.

4. *Site Design Standards*

a. *Massing, Ventilation, and Wind Impact*

The maximum building height in the R-6 zone is 45 feet. The preliminary elevations show a building height of 43.75' feet from the Sheridan Street grade. The proposed building is similar in massing to other recently approved multi-family developments along Sheridan Street, including the property immediately across the street.

b. *Shadows*

No shadow impacts on publicly accessible open spaces are anticipated.

c. *Snow and Ice Loading*

There are no anticipated detrimental snow or ice loading impacts.

d. *View Corridors*

The site is located within the Fort Sumner Park Overlay Zone, and as such must conform with standards intended to protect the vista from Fort Sumner Park. This proposal meets those standards and shall not obstruct the existing panorama. Proposed overhead utilities, if approved as a waiver, would be required to comply with the standards of the Fort Sumner Park Overlay.

e. *Historic Resources*

Fort Sumner Park is adjacent to this site; however this site as well as the park are not a designated historic district or landmark. Similarly, the project site is not a known archaeological site.

f. *Exterior Lighting*

Details regarding exterior lighting including photometric plan have been provided and found to meet applicable city standards for light trespass and design.

g. *Noise and Vibration*

Information on the HVAC and mechanical equipment has been provided.

h. *Signage and Wayfinding*

No signage or wayfinding is proposed at this time.

i. *Zoning-Related Design Standards*

The city's site plan ordinance states that "residential developments...shall integrate with and respect the character of surrounding residential development in terms of architectural form, landscaping and open space, façade materials, roof pitch, massing and height as demonstrated by compliance with all applicable design standards as listed in the Design Manual" (*Section 14-526(d)9.a(v)*). The Design Manual includes standards and guidelines for the R-6 zone, however, in this case, the standards for multiple family developments as the standards of the R-6 zone specifically apply to small developments on lots of less than 10,000 square feet. The multi-family design standards section of the Design Manual provides standards related to site context, interface with the public realm, building orientation, building articulation, garages and building materials.

The applicant has provided final building elevations and renderings, which were reviewed by city staff during a design review attended by Caitlin Cameron, Urban Designer; Christine Grimando, Senior Planner; Matthew Grooms, Planner. These renderings show a façade constructed with a mixture of composite siding panel and composite lap siding with cedar shingle appearance. In order to provide building articulation, the applicant has proposed regularly spaced projecting bays, material and color changes, and other elements to break up the façade such as balconies and projecting canopies. The building possesses extensive fenestration, including at the ground level. Given that this building will be highly proximate to Fort Sumner Park, the

applicant has proposed the installation of a green roof to soften the visual impact. The city's urban designer stated that comments were addressed with the applicant's resubmittal with the exception of material placement configurations chosen by the architect which accentuate the building's façade over the principal entrance. This, according to the city's Urban Designer is an unnecessary addition as the entrance is already framed by projecting bay windows and accentuated by a canopy. Ms. Cameron states that the rhythm and consistency of the design is a more important consideration than accentuation of the principal entrance (*Attachment 7*)

XIII. INCLUSIONARY ZONING CONDITIONAL USE

The city's Housing Program Manager, Victoria Volent, reviewed the Conditional Use for Affordable Housing application at 155 Sheridan Street. Conditional Use is authorized by Division 30, Section 14-487, Ensuring Workforce Housing, to secure the creation of Workforce Housing Units as part of new residential projects that propose 10 or more units. The ordinance requires a minimum of 10% of the project to be restricted for Workforce Households and that the number of bedrooms required under Section 14-487(e)3 be at least 10% of the total number of bedrooms made available as part of the project. The project located at 155 Sheridan Street proposes the creation of 19 condominium units with one unit being set aside as workforce housing in order to satisfy the standards of Division 30. According to the attached memo, provided by Ms. Volent, the proposed unit shall be restricted to households earning up to 120% of the Area Median Income (AMI). It is requested that the applicant enter into an Affordable Housing Agreement (AHA) with the City prior to issuance of a building permit (*Attachment 6*).

XIV. PROPOSED MOTIONS

A. CONDITIONAL USE

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board Report for the public hearing on September 12, 2017 for application 2017-115 relevant to the Conditional Use as authorized by Division 30, Section 14-487 Ensuring Workforce Housing; and the testimony presented at the Planning Board Hearing, the Planning Board finds the proposed conditional use for workforce housing [**does** or **does not**] meet the standards of Section 14-484 with the following conditions:

1. That the Applicant shall provide one unit of on-site workforce housing restricted to households earning up to 120% of the Area Median Income (AMI) per the submitted application prior.
2. The applicant shall enter into an Affordable Housing Agreement (AHA) with the City. This agreement shall outline the details of the affordability restrictions placed on Workforce Units and will be filed as covenant to the property's deed with the Cumberland Country Registry of Deeds before a Certificate of Occupancy shall be issued.

B. WAIVERS

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the planning board report for the public hearing on September 12, 2017 for application 2017-073 relevant to Portland's site plan ordinance and subdivision ordinance and other regulations; and the testimony presented at the Planning Board hearing:

1. The Planning Board [**finds/does not find**], based upon the Department of Public Works and Planning Department's review, that extraordinary conditions exist or undue hardship may result from strict compliance with the Site Plan standard (*Section 14-526(c)(3)(b)*) which requires that electrical service be placed underground unless otherwise specified for industrial uses, or if it is determined to be unfeasible due to extreme cost. The Planning Board [**waives/does not waive**] the Site Plan standard (*Section 14-526(c)(3)(b)*) to allow overhead utilities subject to the following conditions:
 - a. The cost of installing underground utilities exceeds \$150,000 based upon CMP's initial non-binding cost-estimate; and
 - b. If greater than \$150,000 to install underground utilities, the cost delta between providing underground and overhead utilities exceeds \$50,000; and

- c. The proposed overhead utility lines conform to the standards of the Fort Sumner Park Overlay zone; and
 - d. The final proposed overhead configuration shall be reviewed and approved by the Fire Department, Department of Public Works and Planning Authority.
2. The Planning Board **[finds/does not find]**, based upon the Department of Public Works and Planning Department's review, that extraordinary conditions exist or undue hardship may result from strict compliance with the Subdivision standard (*Section 14-499(h)*) which requires that all utility lines be placed underground unless otherwise approved by the Planning Board. The Planning Board **[waives/does not waive]** the Subdivision standard (*Section 14-499(h)*) to allow overhead utilities subject to the following conditions:
- a. The cost of installing underground utilities exceeds \$150,000 based upon CMP's initial non-binding cost-estimate; and
 - b. If greater than \$150,000 to install underground utilities, the cost delta between providing underground and overhead utilities exceeds \$50,000; and
 - c. The proposed overhead utility lines conform to the standards of the Fort Sumner Park Overlay zone; and
 - d. The final proposed overhead configuration shall be reviewed and approved by the Fire Department, Department of Public Works and Planning Authority.

B. SUBDIVISION

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the planning board report for the public hearing on September 12, 2017 for application 2017-073 relevant to the subdivision regulations; and the testimony presented at the planning board hearing, the Planning Board finds that the plan **[is/is not]** in conformance with the subdivision standards of the land use code, subject to the following conditions of approval, which must be met prior to the signing of the plat:

- 1. Requiring that draft Condominium Association documents addressing Planning Board feedback regarding maintenance of the green roof and be finalized to the satisfaction of Corporation Counsel; and
- 2. A final subdivision plan and recording plat shall be reviewed and approved by the Department of Public Works and the Planning Authority.

C. DEVELOPMENT REVIEW

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board Report for the public hearing on September 12, 2017 for application 2017-073 relevant to the site plan regulations; and the testimony presented at the planning board hearing, the Planning Board finds that the plan **[is/is not]** in conformance with the site plan standards of the land use code, subject to the following conditions of approval that must be met prior to the issuance of a building permit, unless otherwise stated:

- 1. The applicant shall provide a revised construction management plan that incorporates a sidewalk detour to the west side of Sheridan Street. Two temporary crosswalks will be required which shall both be ADA accessible. The southerly temporary crosswalk shall be located at the location of the Fort Sumner path as requested by the city's consulting traffic engineer; and
- 2. That the applicant shall provide a stormwater maintenance agreement for the stormwater drainage system, shall be submitted, signed, and recorded prior to the issuance of a building permit with a copy to the Department of Public Works; and

3. The applicant shall provide an updated landscaping plan which addresses the comments raised in the City Arborist's email dated September 1, 2017 or otherwise approved by the City Arborist; and
4. A contribution of nineteen street trees or an equivalent alternative shall be provided prior to the issuance of a Certificate of Occupancy. This contribution shall be reviewed and approved by the City Arborist; and
5. The applicant shall work with the Department of Public Works to revise their proposed stormdrain connection per comment 2 of Woodard and Curran's memo dated August 29, 2017.

XIV. ATTACHMENTS

PLANNING BOARD REPORT ATTACHMENTS

1. Staff Review Memo (6.30.17)
2. Woodard and Curran Memo (8.29.17)
3. T.Y. Lin Email (8.30.17)
4. City Arborist Comments (9.1.17)
5. DPW Comments (9.1.17)
6. Housing Program Manager Memo (9.5.17)
7. Final Design Review Memo (9.6.17)
8. Public Comment
 - a. Jaimie Parker (8.21.17)

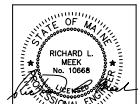
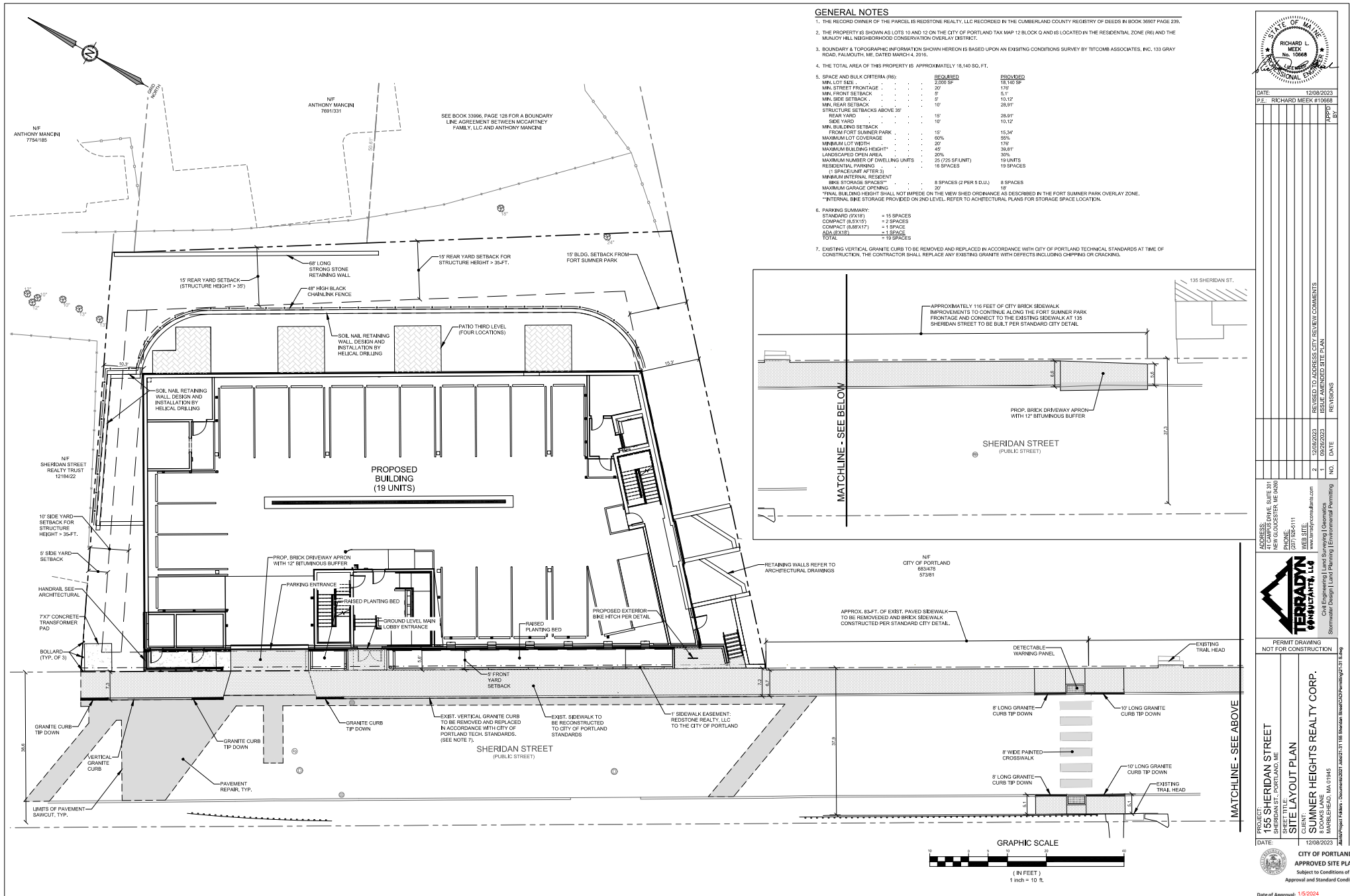
APPLICANT'S SUBMITTALS

- A. Cover Letter
- B. Level III Site Plan Application
- C. Right Title and Interest
- D. Conformity with Applicable Zoning Standards
- E. Summary of Easements
- F. Written Request for Waivers
- G. Evidence of Financial Capacity
- H. Stormwater Report
- I. Stormwater Maintenance Agreement
- J. Erosion Control Report
- K. Fire Department Letter
- L. Solid Waste
- M. Utility Cover
- N. Construction Management Plan
- O. Tree Report
- P. Traffic Impact Study
- Q. Geotechnical Report
- R. Architectural Design Narrative
- S. Lighting Cut Sheets
- T. Architectural Design Comment Responses
- U. Structural Design Concept
- V. Inclusionary Zoning Cover Letter
- W. Inclusionary Zoning Application
- X. Conformity with Applicable Conditional Use Standards
- Y. Neighborhood Meeting
- Z. Comment Response Letter

C. PLANS

Plan 1 Cover Sheet & Legend

Plan 2 General Notes
Plan 3 Existing Conditions Plan
Plan 4 Demolition, Construction Management Plan & Erosion Control Plan
Plan 5 Site Plan
Plan 6 Landscape Plan
Plan 7 Utility Plan
Plan 8 Grading & Drainage Plan
Plan 9 Site Details I
Plan 10 Site Details II
Plan 11 Utility Details
Plan 12 Drainage Details
Plan 13 Stormwater Details
Plan 14 Erosion Control Notes
Plan 15 Erosion Control Details
Plan 16 First Floor Plan
Plan 17 Second Floor Plan
Plan 18 Third Floor Plan
Plan 19 Fourth Floor Plan
Plan 20 Section View
Plan 21 West Elevation
Plan 22 South Elevation
Plan 23 East Elevation
Plan 24 North Elevation
Plan 25 Rendering – View Looking South
Plan 26 Rendering – View Looking North
Plan 27 Rendeirng – View from Washington Ave
Plan 28 Rendering – View from Fort Sumner Park Apex
Plan 29 Photometric Plan
Plan 30 Subdivision Plan
Plan 31 Overhead Proposal CMP
Plan 32 Underground Proposal CMP



DATE: 12/08/2023

P.E.: RICHARD MEEH #10668

PROJECT: 155 SHERIDAN STREET

CLIENT: SUMMER HEIGHTS REALTY CORP.

PROJECT: 155 SHERIDAN STREET

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PLANNING BOARD

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

December 19, 2023

Josh Trombley
Developers Collaborative
631 Stevens Ave
Portland, Maine 04103

Adrienne Fine
Terradyn Consultants, LLC
565 Congress Street, Suite 310
Portland, Maine 04101

Project Name: Major Site Plan
Address: 15 Crescent Street
Applicant: Adrienne Fine
Planner: Sean King, Urban Designer

Project ID: PL-002466-2023
CBL: 053 Foo6001

Dear Josh Trombley and Adrienne Fine:

On December 12, 2023, the Planning Board approved a major site plan application for a 3,873 square foot multi-family residential building in the R-6 Residential zone. The decision is based upon the application, documents and plans as submitted. The Planning Board reviewed the proposal for conformance with the standards of the Site Plan Ordinance, Ch. 14, Article 14, Section 14.6. based on the information provided to the Board in the application, plans, and reports through testimony and other information submitted by the applicant, the Planning Board adopted the findings, conclusions and recommendations contained in the Planning Board Report for the public hearing on December 12, 2023, which is attached hereto and incorporated herein by reference. Based upon those findings, conclusions and recommendations, the Planning Board found that the application met all relevant standards and voted 5-0 (Barker absent, Silk recused) to approve the application with the following conditions as presented below.

Site Plan Review

On the basis of the application, plans, reports and other information submitted by the Applicant; findings and recommendations contained in the Planning Board Report for the public hearing on December 12, 2023 for application # PL-002466-2023 relevant to the site plan regulations; and the testimony presented at the Planning Board hearing, the Planning Board voted 5-0 (Barker absent, Silk recused) to find that the plan is in conformance with the site plan standards of the Land Use Code.

Standard Procedures

Note: The following standard procedures and requirements apply to all approved site plans:

1. Site Plan Expiration The site plan approval will be deemed to have expired unless work has commenced within one (1) year of the approval or within a time period up to three (3) years from the approval date as agreed upon in writing by the City and the applicant. Requests to extend approvals must be received before the one (1) year expiration date.
2. Separate Building Permits Are Required This approval does not constitute approval of building plans, which must be reviewed and approved by the City of Portland's Permitting and Inspections Department.
3. Performance Guarantee and Inspection Fees A performance guarantee covering the site improvements and an inspection fee payment of 2.0% of the guarantee amount and three (3) final sets of plans must be submitted to and approved by the Planning and Urban Development Department and Public Works Department prior to the release of a building permit, street opening permit or certificate of occupancy for site plans.
4. Construction Management Plans The applicant, contractor and subcontractors are required to conform to the approved Construction Management Plan, and all conditions contained within the project's approval, for the entire duration of the project. Any amendments to the approved Construction Management Plan shall be reviewed and approved by the Department of Public Works prior to the execution. The Planning Authority and the Department of Public Works have the right to seek revisions to an approved Construction Management Plan. The applicant shall coordinate the project's construction schedule with the timing of nearby construction activities to avoid cumulative impacts on a neighborhood and prevent unsafe vehicle and pedestrian movements. Accordingly, nearby construction activities could involve a delay in the commencement of construction.
5. Preconstruction Meeting Prior to the release of a building permit and scheduling of a preconstruction meeting, a hard copy set of approved plans shall be submitted to the Development Review Coordinator. A pre-construction meeting shall be held at the project site with the contractor, Development Review Coordinator, Public Works representative, and owner to review the construction schedule and critical aspects of the site work. At that time, the Development Review Coordinator will confirm that the contractor is working from the approved site plan and the approved Construction Management Plan. The site/building contractor shall provide one (1) copy 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 pre-construction meeting.
6. Department of Public Works Permits If work or obstructions will occur within the public right-of-way, such as utilities, curb, sidewalk, driveway construction, site deliveries and equipment siting, a Street Opening and/or Occupancy Permits are required for your site. Please contact the Department of Public Works Permit Clerk at (207) 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)
7. Develop Site According to Plan The site shall be developed and maintained as depicted on the site plan and in the written submission of the applicant. Any modifications of an approved site plan or alteration of a parcel, or of any approved exterior elevations, which were the subject of site plan approval after May 20, 1974, shall require the prior approval of an amended site plan by

the Planning Board or Planning Authority pursuant to the terms of Chapter 14, Land Use, of the Portland City Code.

8. Stormwater Management The owner/operator of an approved stormwater management system, and all assigns shall comply with the conditions of Chapter 32, Stormwater including Article III, Post Construction Stormwater Management, which specifies the annual inspections and reporting requirements.

A maintenance agreement for the stormwater drainage system, as attached, or in substantially the same form, shall be submitted for review by Corporation Counsel. Once approved, the document shall be signed and recorded at the Cumberland County Registry of Deeds prior to the issuance of a building permit. Final copies shall be submitted to both the Department of Planning and Urban Development and the Department of Public Works.

9. Defect Guarantee A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.
10. As-Built Final Plans Final sets of as-built plans shall be submitted digitally to the Planning and Urban Development Department, on a CD or DVD, in AutoCAD format (.dwg), release AutoCAD 2005 or greater. Please provide one hard copy of the mylar.
11. Mylar Copies Mylar copies of the as-built drawings for the public streets and other public infrastructure in the subdivision must be submitted to Public Works prior to the issuance of a certificate of occupancy.
12. Impact Fees New development or changes of use that result in net new residential dwelling units, non- residential building square footage, or water meters, are subject to the City of Portland's impact fee ordinance (Chapter 14, Article XVII). Impact fees are calculated at the time of building permit and must be paid prior to the certificate of occupancy. For more information, visit <https://www.portlandmaine.gov/2409/Impact-Fees>

The Development Review Coordinator must be notified five (5) working days prior to the date required for final site inspection. The Development Review Coordinator can be reached at the Planning and Urban Development Department at drc@portlandmaine.gov or (207)874-8984. All site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact Sean King at (207)874-8901 or via email at sking@portlandmaine.gov.

Sincerely,

A handwritten signature in black ink that reads "Brandon Mazer". The script is fluid and cursive, with the first name "Brandon" and last name "Mazer" clearly legible.

Brandon Mazer, Planning Board Chair

Attachments:

1. Planning Board Report
2. Portland City Code: Chapter 32
3. Sample Stormwater Maintenance Agreement
4. Performance Guarantee Packet

Site Plan Development
15 Crescent Street
Major Site Plan Application (PL-002466-2023)
Developers Collaborative, Applicant

Submitted to:	Portland Planning Board	Prepared By:	Sean King, Urban Designer
Public Hearing Date:	December 12, 2023	Date:	December 8, 2023

I. INTRODUCTION

Developers Collaborative and Crescent Heights LLC has submitted a Major Site Plan application to facilitate the construction of a multi-family building containing five residential units, along with covered and surface parking at 15 Crescent Street in the West End 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.

The Planning and Urban Development Department mailed 146 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the December 2 and 3, 2023 editions of the *Portland Press Herald*.

Applicant: Josh Trombley, Developers Collaborative
Applicant Adrienne Fine, Terradyn Consulting;
Representatives: Ryan Senatore, Ryan Senatore Architecture, LLC;
Randy Loubier, Owen Haskell Inc.



Figure 1: Aerial of development site looking north

II. REQUIRED REVIEWS

<i>Review</i>	<i>Applicable Standards</i>
Site Plan	Section 14.6
Design Review	City of Portland Design Manual (k) Small residential lot development located in the R-6 zone

III. PROJECT DATA

Existing Zoning	R-6
Property Size	4,278 Square feet
Existing Use	Vacant lot
Proposed Use	Residential
Proposed Development Program	Multi-family building totaling 5 residential units

	<i>Existing</i>	<i>Required</i>	<i>Proposed</i>	<i>Net Change</i>
Building Footprint	None	n/a	1,508 square feet	+1,508 square feet
Building Floor Area	None	n/a	3,873 square feet	+3,873 square feet
Impervious Surface Area	None	n/a	3,217 square feet	+3,217 square feet
Residential Units	None	n/a	5	+5
Parking Spaces	None	2	5	+5
Bicycle Parking Spaces	None	2	2	+2
EV Charging Stations	None	1	1	+1

IV. EXISTING CONDITIONS AND SURROUNDING AREA

The subject property is located at 15 Crescent Street (CBL 053 Foo6001) in the West End neighborhood. The subject property is currently vacant at 4,278 square feet in total lot area with steep terrain that slopes down towards the north. The surrounding land uses are primarily residential, including single-family, and multi-family buildings ranging in height between two and four stories. Additionally, the site is adjacent to the Maine Medical Center campus. Commercial uses, including retail and restaurants are located along Congress Street.

The Western Promenade, an 18-acre park with sweeping western views, trails, playground and community garden is located approximately 0.2 miles to the south. METRO provides transit service along Congress Street with METRO Route 1, 9A stop located at the corner of Bramhall Street and Congress Street.

V. PROPOSED DEVELOPMENT

The proposed Major Site Plan application would facilitate the development of a multi-family building, containing five-residential units with frontage on Crescent Street. The applicant proposes providing one parking space per residential unit for a total of five parking spaces, including two surface parking spaces and three covered parking spaces located under the proposed building. All parking would be accessed from an 18-foot wide curb cut along Crescent Street. The development would include one EV charger located at a covered parking space.

The proposed project would include two street trees along Crescent Street. The Applicant proposes to preserve existing trees to the greatest extent possible and reduce negative impacts on adjacent trees located on abutting properties. The development plan proposes a drainage mat to reduce the negative impacts of erosion on the steep terrain.

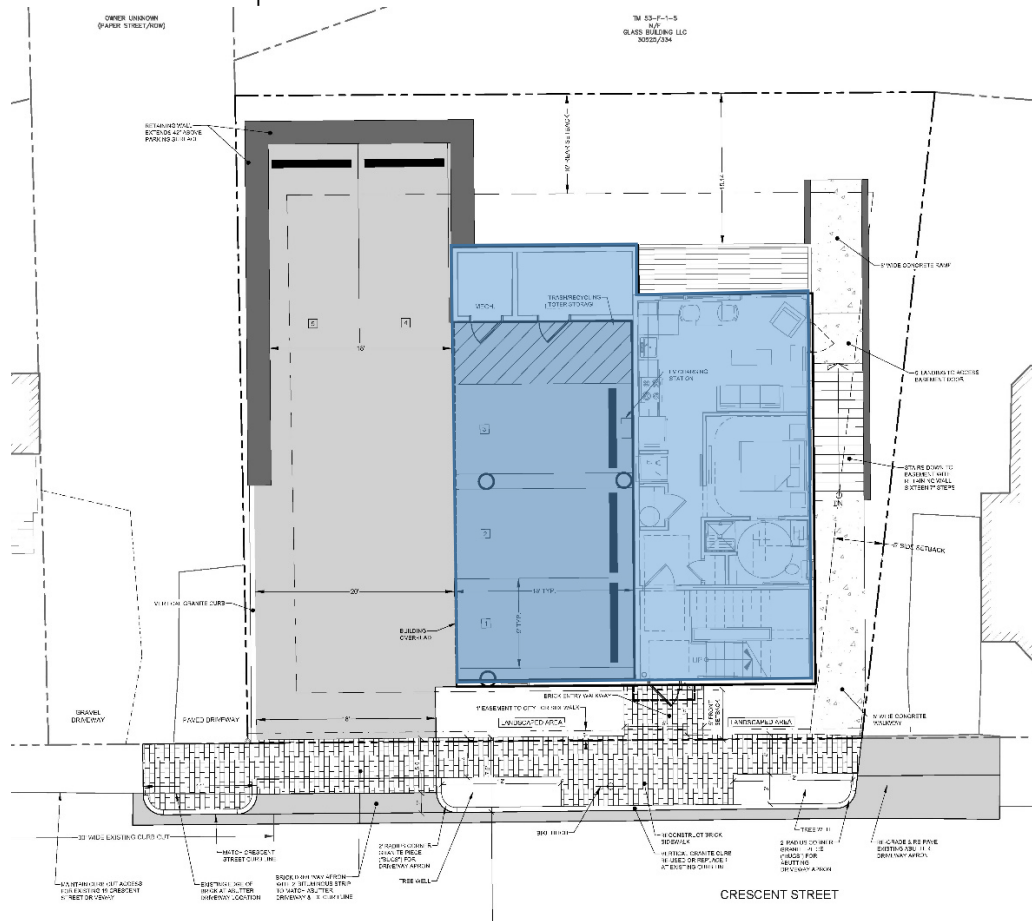


Figure 2: Proposed development site plan (Building area shown in blue)



Figure 3: Proposed Crescent Street renderings (left – view west, right – view east)

VI. RIGHT, TITLE, & INTEREST

The owner of the property is Crescent Heights LLC by deed recorded in the Cumberland County Registry of Deeds in books 26288 page 49 (Applicant Submittal B). The property is being developed in cooperation with Developers Collaborative.

The Applicant's existing conditions survey (Plan 3) indicates an adjacent "owner unknown" parcel west of the property that the City's Department of Public Works acknowledges is not aware of any City right, title, or interest at present. Furthermore, the Applicant has not provided the appropriate right, title, or interest to use the parcel for the construction of the proposed retaining wall.

As the City is not aware of any right, title or interest at present, no license agreement can be granted to the Applicant for the adjacent "owner unknown" parcel. The Applicant has resubmitted plans for the location of the retaining wall to not encroach on the adjacent parcel during construction (Plan 7, 8, 26).

VII. FINANCIAL & TECHNICAL CAPACITY

The Applicant has submitted a letter of financial capacity (Applicant Submittal T) and supporting information related to the technical capacity (Applicant Submittal O) for the Applicant team.

VIII. ZONING ANALYSIS

The site is located within 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 found to be consistent with the R-6 zoning requirements. Multi-family residential is a permitted use in the R-6 zone (Table 6-A Permitted Uses in Residential Zones) and is 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:

<i>R-6 Residential Zone</i>	<i>Permitted</i>	<i>Proposed</i>	<i>Conformance</i>
Lot Area (min.)	2,000 Square feet	4,278 Square feet	Met
Lot area per dwelling unit (min.)	725 Square feet	855 Square feet	Met
Lot coverage (max.)	60%	37.3%	Met
Street Frontage (min.)	20 feet	61 feet	Met
Lot Width (min.)	20 feet	65 feet	Met
Front Setback (min.)	5 feet	5.5 feet	Met
Rear Setback (min.)	10 feet	15.3 feet	Met
Side setback (min.)	5 feet	5 feet	Met
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	Met

Structure Height (max.)	45 feet	40.65 feet	Met
Landscaped open space ratio (min.)	20%	24.8%	Met

The Applicant submitted a weighted average calculation (Applicant Submittal Q) as 119.75' which is shown in the proposed architectural elevations (Plan 22) that the City's Zoning Administrator finds acceptable.

IX. 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 applicant has proposed public right-of-way improvements including reconstructing granite curbing, brick sidewalk, and driveway apron in place. The applicant has revised plans to include City details per City's technical manual section 1, dimensions and spot elevations for the reconstruction within the public right of way.

B. Access and circulation

The proposed development would access parking on the site by a new driveway with a width of 18 feet at Crescent Street that meets the City's technical manual section 1.5.1.B for minor driveways (serving less than 10 residential units). The Applicant has indicated that pedestrians will access the building entrance from Crescent Street by a walkway directly from the public sidewalk.

The City's Consulting Traffic Engineer has reviewed the Applicant's submitted turning templates and finds them to be acceptable based on the low turnover of parked vehicles for residents and low residential one-way traffic on Crescent St.

C. Public transit access

Not applicable. There is an existing Greater Portland METRO local service Route 1, 9A transit stop on Congress Street, and the proposed development does not exceed 20 dwelling units. Therefore, the project 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 project meets the minimum parking with the first three units exempt for a total requirement of two parking spaces, the applicant seeks to provide five parking spaces on site.

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 five residential units being proposed, a minimum of two bicycle parking spaces is required, with one bike hitch proposed along Crescent Street.

The applicant has indicated that one parking space in the garage would include a new electrical vehicle (EV) charger to meet the minimum EV charger requirements of one EV charger (5 parking spaces times .2 = 1) 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 vacant and does not consist of significant natural features including wetlands, vernal pools or other protected wildlife habitats.

- B. Landscape preservation
The existing conditions and demolition plan (Plan 5) indicates existing trees with a diameter at breast height (dbh) that vary from 2" – 36" that would require preservation under City's technical manual section 4 Landscaping and Landscape Preservation standards.

The Applicant has provided tree species information that indicates areas of vegetation being preserved in accordance with section 4.3.1 of the technical manual.

- C. Site landscaping and buffers
The creation of five residential units requires either the planting of five street trees or an acceptable alternative under Technical Manual section 4.6.4. The Applicant has proposed to provide two native deciduous trees in tree wells within the public right of way, in addition to three native evergreen trees located at the rear of the property with the City Arborist's discretion as an acceptable street tree alternative per Section 14.6.2 of the Land Use Code.

- D. Water quality/storm water management/erosion control
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 Applicant has submitted a stormwater management report, a grading and drainage plan to indicate erosion and sedimentation control measures and stormwater treatment for the proposed development. The Applicant is proposing an r-tank infiltration system under the proposed driveway on private property that the City's Consulting Stormwater Reviewer finds is appropriately designed to meet stormwater management requirements.

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

- A. Consistency with City Master Plans
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 Crescent Street is acceptable.
- C. Availability and capacity of public utilities

The Department of Public Works has provided a wastewater capacity authorization letter to serve the anticipated wastewater flows (Report Attachment R). The Applicant has provided the ability to serve letter from the CMP as the electrical utility provider (Report Attachment S).

4. Site Design Standards (Section 14.6.4)

A. Massing, ventilation, and wind impact

The proposed three-story multi-family building with five dwelling units meets the R-6 setback requirements and therefore will 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 and the proposed project will not impact any publicly accessible open spaces.

C. Snow and ice loading

The Applicant's Site Layout Plan (Plan 7) indicates that the Applicant will be responsible for removing snow from the site.

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 not within a locally designated historic district or within 100 feet to require an advisory Staff review by the Historic Preservation program.

F. Exterior lighting

The applicant has submitted a photometric lighting plan and proposed lighting fixture cut sheets that meet section 12.5 in the City of Portland's Technical Manual. The Applicant's photometric lighting schedule does not exceed the 3000K Correlated Color Temperature (CCT) per Section 12.5 in the City of Portland's Technical Manual.

G. Noise and vibration

The Applicant has proposed that HVAC and/or other equipment for noise and vibration are located at the roof level. The Applicant has resubmitted a roof plan, elevations and renderings that indicate the location of the proposed HVAC toward the center of the roof that Staff finds is not a visual nuisance as perceived from public streets.

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 (k.) Small residential lot development located in the R-6 zone.

The Applicant has resubmitted architectural plans and elevations that indicate adjustments to the exterior material selection, façade and fenestration arrangement that Staff finds appropriate.

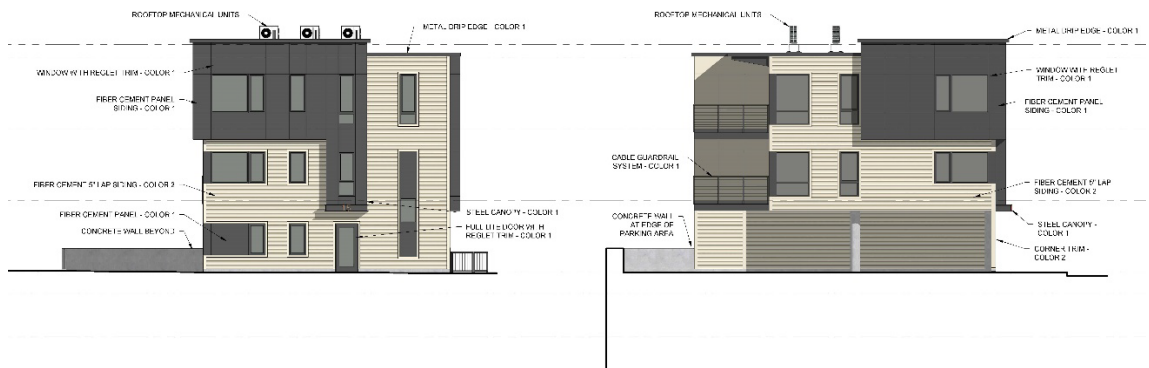


Figure 4: South elevation (Crescent Street frontage) & West elevation (facing abutting property)

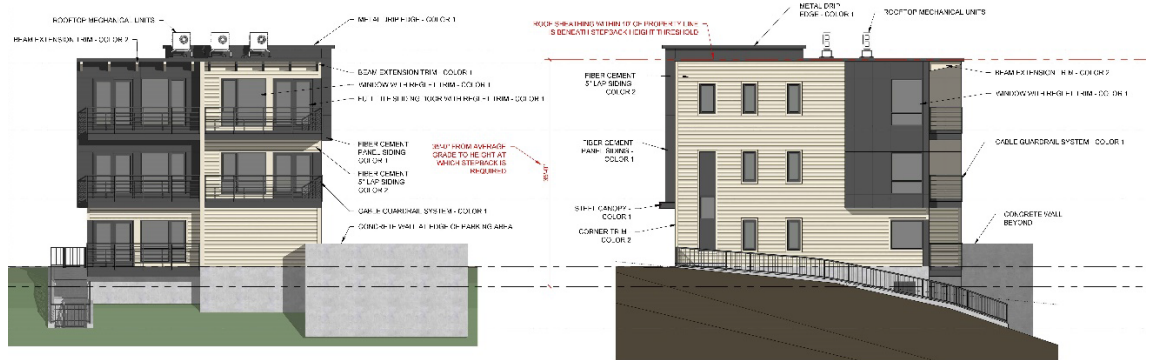


Figure 5: North elevation (facing rear of property) & East elevation (facing abutting property)

X. NEIGHBORHOOD MEETING & PUBLIC COMMENT

The Applicant held a neighborhood meeting on May 16, 2023 (Applicant Submittal U). Invitations for the in-person meeting were sent to properties within 500 feet of the proposed development. There were no attendees. Written public comments (PC 1) are included for the Planning Board.

XI. PROPOSED MOTIONS

A. SITE PLAN REVIEW

On the basis of the application, plans, reports and other information submitted by the Applicant; findings and recommendations contained in the Planning Board Report for the public hearing on December 12, 2023 for application # PL-002466-2023 relevant to the site plan regulations; and the testimony presented at the Planning Board hearing, the Planning Board [**finds/does not find**] that the plan is in conformance with the site plan standards of the Land Use Code.

B. PLANNING BOARD DECISION

On the basis of the findings, conclusions and recommendations contained in the Planning Board report for the public hearing on December 12, 2023 related to application PL-002466-2023 for 15 Crescent Street, which is attached to the draft approval letter and incorporated therein, the Planning Board [**adopts/does not adopt**] the approval letter as drafted as the Planning Board's

decision for application PL-002466, and authorizes the Planning Board Chair to sign the approval letter as drafted.

XII. ATTACHMENTS

PUBLIC COMMENTS

- PC 1 Sarah Erwin – 05-17-2023
- PC 2 George Rheault – 12-08-2023

REPORT ATTACHMENTS

- Att. 1 City review comment letter – 06-21-2023
- Att. 2 City review comment letter – 09-28-2023
- Att. 3 City review comment letter – 11-09-2023
- Att. 4 Design review memo – 05-24-2023
- Att. 5 Design review memo – 09-29-2023
- Att. 6 City's DPW - Transportation review comments
- Att. 7 City's DPW – RTI review comments
- Att. 8 City's Consulting Traffic Engineer
- Att. 9 Draft Approval Letter

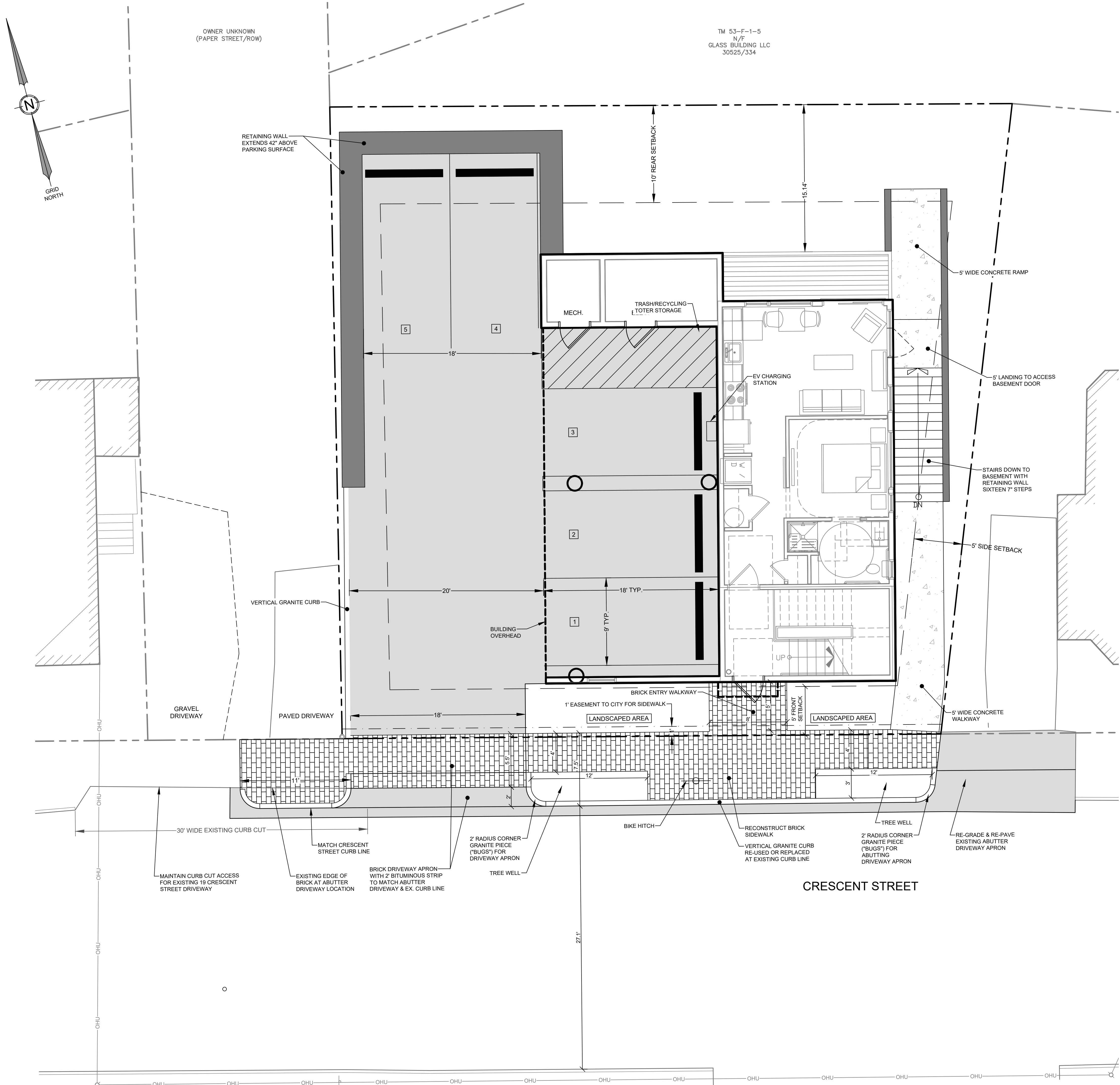
APPLICANT SUBMITTAL

- A. Development description
- B. Right, Title & Interest
- C. State and Federal permits
- D. Land ordinance review
- E. Easements or other burdens
- F. Natural features
- G. Stormwater Management
- H. Consistency with City Master Plans
- I. Utilities
- J. Fire Safety
- K. Conformity with applicable design standards
- L. Verification of proposed HVAC equipment
- M. Zoning analysis table
- N. Comment response letter – 09-12-2023
- O. Comment response letter – 10-31-2023
- P. Comment response letter – 11-17-2023
- Q. Average grade calculations
- R. Wastewater capacity authorization
- S. Ability to serve letter CMP
- T. Financial capacity letter
- U. Neighborhood meeting certification package
- V. Notice of public meeting certificate

PLANS AND DRAWINGS

- Plan 1. Cover

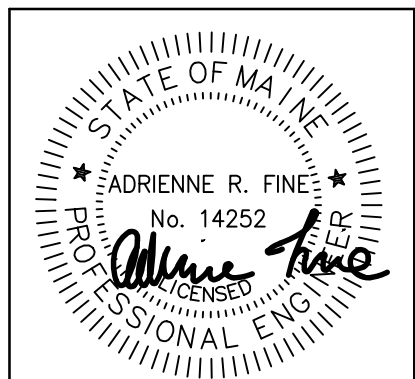
Plan 2. General Notes
Plan 3. Survey
Plan 4. Recording Plat
Plan 5. Existing Conditions & Demolition Plan
Plan 6. Construction Management Plan
Plan 7. Site Plan
Plan 8. Grading and Drainage Plan
Plan 9. Erosion Sedimentation Control Notes and Details
Plan 10. Slope Stabilization
Plan 11. Utility Plan
Plan 12. Photometric Plans
Plan 13. Photometric Plan
Plan 14. Site Details
Plan 15. Utility and drainage details
Plan 15. Turning template
Plan 16. Landscape Plan
Plan 17. Architect Basement Foundation plan
Plan 18. First floor plan
Plan 19. Second floor plan
Plan 20. Third floor plan
Plan 21. Roof plan
Plan 22. Elevations
Plan 23. Renderings
Plan 24. Sections
Plan 25. North Retaining Wall
Plan 26. West Retaining Wall



GENERAL NOTES:

- THE RECORD OWNER OF THE PARCEL IS CRESCENT HEIGHTS LLC, BY DEED RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 26288, PAGE 49.
- THE PROPERTY IS SHOWN AS LOT 53-F-6 ON THE CITY OF PORTLAND GIS MAP AND IS LOCATED IN THE R6 ZONING DISTRICT.
- SPACE AND BULK CRITERIA:

RESIDENTIAL ZONE 6	REQUIRED	PROPOSED
MIN. LOT SIZE:	2,000 SF.	4,278 SF.
MIN. STREET FRONTAGE:	20 FT.	61 FT.
MIN. FRONT YARD:	5 FT.	>5 FT.
MIN. SIDE YARD:	5 FT.	>5 FT.
MIN. REAR YARD:	10 FT.	15 FT.
MAX. BUILDING HEIGHT:	45 FT.	35 FT.
MAX. LOT COVERAGE	60 %	37 %
MIN LANDSCAPED OPEN SPACE RATIO	20 %	25 %
- BUILDING FOUNDATION SHALL BE LAID OUT BY SURVEYOR LICENSED IN THE STATE OF MAINE PRIOR TO CONSTRUCTION.
- TOTAL AREA OF PARCEL: 0.098 Ac.
- BOUNDARY AND EXISTING CONDITIONS INFORMATION SHOWN HEREON IS BASED UPON THE PLAN ENTITLED "BOUNDARY & TOPOGRAPHIC SURVEY AT 15 CRESCENT STREET, PORTLAND, MAINE MADE FOR DC MANAGEMENT, 100 COMMERCIAL STREET, PORTLAND, MAINE" BY OWEN HASKELL, INC., DATED JULY 28, 2020.
- BEARINGS ARE BASED ON STATE PLANE COORDINATE SYSTEM, MAINE WEST ZONE, NAD83 PER CITY CONTROL.
- ELEVATIONS ARE BASED ON "M" MONUMENT AT THE NORTHEAST CORNER OF HILL AND BRAMHALL ST. ELEVATION=133.54' CITY DATUM.
- CONDITION OF APPROVAL: SNOW REMOVAL FROM THE PROPERTY IS REQUIRED.



DATE: 12.06.2023
P.E.: ADRIENNE R. FINE

NO.	DATE	REVISIONS
4	12.06.2023	REVISED WEST RETAINING WALL
3	11.17.2023	REVISED PER STAFF COMMENTS
2	10.25.2023	REVISED PER STAFF COMMENTS
1	09.12.2023	REVISED PER STAFF COMMENTS

41 CAMPUS DRIVE
SUITE 200
NEW GLoucester, ME 04260

565 CONGRESS STREET
SUITE 200
PORTLAND, ME 04102

OFFICE: (207) 926-5111 FAX: (207) 221-1317
www.terradyndesign.com

TERRADYN
CONSULTANTS, LLC
Civil Engineering | Land Planning | Stormwater Design | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT:
CRESCENT STREET RESIDENCES
15 CRESCENT STREET, PORTLAND

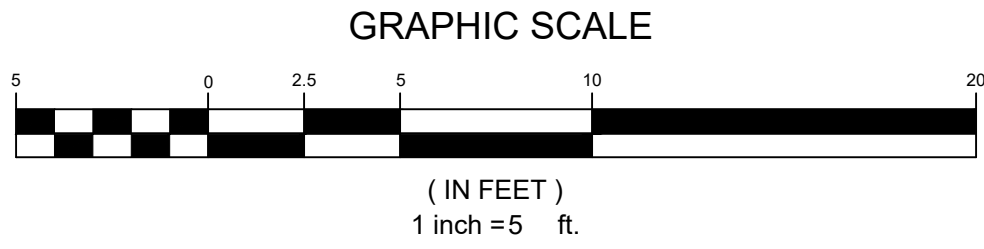
SHEET TITLE:
SITE LAYOUT PLAN

CLIENT:
DEVELOPERS COLLABORATIVE
631 STEVENS AVENUE, SUITE 203
PORTLAND, ME 04103

DATE: 02.14.2023

CITY OF PORTLAND
APPROVED SITE PLAN
Subject to Conditions of
Approval and Standard Conditions

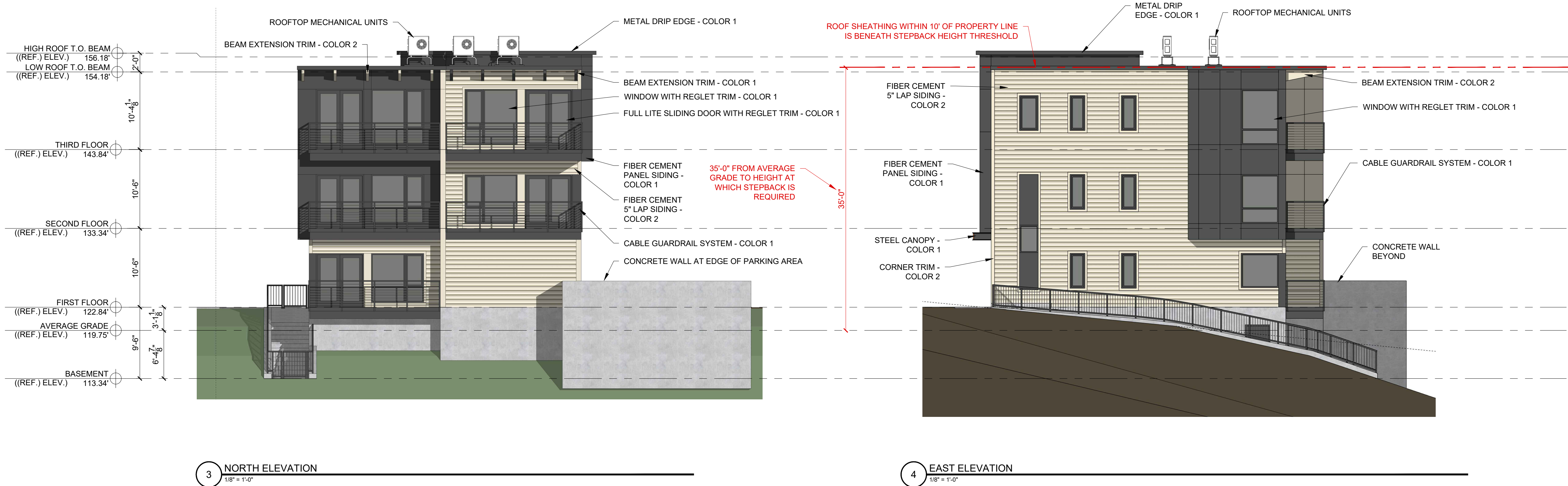
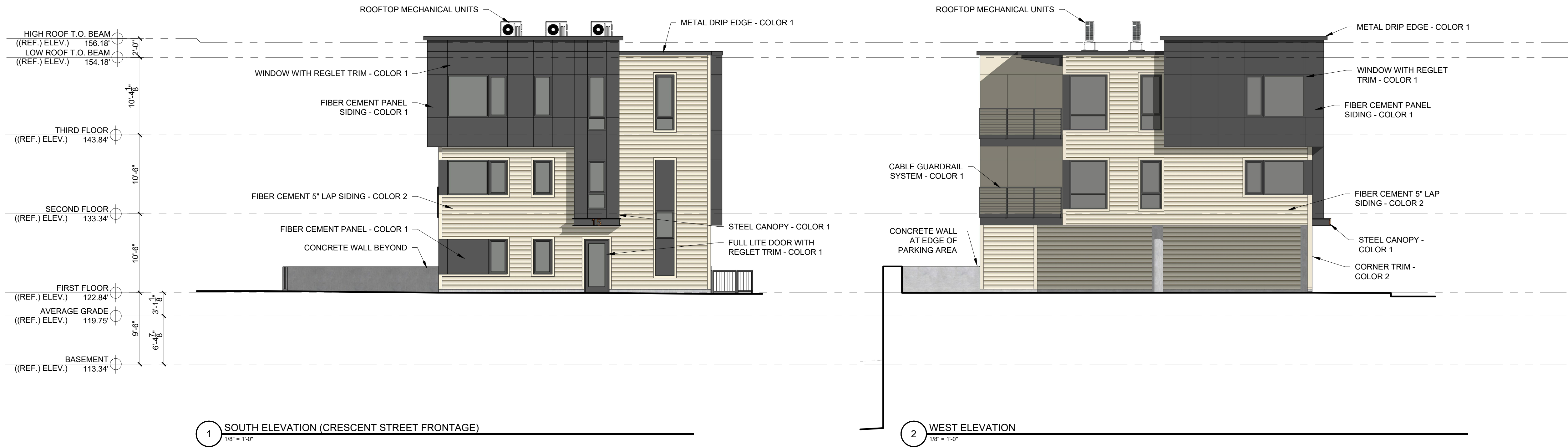
DATE of Approval: 12/12/2023
Planner: Sean King
Project ID: PL-002466-2023 Major Site Plan (15)



RESIDENCES AT 15 CRESCENT STREET

PORTLAND, MAINE

NOVEMBER 17, 2023



PROGRESS PRINT ONLY
Not for Construction

RYAN SENATORE ARCHITECTURE

Average Grade Calculations 15 Crescent Street

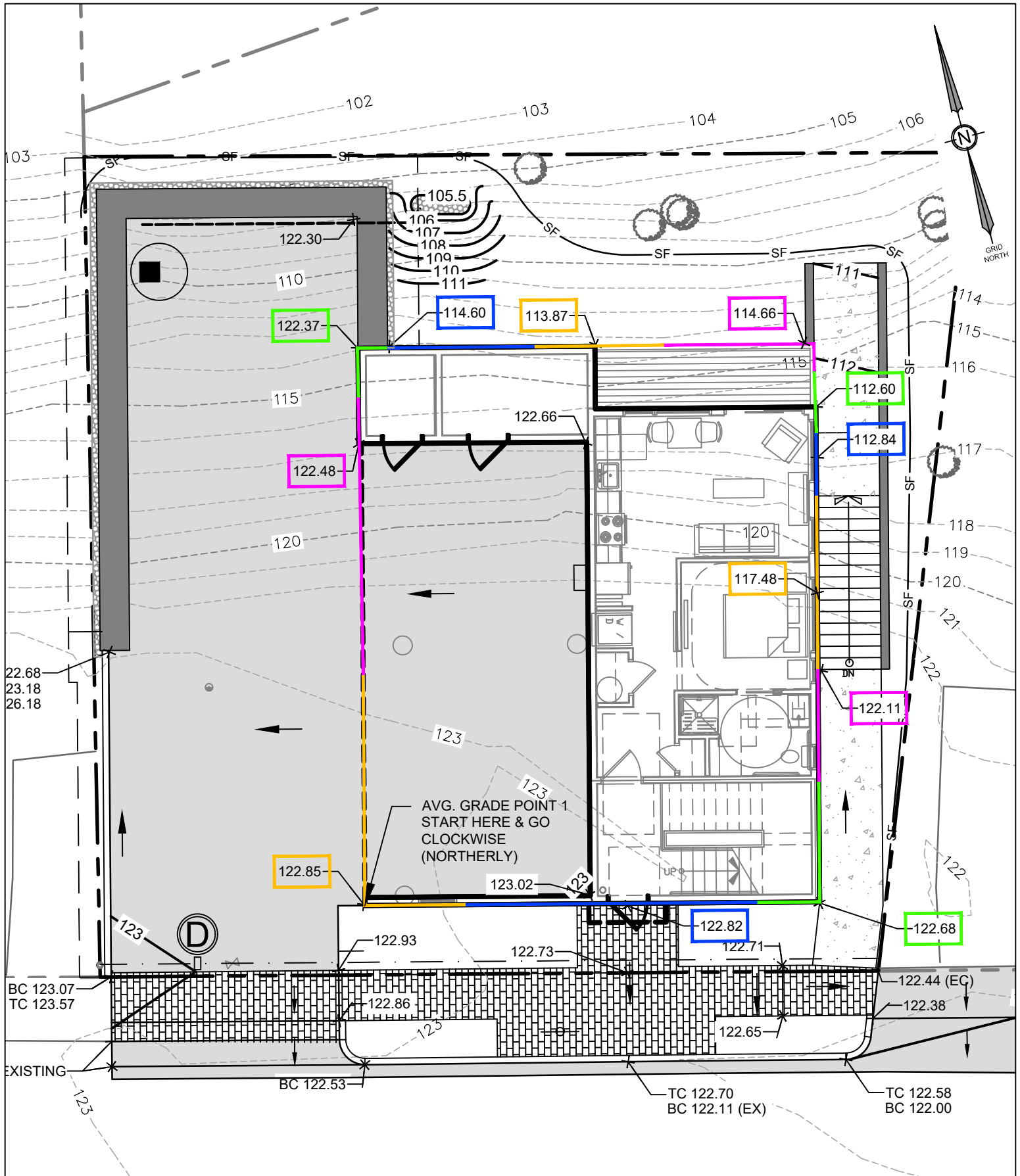
We received multiple comments on the average grade calculations for 15 Crescent Street during the project review in June through November 2023. The original average grade provided on the architectural plans submitted in April 2023 of 121' was calculated using a weighted average around the proposed building. In September 2023 it was requested by zoning that we provide the four building corner proposed grades and calculate the average grade from those four corners. This average grade was calculated at 120.13' based on the spot grades shown at the building corners. After receiving emailed comments on 11/9/23 and having a follow up meeting on 11/13/23 we have updated our average weighted grade calculation and summarized it below. Enclosed is a figure showing the average weighted grade calculation.

Weighted Average Grade

The proposed weighted average grade was calculated using three to four points along each of the four exterior building faces. The elevations used are the proposed ground elevations at the building wall. Each point was representative of an approximately 5' to 25' length of the building. The grades used in this calculation are slightly different than those used in April to obtain 121' due to updated survey information and changes to the design plans. The weighted average calculation is provided below with colors corresponding to the figure:

Point	Length	Grade	
1	26.00	122.85	3194.10
2	22.00	122.48	2694.56
3	6.25	122.37	764.81
4	11.68	114.60	1338.53
5	10.25	113.87	1167.17
6	14.00	114.66	1605.24
7	4.84	112.60	544.98
8	5.00	112.84	564.20
9	13.75	117.48	1615.35
10	9.00	122.11	1098.99
11	14.50	122.68	1778.86
12	23.00	122.82	2824.86
SUM	160.27		19191.65
Weighted Average		119.75	

The proposed weighted average grade was calculated to be **119.75'**. This allows for a 35' building height reaching elevation 154.75' before requiring a setback. The proposed building height is at 154.18' to top of roof beam, resulting in a building height of 34.43'.



AVERAGE GRADE CALCULATION

PROJECT:
CRESCENT STREET RESIDENCES
15 CRESCENT STREET, PORTLAND, MAINE

PREPARED FOR:
DEVELOPERS COLLABORATIVE
631 STEVENS AVENUE, SUITE 203
PORTLAND, MAINE 04103



207.926.5111 • info@terradyndynconsultants.com • www.terradyndynconsultants.com

PINELAND
41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260

PORTLAND
565 CONGRESS STREET, SUITE 201
PORTLAND, ME 04101

PROJECT NO.

1948

DATE

11/13/2023

SCALE

1"=10'

SHEET

1

OF

1

CITY OF PORTLAND, MAINE

PLANNING BOARD

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

April 11, 2019

Kevin O'Rourke
Hammond House, LLC
94 South Street
Yarmouth, ME 04096

Will Savage, P.E.
Acorn Engineering
158 Danforth Street
Portland, ME 04104

Project Name:	Hammond House Condominiums	Project ID:	PL-000418-2018
Address:	10 Hammond Street	CBL:	012-C-004, 012-C-006,
Applicant:	Hammond House, LLC		012-C-011
Planner:	Matthew Grooms		

Dear Mr. O'Rourke and Mr. Savage:

On April 9, 2019, the Planning Board considered a Level III Site Plan, Subdivision and Conditional Use (Inclusionary Zoning) application for a new three-story, sixteen (16) unit condominium project with fifteen (15) off-street parking spaces and associated site improvements. The Planning Board reviewed the proposal for conformance with the standards of the Site Plan and Subdivision Ordinance and Conditional Use standards for Inclusionary Zoning (Sec. 14-487). The Planning Board approved the application with the following waivers and conditions as presented below:

Waivers

1. Driveway Aisle Width: The Planning Board voted 6-0 (Dundon absent) to waive the Technical Standard (Sec. 1.7), requiring two-way driveway width of between twenty (20) and twenty-four (24) feet for multi-family development with ten (10) or more spaces, to permit a driveway width of eighteen (18) feet.
2. Driveway Separation: The Planning Board voted 6-0 (Dundon absent) to waive the Technical Standard (Sec. 1.7.2.7) requiring driveway separation of 100 feet for streets within 25mph zone, to permit a driveway separation of less than 100 feet.

389 Congress Street / www.portlandmaine.gov / tel, 207•874•8720 / tty, 207•874•8936 / fax, 207•756•8258

Inclusionary Zoning Conditional Use Review

The Planning Board voted 6-0 (Dundon absent) that the plan is in conformance with the conditional use standards for Workforce Housing (Sec. 14-484), subject to the following condition of approval, to be met prior to issuance of a Certificate of Occupancy:

1. A financial contribution of \$169,744 shall be paid into the City's Housing Trust Fund as a fee-in-lieu to satisfy the inclusionary zoning requirements for a sixteen (16) unit residential building. In the event that the unit count changes, the contribution to be collected shall be recalculated and confirmed by the Housing Program Manager prior to contribution of the fee-in-lieu.

Subdivision Review

The Planning Board voted 6-0 (Dundon absent) that the plan is in conformance with the subdivision standards of the Land Use Code, subject to the following conditions of approval that shall be met in accordance with the following schedule:

PRIOR TO THE SUBMISSION OF THE PLAT FOR PLANNING BOARD SIGNATURE

1. The subdivision plat shall be finalized to the satisfaction of the Planning Authority, Corporation Counsel and Department of Public Works and include clear descriptions of the number, location, type and size of all subdivided units, along with relevant notes and conditions.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

2. The signed subdivision plat shall be recorded at the Cumberland County Registry of Deeds.

PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY

3. Condominium documents shall be finalized to the satisfaction of the Planning Authority and Corporation Counsel before being recorded.

Site Plan Review

The Planning Board voted 5-1 (Silk opposed, Dundon absent,) that the plan is in conformance with the site plan standards of the Land Use Code, subject to the following conditions of approval that shall be met in accordance with the following schedule:

PRIOR TO APPLYING FOR A BUILDING PERMIT

1. Roof plan and building elevations shall be updated to extend screening around all sides of proposed roof-mounted mechanical equipment so as to screen from all public streets, or relocate mechanical equipment off of the roof towards the rear or side of the property and screen in accordance with site plan and technical manual standards.
2. Applicant shall coordinate with the Planning Authority and Department of Public Works to install the proposed storm drain connection to Fox Street prior to scheduled repaving of Fox Street, to occur between July and September of 2019.

3. Site Plan and associated details shall be revised as necessary to show that all proposed crosswalks and landings feature ADA compliant ramps with detectable warning panels. The site plan shall show structures in the right-of-way that may affect crosswalk placement including manholes and utility poles.
4. The retaining wall and cedar fence in the vicinity of where the driveway meets the sidewalk, should be stepped down to maximize sight distances for pedestrians and vehicles.
5. A geotechnical exploration in the proposed infiltration area at the rear of the site shall be completed and shared with the Planning Authority, demonstrating that the slope can accommodate the proposed system.
6. The applicant has submitted a sample roof design based upon Planning Board feedback at the March 26, 2019 workshop. In the event that this design is agreed to during the public hearing, the applicant shall submit updated building elevations that are consistent with the recommendation made by the Planning Board.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

7. The applicant shall submit for review and approval by the Planning Authority, Department of Public Works and Corporation Counsel, a stormwater maintenance agreement for the proposed development.
8. A financial contribution totaling \$5,600, to be paid into the city's street tree fund, shall be provided for the required fourteen (14) street trees not provided on-site. The applicant may also choose to pursue a street tree alternative as listed in the City's site plan ordinance.
9. The applicant shall submit a revised construction management plan that addresses off-street contractor parking for review and approval by DPW and the Planning Authority.

PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY

10. The applicant shall comply with Fire Department comments requiring:
 - a. The main entrance of the building must be the address for the property. This should be consistent with 911, tax assessor, Inspections Division and future mailing address.
 - b. The new building shall not affect the egress, escape or required fire department access for the neighboring building(s)
 - c. The street address shall be marked on the structure and shall be approved by the City E-911 Addressing Officer.

The approval is based on the submitted plans and the findings related to site plan review standards as contained in the Planning Report for application (PL-000418-2018) which is attached.

Standard Conditions of Approval

Please Note: The following standard conditions of approval and requirements apply to all approved site plans and shall be met in accordance with the following schedule:

PRIOR TO ISSUANCE OF A BUILDING PERMIT

1. Subdivision Recording Plat A revised recording plat, listing all conditions of subdivision approval, must be submitted to the Planning and Urban Development Department for review. Once approved, the plat shall be signed by the Planning Board prior to the issuance of a performance guarantee. The performance guarantee must be issued, prior to the release of the recording plat, for recording at the Cumberland County Registry of Deeds.
2. Separate Building Permits Are Required This approval does not constitute approval of building plans, which must be reviewed and approved by the City of Portland's Permitting and Inspections Department.
3. Performance Guarantee and Inspection Fees A performance guarantee covering the site improvements, inspection fee payment of 2.0% of the guarantee amount and one (1) final set of plans must be submitted to and approved by the Planning and Urban Development Department and Public Works Department prior to the release of a building permit, street opening permit or certificate of occupancy for site plans. If you need to make any modifications to the approved plans, you must submit a revised site plan application for staff review and approval.
4. Preconstruction Meeting Prior to the release of a building permit or site construction, a pre-construction meeting shall be held at the project site. This meeting will be held with the contractor, Development Review Coordinator, Public Works representative and owner to review the construction schedule and critical aspects of the site work. At that time, the Development Review Coordinator will confirm that the contractor is working from the approved site plan. The site/building contractor shall provide three (3) copies of a detailed construction schedule to the attending City representatives. It shall be the contractor's responsibility to arrange a mutually agreeable time for the pre-construction meeting.
5. Construction Management Plans The applicant, contractor and subcontractors are required to conform to the approved Construction Management Plan, and all conditions contained within the project's approval, for the entire duration of the project. Any amendments to the approved Construction Management Plan shall be reviewed and approved by the Department of Public Works prior to the execution. The Planning Authority and the Department of Public Works have the right to seek revisions to an approved Construction Management Plan. The applicant shall coordinate the project's construction schedule with the timing of nearby construction activities to avoid cumulative impacts on a neighborhood and prevent unsafe vehicle and pedestrian movements. Accordingly, nearby construction activities could involve a delay in the commencement of construction.
6. Department of Public Works Permits If work or obstructions will occur within the public right-of-way, such as utilities, curb, sidewalk, driveway construction, site deliveries and equipment siting, a Street Opening and/or Occupancy Permit(s) is required for your site. Please contact the Department of Public Works Permit Clerk at 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)

PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY

7. Develop Site According to Plan The site shall be developed and maintained as depicted on the site plan and in the written submission of the applicant. Modification of any approved site plan or alteration of a parcel which was the subject of site plan approval after May 20, 1974, shall require the prior approval of a revised site plan by the Planning Board or Planning Authority pursuant to the terms of Chapter 14, Land Use, of the Portland City Code.
8. Design Review of Exterior Elevations If the project is subject to design review, then the exterior elevations shall be constructed and maintained as depicted on the approved elevation drawings and in the written submission of the applicant. Modification of any approved exterior elevations shall require the approval of the revised plans by the Planning Board or Planning Authority pursuant to the terms of Chapter 14, Land Use of the Portland City Code.
9. Impact Fees New development or changes of use that result in net new residential dwelling units, non-residential building square footage, or water meters, are subject to the City of Portland's impact fee ordinance (Chapter 14, Article XVII). Impact fees are calculated at the time of building permit and must be paid prior to the certificate of occupancy. For more information, visit <https://www.portlandmaine.gov/2409/Impact-Fees>
10. Defect Guarantee A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.
11. As-Built Final Plans Final sets of as-built plans shall be submitted digitally to the Planning and Urban Development Department, on a CD or DVD, in AutoCAD format (*.dwg), release AutoCAD 2005 or greater.
12. Mylar Copies Mylar copies of the as-built drawings for the public streets and other public infrastructure in the subdivision must be submitted to Public Works prior to the issuance of a certificate of occupancy.

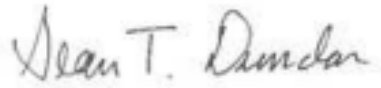
GENERAL CONDITIONS OF APPROVAL

13. Subdivision Waivers Pursuant to 30-A MRSA section 4406(B)(1), any waiver must be specified on the subdivision plan or outlined in a notice. The plan or notice must be recorded in the Cumberland County Registry of Deeds within two (2) years of the final subdivision approval.
14. Site Plan Expiration The site plan approval will be deemed to have expired unless work has commenced within one (1) year of the approval or within a time period up to three (3) years from the approval date as agreed upon in writing by the City and the applicant. Requests to extend approvals must be received before the one (1) year expiration date.
15. Subdivision Expiration The subdivision approval is valid for up to three (3) years from the date of Planning Board approval.

The Development Review Coordinator must be notified five (5) working days prior to the date required for final site inspection. The Development Review Coordinator can be reached at the Planning and Urban Development Department at 874-8632. All site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact Matthew Grooms at (207) 874-8725

Sincerely,

A handwritten signature in dark ink, reading "Sean T. Dundon". The signature is written in a cursive, flowing style.

Sean Dundon, Chair
Portland Planning Board

Attachments:

1. Planning Board Report
2. Portland City Code: Chapter 32
3. Sample Stormwater Maintenance Agreement
4. Performance Guarantee Packet

PLANNING BOARD REPORT PORTLAND, MAINE



Hammond House Condominiums
10 Hammond Street
Level III Site Plan, Subdivision, IZ Conditional Use
PL-000418-2018
Hammond House, LLC, Applicant

Submitted to: Portland Planning Board
Public Hearing Date: April 9, 2019

Prepared by: Matthew Grooms
Date: April 5, 2019

I. INTRODUCTION

Hammond House, LLC has submitted a Level III Site Plan, Subdivision and Conditional Use application for a new sixteen-unit residential condominium on a 15,433 square foot parcel located at 10 Hammond Street in the East Bayside Neighborhood. This street consists largely of one- and two-family homes, with fewer multi-family properties in the neighborhood and is located within the R-6 Residential Zone, outside of the Munjoy Hill Neighborhood Conservation Overlay zone. The proposed development involves demolition of two single-family structures and construction of a new three-story building with subsurface structured parking.

Two Planning Board Workshops have been held to discuss this project, the first on February 26, 2019 to discuss the project generally and the second, on March 26, 2019 to focus on building design. Please see the discussion below under Section VII. Planning Board Workshops for more information.

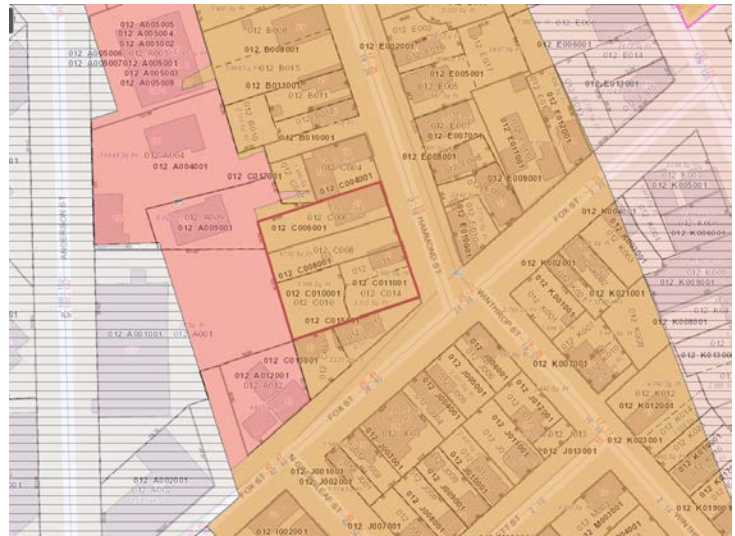


Figure 1: Subject parcel and zoning information

A total of 157 notices were sent to property owners within 500 feet of the site and a legal ad ran in the March 29th and 30th 2019 editions of the Portland Press Herald.

Applicant: Kevin O'Rourke, Hammond House, LLC

Consultants: Will Savage, P.E., Acorn Engineering; Sam Level, Acorn Engineering; Ryan Senatore, Ryan Senatore Architecture; Richard Eaton, R.W. Eaton Associates.

II. REQUIRED REVIEWS

<i>Waiver Requests</i>	<i>Applicable Standards</i>
Driveway Aisle width – 18' feet Staff Comments: The City's Traffic Engineer supports a waiver from the City's Technical Standards for driveway width given low traffic volumes and traffic characteristics of Hammond Street.	Technical Manual, Section 1.7.2.3, requiring a minimum driveway aisle width of 20 feet for two-way ingress and egress
Driveway Separation – Reduce to less than 100' feet Staff Comments: The City's Traffic Engineer supports a waiver from the City's Technical Standards for Driveway Separation, based upon the need to provide maximum	Technical Manual, Section 1.7.2.7, requiring 100' feet of separation between driveways for a 25 mph road.

separation between the driveway and Fox Street, and low traffic volumes along Hammond Street and from the proposed development.	
Review	Applicable Standards
Site Plan	Section 14-526
Subdivision	Section 14-497
Inclusionary Zoning (IZ)	Section 14-474, Section 14-487

III. PROJECT DATA

Existing Zoning	R-6 Residential
Existing Use	Single-Family (2 units)
Proposed Use	16 Residential Units
- Bedroom Mix	3 three-bedroom units, 7 two-bedroom units, 6 one-bedroom units
Parcel Size	15,433 SF

	Existing	Proposed	Net Change
Building Footprint	2,260 SF	8,276 SF	6,016 SF
Building Floor Area	4,000 SF	32,242 SF	28,242 SF
Impervious Surface Area	4,009 SF	11,565 SF	7,556 SF
Parking Spaces	4	16	12
Bicycle Parking Spaces	0	6	6
Estimated Cost of Project	Unknown		

IV. EXISTING CONDITIONS

The proposed development site occupies two single-family properties, totaling just over one-third of an acre, located at the northwest corner of the Hammond Street and Fox Street intersection. The existing one and a half story single-family structures date to the latter half of the 19th Century (1850 and 1880 respectively) and are not protected under local or state historic preservation designations.

At present, approximately one-quarter of the site is impervious surface, with significant vegetation being located along the property boundaries and towards the rear of the site away from Hammond Street.

The property generally slopes down from east to west with an average grade of 12%. The project area presently drains the entirety of its runoff on to the abutting property to the west (117 Anderson Street – the Portland Housing Authority's Maintenance Facility).



Figure 2: Existing conditions of site at Hammond Street frontage.

In looking at the broader context, Hammond Street and surrounding areas of East Bayside feature a higher proportion of single-family structures as compared with other areas of Portland's peninsula, with a generally smaller scale of development. Existing structures are typically between one and two stories, though there are several three-story buildings within a block radius of the development site. Hammond street features regularly spaced street trees, a nine (9) foot concrete sidewalk, and overhead utility poles with cobra head light fixtures along the east side of Hammond Street.

V. PROPOSED DEVELOPMENT

The development is proposed as a new three-story, sixteen-unit residential condominium, composed of a mixture of one-, two- and three-bedroom units with subsurface structured parking for thirteen (13) vehicles, including one handicap space, and two (2) exterior parking spaces. The building is just under forty (40) feet tall and eighty (80) feet wide with a depth of approximately one-hundred (100) feet. The development emphasizes pedestrian access and activity at street level, with front entrance and unit patios fronting Hammond Street. Vehicular access is

deemphasized by shifting the garage entrance towards the rear of the site, that is accessible via an eighteen (18) foot driveway located along the northerly property boundary. The use of a driveway is consistent with other developments along Hammond Street. The project also features closure of two (2) existing curb cuts, for a net reduction of one (1).

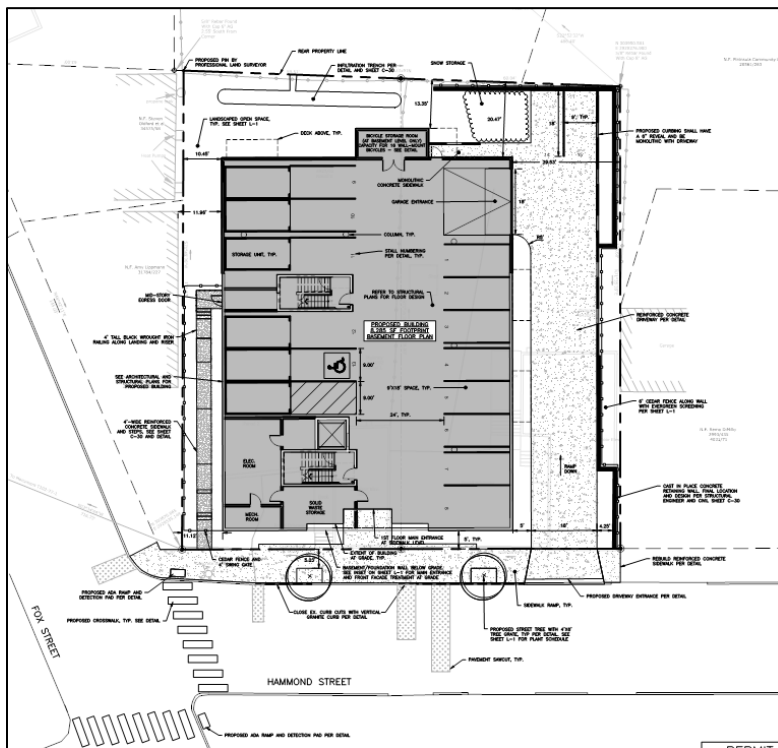


Figure 3: Proposed site plan

As mentioned in the existing conditions section, the development site is approximately 25% developed, with significant open space and vegetation. While much of that existing area is to be developed, and vegetation is to be removed, existing vegetation located within the building setback areas will be preserved where possible, and will be significantly augmented through additional plantings. A mixture of native ornamental grasses, perennials, shrubs and trees are proposed along the building's exterior, at the rear of the site and along the driveway edge for additional buffering, and along the property frontage. Based upon the width of the property's frontage, two street trees are being provided to partially satisfy the city's street tree requirement. A retaining wall and six (6) foot cedar fence is proposed along the northerly property boundary to provide additional noise and visual buffering between the neighboring property.

Utilities to the site are provided via existing infrastructure located beneath Hammond Street, with new connections consisting of a four (4) inch water service, six (6) inch fire

service and six (6) inch sanitary sewer connection. Electrical service is provided underground from an existing CMP pole located at the northwest corner of Fox and Hammond Street. Site lighting is provided by six (6) full cutoff wall pack fixtures, with a maximum light trespass of 0.1 foot-candles onto adjacent properties. Lighting is provided at the main entrance, along the pedestrian accessway to the garage and along the driveway.

In regards to stormwater management, the proposed development significantly increases the amount of on-site impervious surface and is therefore required to meet Maine DEP Chapter 500 stormwater standards for stormwater quality and quantity control. The development proposes water quality treatment for no less than 95% of the new impervious area and 80% of the developed area, which shall be met through the use of an underdrained subsurface sand filter (USSF) and StormTech Isolator Row. According to the applicant, the proposed system will exceed both city and state requirements for stormwater quality treatment. The system is also designed to contain runoff for up to a 25-year storm event and promote infiltration, which satisfies the flooding standard. The post development condition would significantly reduce the amount of runoff impacting down gradient property owners.

VI. PUBLIC COMMENT AND NEIGHBORHOOD MEETING

As of the writing of this report, fourteen (14) written comments have been received by the Planning Division. The concerns raised by abutters were primarily focused on building design, particularly the height and massing of the proposed building as it compares with the largely one- and two- story buildings found elsewhere along Hammond Street and in the vicinity. Other concerns raised included the affordability of new units, the limited consideration of the impacts of climate change, the appropriate balance between off-street and on-street parking and a closer look at city allowances for rooftop appurtenances.

City staff also met with Cynthia Cochran, Vice President of the East Bayside Neighborhood Organization, to discuss the project in more detail and answer questions compiled by neighbors. At this meeting, Ms. Cochran raised concerns that the scale and form of the building were incompatible with nearby properties and that the project did not meet design standards as listed under alternative design review for projects in the R-6 zone. She also raised concerns regarding impacts to the on-street parking supply, vehicle speeding along Fox Street, the lack of a crosswalk across Fox Street in the vicinity of this project, and impacts to vehicle and pedestrian sight lines resulting from illegally

parked vehicles along Fox Street. One additional point raised was the lack of integration of projects of this scale into the surrounding neighborhood, as projects with four (4) or more units tend to be more inwardly focused.

In response to these concerns, the staff would note that design review comments for both the first and second iteration of the building's design have focused on the massing and scale of the building, particularly as it related to the façade visible from Fox Street, proposed rooftop features, and pedestrian scale features along Hammond Street and at the building entrance. The design review process requires that development relate in terms of scale and massing to nearby development, but does not require that a new development replicate existing development. Given that this scale of development is permitted by right in the R-6 zone, the staff are instead suggesting that the design of the building continue to be revised so as to be more complementary of and integrated within its context. Please see the design review memo for more information (Attachment 1).

The applicant held a neighborhood meeting on January 15, 2019 attended by twenty-five (25) members of the public. At this meeting, members of the public asked questions regarding process, project parameters, the likelihood of blasting, status of the condominium documents, construction management. Those in attendance also raised concerns regarding the scale of the proposed building and felt that it would overwhelm nearby properties. Responses to these questions and concerns can be found in the attached neighborhood meeting minutes (Attachment Y).

At both Planning Board workshops, considerable testimony was provided by members of the public, who generally have been concerned that the project is out of context within its neighborhood, and that the design standards for the R-6 zone are not being met for this project. Numerous suggestions for scaling down the design or better integrating the building have been raised, and further questions have been raised regarding staff's finding that the project meets applicable design standards.

VII. PLANNING BOARD WORKSHOPS

A. FIRST WORKSHOP - FEBRUARY 26, 2019

The Planning Board held a workshop to discuss the proposed development at 10 Hammond Street on February 26, 2019. At that meeting, the Board strongly encouraged the applicant to revisit site design as well as building scale and massing and stressed that the development felt too large in relation to surrounding properties. Board members identified roof-top appurtenances as needing to be evaluated for visual impact and offered suggestions for the overall project design to respond to the concerns raised about massing and context, including:

- Break the building into two separate buildings
- Reduce the amount of on-site parking to cut down on size and site impacts
- Use vegetation to more significantly screen the development
- Revise the design of bays along Hammond Street to further break up the building



Figure 4: Front facade elevation (iteration 1) showing roof decks and stair towers.

The Board also observed that the building felt institutional, due in part to the sculpture, concept signage and entrance design. Aside from design related comments, the Board also asked that the applicant evaluate the viability of their stormwater system given the steep slope at the rear of the property, with the concern being that the infiltration unit may destabilize the slope. Additional erosion control may be warranted to counter that concern. Other requests included the provision of condominium documents and a reconsideration of landscape choices.

B. RESPONSE TO FIRST WORKSHOP

In response to feedback from the Planning Board and staff, the applicant's design team significantly redesigned the building to enhance compatibility with smaller scale development in the vicinity. Caitlin Cameron, Urban Designer and

Matthew Grooms, Planner, met with the architect and developer on March 11th to discuss proposed changes, and found them to be significantly responsive to Board and public feedback, while maintaining the scope of the project. Below is a list of changes that were incorporated in order to relate the building to its neighborhood.

- Roof top decks and stairwells, which added significantly to the massing of the proposed structure, were removed, reducing effective height of the building by approximately ten (10) feet.
- Main entrance was recessed in order to scale the front façade.
- The main stair and elevator were moved deeper into the building and away from the front façade, which eliminated the elevator override that previously was a prominent feature of the front façade, and added additional living space along the street.
- Sculpture was removed and replaced with ground-level planters to better identify separation of private and public space.
- A quasi front porch, added through canopy and columns, was proposed, further contextualizing the building with other multi-family properties in the vicinity.
- Façade materials were simplified and made more uniform. Material colors were lightened and strategically chosen to downplay the scale of the building.
- Bays were added to the front façade to scale the building's width and pay tribute to triple decker typology.
- A more traditional cornice detail was provided that is more contextual.
- Recessed decks were provided at the mid-point of side facades, which break up the scale of the building.
- Cornice was brought down one story and material color changed at 3rd floor on Fox Street façade to scale building.

C. SECOND WORKSHOP – MARCH 26, 2019

The Planning Board held a second workshop on March 26, 2019 where they focused specifically on building design changes and generally found the revisions to be responsive to feedback provided at the first workshop. While noting that the project was considerably larger than other development in the immediate vicinity, they noted that the project was permitted under zoning as currently written and asked the City's Urban Designer, Caitlin Cameron, to explain how the project met design standards for the R-6 zone, which require compliance with standards A-1 through A-3 of Appendix 7 of the design manual. Those standards are as follows:

- **STANDARD A-1 - Scale and Form** - Relate the scale and form of the new building to those found in residential buildings within a two-block radius of the site, that contribute to and are compatible with the predominant character-defining architectural features of the neighborhood. Special attention shall be given to the existing building forms on both sides of the street within the block of the proposed site.
- **STANDARD A-2 - Composition of Principal Facades** - Relate the composition of the new building façade, including rhythm, size, orientation and proportion of window and door openings, to the facades of residential buildings within a two-block radius of the site that contribute to and are compatible with the predominant character-defining architectural features of the neighborhood. Special attention shall be given to the existing facades on both side of the street within the block of the proposed site.
- **STANDARD A-3 - Relationship to the Street** - Respect the rhythm, spacing, and orientation of residential structures along a street within a two-block radius of the site that contribute to and are compatible with the predominant character-defining architectural features of the neighborhood. Special attention shall be given to the existing streetscape on both side of the street within the block of the proposed site.

Ms. Cameron explained that the design standards do not require a project to mimic or repeat existing form and scale, but instead relate a development through design choices to the existing context within a two-block radius. For example, with this project, bays, canopies and articulation elements such as recesses were introduced that break up the massing of the building. Material choices were simplified in line with other nearby multi-family development, and both color choices and roof forms were used to deemphasize the third floor of the building, particularly along the Fox Street façade, to mitigate the building's scale and massing.

Members of the Board asked that long views of the building be provided through renderings from up towards Washington Avenue, to better understand the visual impact of roof-mounted mechanical equipment. The applicant was also asked to consider minor revisions to the roof form to further differentiate the front half of the building from the rear half (where the third-floor material palette changes). At this workshop, it was agreed that the project was ready to go to a public hearing.

D. RESPONSE TO SECOND WORKSHOP

Following the second workshop, the applicant made a few minor revisions to their plan and building design and provided some additional information and renderings as requested by the Board and staff. These changes include:

- Renderings showing long views of building from uphill on Fox Street and downhill on Fox Street. While helpful, these views are not sufficiently distant. Based on these views, staff have drafted a condition of approval that roof-mounted mechanical equipment be screened from all sides, or conversely, be located at the rear of the site and not be roof-mounted.
- Provided additional information on front yard planters, which are now seat wall planters. These better integrate the site into the neighborhood, while not providing physical benches, which are not supported due to their institutional nature.
- Varied roof study provided. Board members requested that more be done to the building to mitigate the flatness and scale of the building, especially related to Fox Street. The submission includes a study of roof form variation where the height is differentiated between the grey and white portions of the building. While the study has been provided, the applicant does not want to pursue this direction for cost and construction complexity reasons.
- Screening of rooftop mechanicals. Partial screening has been provided to shield views of roof-mounted mechanical equipment from uphill vantage points. Based on renderings provided, staff have drafted a condition of approval that would require screening from all sides.



Figure 5: Roof Study showing roof form variations and screening of mechanicals

VIII. RIGHT, TITLE, & INTEREST AND FINANCIAL & TECHNICAL CAPACITY

a. The owner of the property is Kevin O'Rourke, Hammond House, LLC. The applicant has provided a copy of the warranty deed, recorded at the Cumberland County Registry of Deeds (Book 6420, Page 257), which demonstrates their right, title and interest in the property. (Attachment C)

b. As evidence to demonstrate sufficient financial and technical capacity, the applicant has provided a letter from Camden National Bank indicating that between the applicant's funds and bank financing, that applicant has sufficient financial capacity to complete the proposed project. Similarly, information has been provided on the development team demonstrating the capacity to design and construct the project. (Attachment G)

IX. ZONING ANALYSIS

A. DIMENSIONAL AND USE REQUIREMENTS

The proposed project is a three-story residential condominium with sixteen (16) units and fifteen (15) off-street parking spaces. The property is located within the R-6 Residential zone, outside of the Munjoy Hill Neighborhood Conservation Overlay District.

The proposed use, a multi-family residential development, is a permitted use within the R-6 and the project as proposed is fully compliant with all dimensional requirements as shown in the table below.

	Required	Proposed
Lot Size	2,000 SF	15,433 SF
Area Per Dwelling Unit	725 SF	965 SF
Minimum Street Frontage	20' FT	120' FT
Front Yard Minimum	0 (Abutter Average)	5.12' FT
Front Yard Maximum	N/A	5.12' FT
Rear Yard	10' FT	13.35' FT
Side Yard	5' FT	29.5' FT (Right), 10.5' FT (Left)
Maximum Lot Coverage	60%	56%
Maximum Height	45' FT	39.8' FT
Open Space	20%	25%
Maximum Impervious Surface	80%	75%
Off-Street Parking	13 (1 space/unit, first 3 not required)	15

The proposed height of the building is compliant with the standards of the R-6 zone. At the first workshop, staff highlighted the quantity and dimension of rooftop appurtenances, which extended the height of the building to approximately fifty (50) feet above average grade. These have since been removed per staff and Board feedback. Following the second workshop, the roof form was revised further to mitigate the massing of the building and deemphasize its height along Fox Street.

Based upon the elevation change within the vicinity of this site, it is anticipated that there will be long views of the building from multiple vantage points. To compensate for this, a screening element has been incorporated into the roof to screen roof-mounted mechanical equipment.

B. CONDITIONAL USE – INCLUSIONARY ZONING

As required by the City's Inclusionary Zoning Ordinance, residential developments with ten (10) or more units are required to provide a minimum of ten percent (10%) of the dwelling units as Workforce Housing units, and the units themselves must contain in total, ten percent (10%) of the total bedroom count for the entire development. The City's Housing Program Manager, Victoria Volent, has reviewed the application and offers the following comments (Attachment 6):

- The project located at 10 Hammond Street proposes the creation of 16 condominium units. The applicant has chosen to fulfill the inclusionary zoning requirements by paying a fee-in-lieu. The proposed project would thus be required to pay a total fee of \$169,744 into the City's Housing Trust Fund in-lieu of creation of actual housing units for workforce households. As such, the project has met the minimum requirements set forth in Section 14-487.

Staff recommends the agreed upon fee-in-lieu of \$169,744 be paid into the City's Housing Trust Fund prior to issuance of the Certificate of Occupancy for 10 Hammond Street. Should at a later date any change in total unit count be considered, a revised proportional fee-in-lieu payment will also be required.

X. DEVELOPMENT REVIEW

A. SITE PLAN SUBMISSION REQUIREMENTS (Section 14-527) and SUBDIVISION PLAT AND RECORDING PLAT REQUIREMENTS (Section 14-496)

The applicant has submitted a recording plat. The final plat will need to be revised to reflect any waivers and

conditions of approval that relate to the subdivision plan. Any waivers granted must be recorded at the Registry of Deeds within two years of a Planning Board decision.

B. SUBDIVISION (Section 14-496)

The proposed development has been reviewed by staff for conformance with the relevant review standards of Portland's Subdivision Ordinance and applicable regulations. Staff comments are listed below.

1. Will Not Result in Undue Water and Air Pollution (Section 14-497 (a) 1), and Will Not Result in Undue Soil Erosion (Section 14-497 (a) 4)

Lauren Swett, P.E. with Woodard and Curran Engineering, has reviewed the erosion and sediment control plans and details, and inspection and maintenance requirements for the project. In preliminary review comments, it was noted that additional erosion control measures may be necessary at the rear of the property due to the significant slope.

Regarding the infiltration trench proposed at the rear of the property, Ms. Swett had commented that a geotechnical investigation would be required to determine that the soils were sufficiently capable of accommodating the trench at capacity. A geotechnical report has since been provided, and Ms. Swett offers the following comment (Attachment 5):

- I've reviewed the geotechnical memo that was provided on the infiltration trench. I agree with their approach and their analysis that the infiltration system would have minimal impact on a representative slope.

They note that they will be doing an exploration in the actual infiltration area in the future to verify their assumptions and analysis. It would be good to clarify when that investigation work is proposed (i.e. before/during construction construction), and a condition based on that timing added to provide the results to the City.

I also understand that there was discussion about changing the emergency overflow from a narrow channel to a wider outlet, more like a level spreader to spread the water out over the slope. I agree with that. As designed, there is less flow going to this area, and this overflow would only be used in the case that there's an extreme condition, like a really intense storm or if the infiltration system somehow failed (i.e. plugged with sediment) and that was the only place for water to exit the system. Eliminating the narrow channel, and allowing for a wider flow from the system in that extreme condition should work to reduce the risk to the slope during an overflow.

2. Sufficient Water Available (Section 14-497 (a) 2 and 3)

The project will be served by a new 4-inch domestic service and 6-inch fire service drawn from the existing water main in Stevens Avenue. An 'Ability to Serve' letter was provided by the Portland Water District.

3. Will Not Cause Unreasonable Traffic Congestion (Section 14-497 (a) 5)

The proposed project closes two curb cuts and shifts the driveway to the north. The proposed driveway would measure eighteen (18) feet in width and would provide both ingress and egress to the site. The proposed relocation of the driveway provides greater separation between the driveway and intersection. Tom Errico, P.E. with T.Y. Lin reviewed the proposal's details including access, parking, construction management plan and vehicle circulation, and has provided the following comments (Attachment 2):

- The Applicant has noted that acceptable sight distance will be provided. A condition of approval should include details that requires the property line fence to be designed to maximize sight distance to both vehicles and pedestrians.
- The driveway location is based on maximizing the distance from Fox Street and building design. Given these factors and low traffic volumes on Hammond Street and from the development, I support a waiver from City Standards.

4. Will Provide for Adequate Sanitary Sewer and Stormwater Disposal (Section 14-497 (a) 6), and Will Not Cause an Unreasonable Burden on Municipal Solid Waste and Sewage (Section 14-497 (a) 7)

The applicant is proposing a new six (6) inch sanitary sewer service connection into the existing sewer main beneath Hammond Street. The Department of Public Works has reviewed the proposal and found it to be acceptable.

5. Comprehensive Plan (Section 14-497 (a) 9)

The development has been designed to be consistent with the City's Master Plan, adopted in June of 2017.

B. SITE PLAN STANDARDS (Section 14-526)

The proposed development has been reviewed by staff for conformance with the relevant review standards of Portland's site plan ordinance and applicable regulations. Staff comments are listed below.

1. Transportation Standards

a. Impact on Surrounding Street Systems and Access and Circulation- see Subdivision discussion regarding traffic congestion and site circulation above.

b. Sidewalks

The applicant is proposing to close two existing curb cuts, and repair the concrete sidewalk along the property's frontage to match the existing condition. A crosswalk is proposed across Hammond Street at the intersection of Hammond and Fox Street. A detectable warning panel is proposed on the west side of the street, though no improvements are proposed at the opposite corner. Staff have drafted a condition of approval that requires the applicant to redesign the landing on the opposite side of Hammond Street to be ADA compliant.

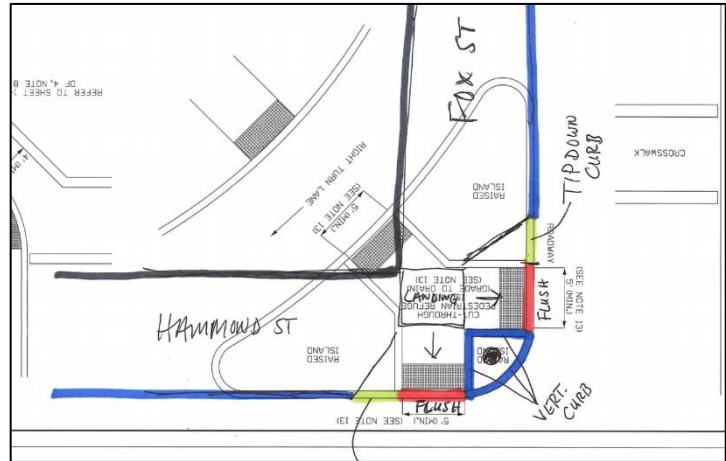


Figure 6: Concept ramp design recommended by staff.

Based upon public input and Section 14-526(a)(1) of the City's site plan standards, the staff have requested that a crosswalk be provided across Fox Street in the vicinity of the project due to projected impacts. The standard specifically states, in regards to impacts on surrounding street systems, that a site makes provisions for, "vehicular loading and unloading and parking and for vehicular and pedestrian circulation on the site and onto adjacent public streets and ways". Given the scale and scope of the project, the anticipated impacts are significant enough to warrant this off-site improvement.

In response, the applicant has agreed to construct a crosswalk across Fox Street from the east side of Hammond Street to the corner of Fox and Winthrop Street. This design, while feasible, requires a particular design due to the location of an existing utility pole on the Hammond Street side. A sketch of that design is shown below. A condition of approval has been drafted that ADA compliant ramps be provided at all landings.



Figure 7: Design of ramp in context.

c. Public Transit Access

The public transit requirements do not apply to this project.

d. Parking

Fifteen (16) parking spaces are being proposed, including two (2) spaces located outside of the subsurface structured parking, at the end of the driveway. The proposed parking meets city zoning requirements for off-street parking.

e. Bicycle Parking

The proposal includes a bicycle storage room with space for more than five (5) bicycles which meets the site plan standard requiring a minimum of two bicycle parking spaces for every five dwelling units.

2. Environmental Quality Standards

a. Preservation of Significant Natural Features

There are no known significant natural features on the site.

b. Landscaping and Landscape Preservation

A landscaping plan was submitted as part of the application. The plan shows two street trees, a variety of shrubs and trees as buffer plantings along the northerly and westerly property boundaries, and shrubs, perennials and ornamental grasses along the building's exterior and adjacent to on-site walkways and driveways. Along the northerly property boundary, a retaining wall and cedar fence is proposed for both site stabilization and additional site buffering.

Jeff Tarling, the City Arborist, in preliminary comments, stated that the plantings had ornamental value but limited buffering value, and provided some recommendations for tree species and planting locations. Those suggestions were incorporated into the updated landscape plan, which has been found to be acceptable.

Based upon the city's street tree requirements, a total of sixteen (16) trees are required, spaced thirty (30) to forty-five (45) feet apart. A condition of approval has been drafted requiring either a fee in lieu for that contribution, or an alternative proposal in line with the city's site plan ordinance.

c. Water Quality, Storm Water Management and Erosion Control

Once developed, on-site impervious surface will increase from 4,009 square feet, to 11,565 square feet, a net increase of greater than 1,000 square feet, which necessitates compliance with the city's requirements for stormwater quality and quantity management.

Lauren Swett has reviewed the applicants plans and project details, and offers the following comments (Attachment 5):

- In accordance with Maine DEP Chapter 500 Regulations and Section 5 of the City's Technical Manual, the Applicant is required to meet the Basic, General and Flooding Standards for Stormwater Management. The applicant has proposed erosion and sedimentation control features to meet the Basic Standard, and an underdrained subsurface sand filter and infiltration trench to meet the General and Flooding Standards. The applicant has addressed all comments related to stormwater management requirements for the project.

3. Public Infrastructure and Community Safety Standards

a. Public Safety and Fire Prevention

Mike Thompson, Division Chief of the Fire Prevention and Community Outreach Division, has reviewed the submitted plans and found them to be acceptable, noting the following points which are being drafted as a condition of approval (Attachment 2):

- The main entrance of the building must be the address for the property. This should be consistent with 911, tax assessor, Inspections Division and future mailing address.
- The new building shall not affect the egress, escape or required fire department access for the neighboring building(s)
- The street address shall be marked on the structure and shall be approved by the City E-911 Addressing Officer.

b. Availability and Adequate Capacity of Public Utilities

The project will be served by Central Maine Power, the Portland Water District, City Department of Public Works. Evidence of utility capacity has been provided for all proposed utilities.

4. Site Design Standards

a. Snow and Ice Loading

Based upon the roof design, it is not anticipated that snow or ice loading will be a concern to pedestrians within the public right-of-way or on the applicant's property.

b. View Corridors

This site is not within a Protected View Corridor as per the "View Corridor Protection Plan" approved by the Portland City Council in 2001.

c. Historic Resources

The site is not located within a historic district or within 100 feet of a historic district, landmark or landscape and as a result, this project is not required to be reviewed by Historic Preservation.

d. Exterior Lighting

The applicant has submitted a lighting and photometric plan. The plan shows exterior, building mounted wall packs near the entrance, pedestrian walkway and driveway. All exterior site lighting including lighting of building entrances will be full cutoff with no light emitted above the horizontal plane and light trespass falls within the allowable limits as stipulated under Section 12 of the Technical Manual.

e. Noise and Vibration

Exterior mechanical equipment is to be roof-mounted, and centrally located on top of the building to minimize visibility from adjacent properties and public spaces. It is not anticipated that this equipment will result in adverse conditions related to noise and vibration.

f. Signage and Wayfinding

This standard does not apply to the proposal.

g. Zoning Related Design Standards

A design review (Attachment 1) according to the City of Portland Design Manual Standards was performed for the revised proposal for new construction of a multi-family dwelling at 10 Hammond

Street. The review was performed by Caitlin Cameron, Urban Designer, Shukria Wiar, Planner, and Matthew Grooms, Planner. The project was reviewed against the R-6 Small Infill Development Design Principles & Standards (Appendix 7 of the Design Manual) as well as the Two-Family, Special Needs Independent Living Units, Multiple-Family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters (Section I of the Design Manual).



Figure 8: Front Elevation with varied roof form

Given that the design of the building has not been altered significantly since the second workshop, the conclusions of the design review remain unchanged.

Design Review Criteria:

The project was reviewed with the Alternative Design Review which has the following criteria:

- Proposed design is consistent with all of the Principle Statements.
- The majority of the Standards within each Principle are met.
- The guiding principle for new construction under the alternative design review is to be compatible with the surrounding buildings in a two-block radius in terms of size, scale, materials, and siting, as well as the general character of the neighborhood, thus Standards A-1 through A-3 shall be met.
- The design plan is prepared by an architect registered in the State of Maine.

Findings of the Design Review:

The proposed design passes all of the criteria of the R6 Alternate Design Review – please refer to comments below:

- Staff find that the applicant has adequately responded to the comments and concerns from the Planning Board and public comment.
- The revisions include:
 - Simplification of the roof form to a compatible, simple flat roof with overhanging eaves (removal of stair towers and roof decks)
 - Massing and material variation and articulation elements introduced on street-facing facades to create scale and mass more similar to the traditional built patterns.
 - Massing, material, and articulation variation introduced on the Fox Street-facing elevation to mitigate the scale impacts and relate to the composition patterns found in the context.

XI. STAFF RECOMMENDATION

Subject to the proposed motions and conditional of approval listed below, Planning Division staff recommends that the Planning Board approve the proposed sixteen (16) unit condominium project and associated site improvements and parking. The applicant has modified the proposals significantly to address the site plan, subdivision and conditional use standards for inclusionary zoning.

XII. PROPOSED MOTIONS FOR THE BOARD TO CONSIDER

A. WAIVERS

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in the Planning Board Report for the public hearing on April 9, 2019 for application # PL-000418-2018 (10 Hammond Street) relevant to the Site Plan Standards of the Land Use Code and Portland's Technical and Design Standards, and other regulations, and the testimony presented at the Planning Board hearing:

1. Driveway Aisle Width

The Planning Board [**finds / does not find**] based upon the Traffic Engineer's Review, that extraordinary conditions exist or undue hardship may result from strict compliance with the Technical Manual standard (Section 1.7) which requires that, for multi-family residential development with ten (10) or more parking spaces, two-way driveway width be between twenty (20) and twenty-four (24) feet in width, that substantial justice and the public interest are secured with the proposed variation in this standard, and that variation is consistent with the intent of the ordinance. The Planning Board [**waives/ does not waive**] the Technical Manual standard Section 1.7 to allow a driveway width of eighteen (18) feet.

2. Driveway Separation

The Planning Board [**finds/does not find**], based upon the Traffic Engineer's review, that extraordinary conditions exist or undue hardship may result from strict compliance with the Technical Manual standard (Section 1.7.2.7) which requires a minimum driveway spacing of 100 feet where the speed limit is 25 mph or less, that substantial justice and the public interest are secured with the proposed variation in this standard, and that the variation is consistent with the intent of the ordinance. The Planning Board [**waives/does not waive**] the Technical Manual standard (Section 1.7.2.7) to reduce driveway separation to below 100 feet.

B. CONDITIONAL USE

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in the Planning Board Report for the public hearing on April 9, 2019 for application #PL-000418-2018 (10 Hammond Street) relevant to Portland's Conditional Use Standards and other regulations, and the testimony presented at the Planning Board hearing, the Planning Board [**finds/does not find**] the proposed conditional use for workforce housing meets the standards of Section 14-484 with the following condition, to be met prior to issuance of a Certificate of Occupancy:

1. A financial contribution of \$169,744 shall be paid into the City's Housing Trust Fund as a fee-in-lieu to satisfy the inclusionary zoning requirements for a sixteen (16) unit residential building. If the number of units. In the event that the unit count changes, the contribution to be collected shall be recalculated and confirmed by the Housing Program Manager prior to contribution of the fee-in-lieu.

C. 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 April 9, 2019 for application # PL-000418-2018 (10 Hammond Street) relevant to the subdivision regulations, and the testimony presented at the Planning Board hearing, the Planning Board [**finds/does not find**] that the plan is in conformance with the subdivision standards of the land use code subject to the following conditions of approval:

PRIOR TO THE SUBMISSION OF THE PLAT FOR PLANNING BOARD SIGNATURE

1. The subdivision plat shall be finalized to the satisfaction of the Planning Authority, Corporation Counsel and Department of Public Works and include clear descriptions of the number, location, type and size of all subdivided units, along with relevant notes and conditions.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

2. The signed subdivision plat shall be recorded at the Cumberland County Registry of Deeds.

PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY

3. Condominium documents shall be finalized to the satisfaction of the Planning Authority and Corporation Counsel before being recorded.

D. SITE PLAN REVIEW

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board Report for the public hearing on April 9, 2019 for application # PL-000418-2019 (10 Hammond Street) relevant to the site plan regulations; and the testimony presented at the Planning Board hearing, the Planning Board **[finds/does not find]** that the plan is in conformance with the site plan standards of the land use code, subject to the following conditions of approval:

PRIOR TO APPLYING FOR A BUILDING PERMIT

2. Roof plan and building elevations shall be updated to extend screening around all sides of proposed roof-mounted mechanical equipment so as to screen from all vantage points, or relocate mechanical equipment off of the roof towards the rear or side of the property and screen in accordance with site plan and technical manual standards.
3. Applicant shall coordinate with the Planning Authority and Department of Public Works to install the proposed storm drain connection to Fox Street prior to scheduled repaving of Fox Street, to occur between July and September of 2019.
4. Site Plan and associated details shall be revised as necessary to show that all proposed crosswalks and landings feature ADA compliant ramps with detectable warning panels. The site plan shall show structures in the right-of-way that may affect crosswalk placement including manholes and utility poles.
5. The retaining wall and cedar fence in the vicinity of where the driveway meets the sidewalk, should be stepped down to maximize sight distances for pedestrians and vehicles.
6. A geotechnical exploration in the proposed infiltration area at the rear of the site shall be completed and shared with the Planning Authority, demonstrating that the slope can accommodate the proposed system.
7. The applicant has submitted a sample roof design based upon Planning Board feedback at the March 26, 2019 workshop. In the event that this design is agreed to during the public hearing, the applicant shall submit updated building elevations that are consistent with the recommendation made by the Planning Board.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

8. The applicant shall submit for review and approval by the Planning Authority, Department of Public Works and Corporation Counsel, a stormwater maintenance agreement for the proposed development.
9. A financial contribution totaling \$5,600, to be paid into the city's street tree fund, shall be provided for the required fourteen (14) street trees not provided on-site. The applicant may also choose to pursue a street tree alternative as listed in the City's site plan ordinance.

PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY

10. The applicant shall comply with Fire Department comments requiring:
 - a. The main entrance of the building must be the address for the property. This should be consistent with 911, tax assessor, Inspections Division and future mailing address.
 - b. The new building shall not affect the egress, escape or required fire department access for the neighboring building(s)
 - c. The street address shall be marked on the structure and shall be approved by the City E-911 Addressing Officer.

XIII. ATTACHMENTS

PLANNING BOARD REPORT ATTACHMENTS

1. Design Review
2. Planning, Fire and Civil Engineering Comments
3. Crosswalk Comments and Sketch
4. Final DPW Comments
5. Final Stormwater Comments
6. Inclusionary Zoning Review Comments
7. Public Comment
 - a. Jason Wentworth (1.3.19)
 - b. Jonathan Garland (1.4.19)
 - c. Jessica Lockhart (1.5.19)
 - d. Catharine Clay (2.26.19)
 - e. Carolyn Treat (2.26.19)
 - f. Donna Gartland (2.26.19)

- g. Joanna Shaw (2.27.19)
- h. Jonathan Gartland (2.28.19)
- i. Jonathan Gartland (3.25.19)
- j. Carolyn Treat (3.25.19)
- k. Seth Brayton (3.26.19)
- l. Cynthia Cochran (3.26.19)
- m. Karen Snyder (3.27.19)
- n. Christian MilNiel (3.28.19)

APPLICANT'S SUBMITTALS

- A. Cover Letter
- B. Application Form
- C. Right, Title & Interest
- D. Zoning Assessment
- E. Easements
- F. Waivers
- G. Financial Capacity
- H. Technical Capacity
- I. Conformity with Land Use Ordinance
- J. Stormwater Management Report
- K. Erosion and Sedimentation Control Report
- L. Fire Department Letter
- M. Wastewater Capacity
- N. Lighting
- O. Architectural Design Narrative
- P. Utility Cover
- Q. Construction Management Report
- R. Solid Waste Disposal
- S. Stormwater Maintenance Agreement
- T. Certification Letter
- U. Comment Response Letter
- V. Design Review Response Letter
- W. Sign in Sheet
- X. Neighborhood Meeting Notice
- Y. Neighborhood Meeting Minutes
- Z. Architectural Design Narrative
- AA. Declaration of Condominium
- BB. Design Narrative V.3
- CC. Geotechnical Letter

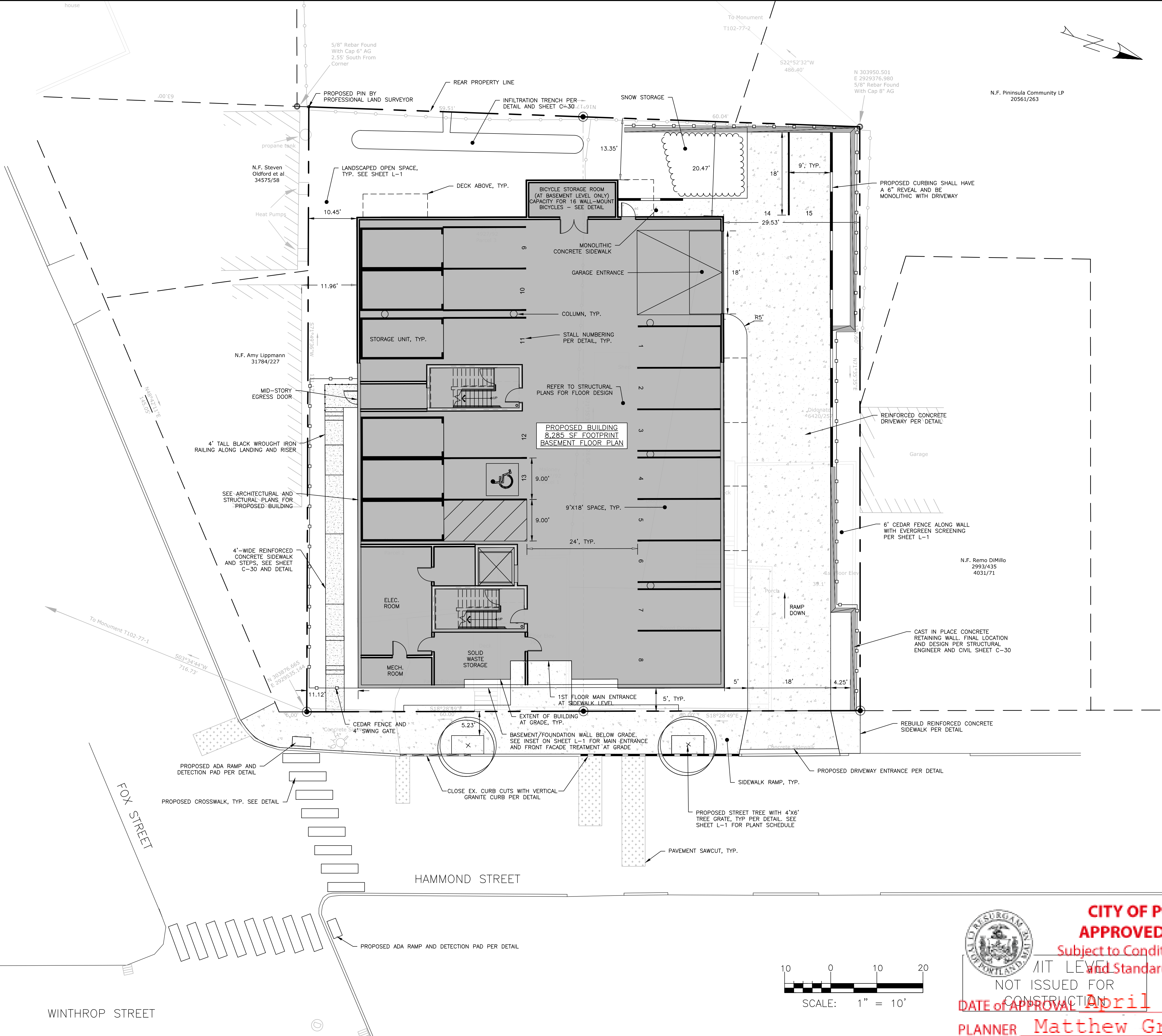
PLANS

- Plan 1. Cover Sheet
- Plan 2. General Notes
- Plan 3. Existing Conditions Plan
- Plan 4. Demolition, Construction Management
- Plan 5. Site Plan
- Plan 6. Landscape Plan
- Plan 7. Utility Plan
- Plan 8. Grading & Drainage Plan
- Plan 9. Site Details I
- Plan 10. Site Details II
- Plan 11. Landscape Details
- Plan 12. Utility Details I
- Plan 13. Utility Details II
- Plan 14. Drainage Details
- Plan 15. USSF Details
- Plan 16. Erosion & Sedimentation Control Notes
- Plan 17. Garage Floor Plan
- Plan 18. First Floor Plan

- Plan 19. Second Floor Plan
- Plan 20. Third Floor Plan
- Plan 21. Roof Plan
- Plan 22. Front Elevation
- Plan 23. Rear Elevations
- Plan 24. South Elevation
- Plan 25. North Elevation
- Plan 26. Contextual Rendering from Hammond
- Plan 27. Contextual Rendering from Winthrop
- Plan 28. Building Renderings
- Plan 29. Subdivision Plat
- Plan 30. Contextual Rendering from 30 Fox Street
- Plan 31. Contextual Rendering from Downhill Fox Street
- Plan 32. Contextual Rendering from Uphill Fox Street
- Plan 33. Seat Wall Detail
- Plan 34. Varied Roof Study – Fox Street
- Plan 35. Varied Roof Study – Front
- Plan 36. Varied Roof Study - Rear

- GENERAL NOTES:
1. STRIPING AS INDICATED ON SITE PLAN SHALL BE 4" WIDE. STRIPING ON A CONCRETE MATERIAL SHALL BE YELLOW UNLESS OTHERWISE NOTED.
 2. CURB TO BE REMOVED, STOCKPILED AND RESET IN ACCORDANCE WITH DETAIL. BROKEN CURB SHALL BE PROPERLY DISPOSED OF AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
 3. PUBLIC CURBING SHALL BE GRANITE AND PRIVATE CURBING SHALL BE CONCRETE CURB MONOLITHIC WITH THE DRIVEWAY AND WALKWAY.

SPACE AND BULK STANDARDS		
ZONE: R6	REQUIRED	PROPOSED
MINIMUM LOT SIZE	2,000 SF	15,433 SF
MINIMUM STREET FRONTAGE	20'	120'
MINIMUM FRONT YARD SETBACK	NONE (ABUTTER AVG.)	5.12'
MINIMUM SIDE YARD SETBACK	5'	10.45'
MINIMUM REAR YARD SETBACK	10'	13.35'
STRUCTURE STEPBACKS (SIDE YARD ABOVE 35')	10'	> 10'
STRUCTURE STEPBACKS (REAR YARD ABOVE 35')	15'	> 15'
MAXIMUM LOT COVERAGE	60%	56%
MINIMUM LOT WIDTH	20'	120'
MAXIMUM BUILDING HEIGHT	45'	39.81' (SEE C-30)
MINIMUM LANDSCAPED OPEN AREA	20%	25%
MAXIMUM NUMBER OF DWELLING UNITS	725 SF/UNIT = 21	16
RESIDENTIAL PARKING	1 SPACE PER UNIT AFTER 3 UNITS = 13 SPACES	15
MINIMUM INTERNAL RESIDENT BICYCLE STORAGE SPACES	2 SPACES/5 D.U. = 6	> 6
MAXIMUM GARAGE OPENING	20'	18'
*INCLUDES DECK AREA		



ISSUED FOR: FINAL APP. BUILDING REV. BY: WHS DATE: 11/28/18 WHS DATE: 3/19/19

SITE PLAN

PROJECT NAME: HAMMOND HOUSE REDEVELOPMENT

CLIENT: HAMMOND HOUSE, LLC 94 SOUTH STREET, YARMOUTH, ME 04096

ACORN ENGINEERING, INC.

ACORN ENGINEERS, INC. 65 HANOVER ST. PORTLAND, MAINE 04101 (207) 775-2655

FOR ANY AND ALL USES BEYOND THAT WHICH ARE SPECIFICALLY AUTHORIZED BY THE PROFESSIONAL SEAL OF THE ENGINEER, THE USER ASSUMES ALL RISK AND LIABILITY TO ACORN ENGINEERING, INC.

FILE: 1112_CIVIL

JN: 1112

SCALE: 1"=10'

DESIGNED BY: SJL

DRAWN BY: SJL

CHECKED BY: WHS

STATE OF MAINE

PROFESSIONAL SEAL

Matthew Grooms

No. 11419

19

CITY OF PORTLAND

APPROVED SITE PLAN

Subject to Conditions of Approval and Standard Conditions

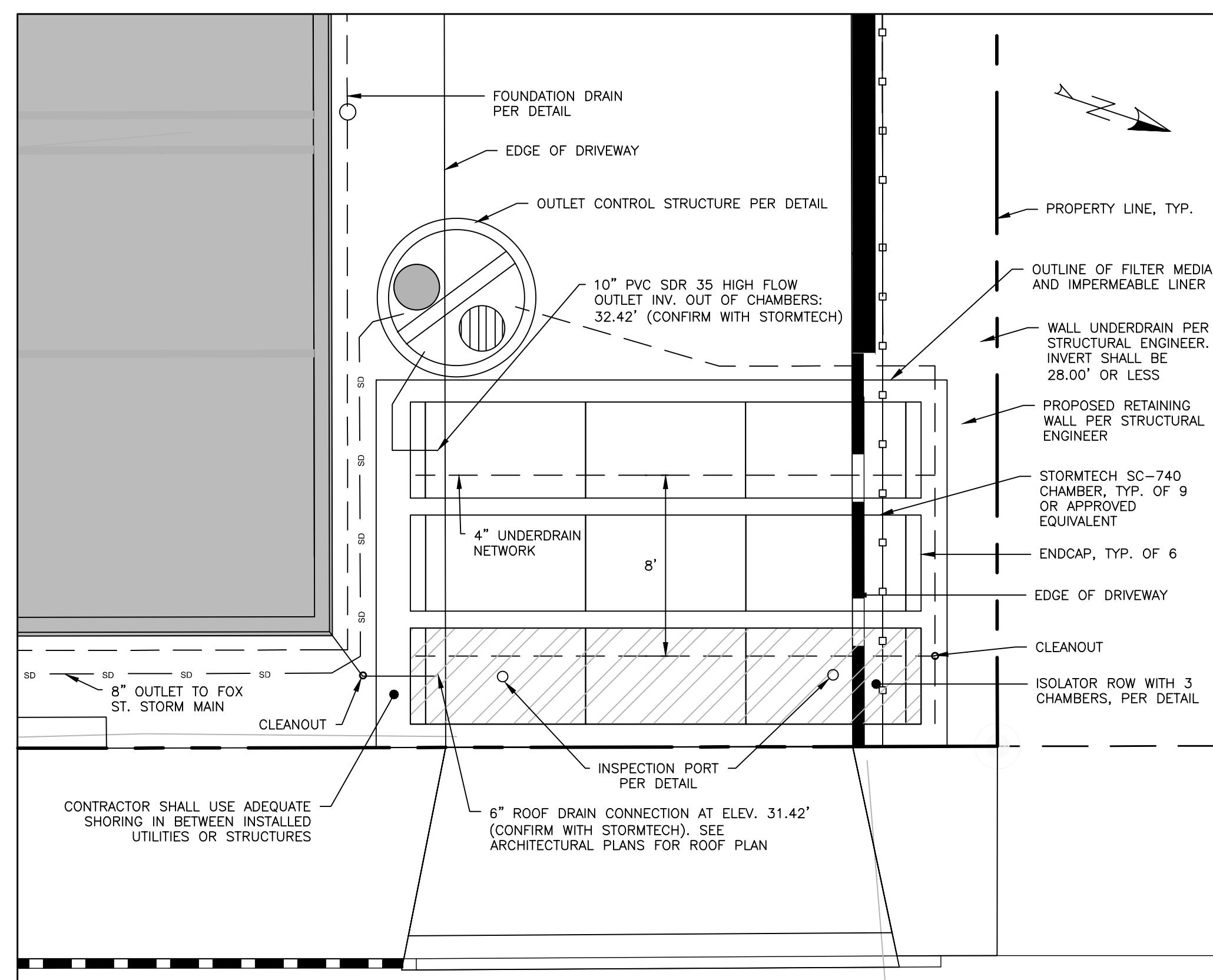
DATE of APPROVAL April 9, 2019

PLANNER Matthew Grooms

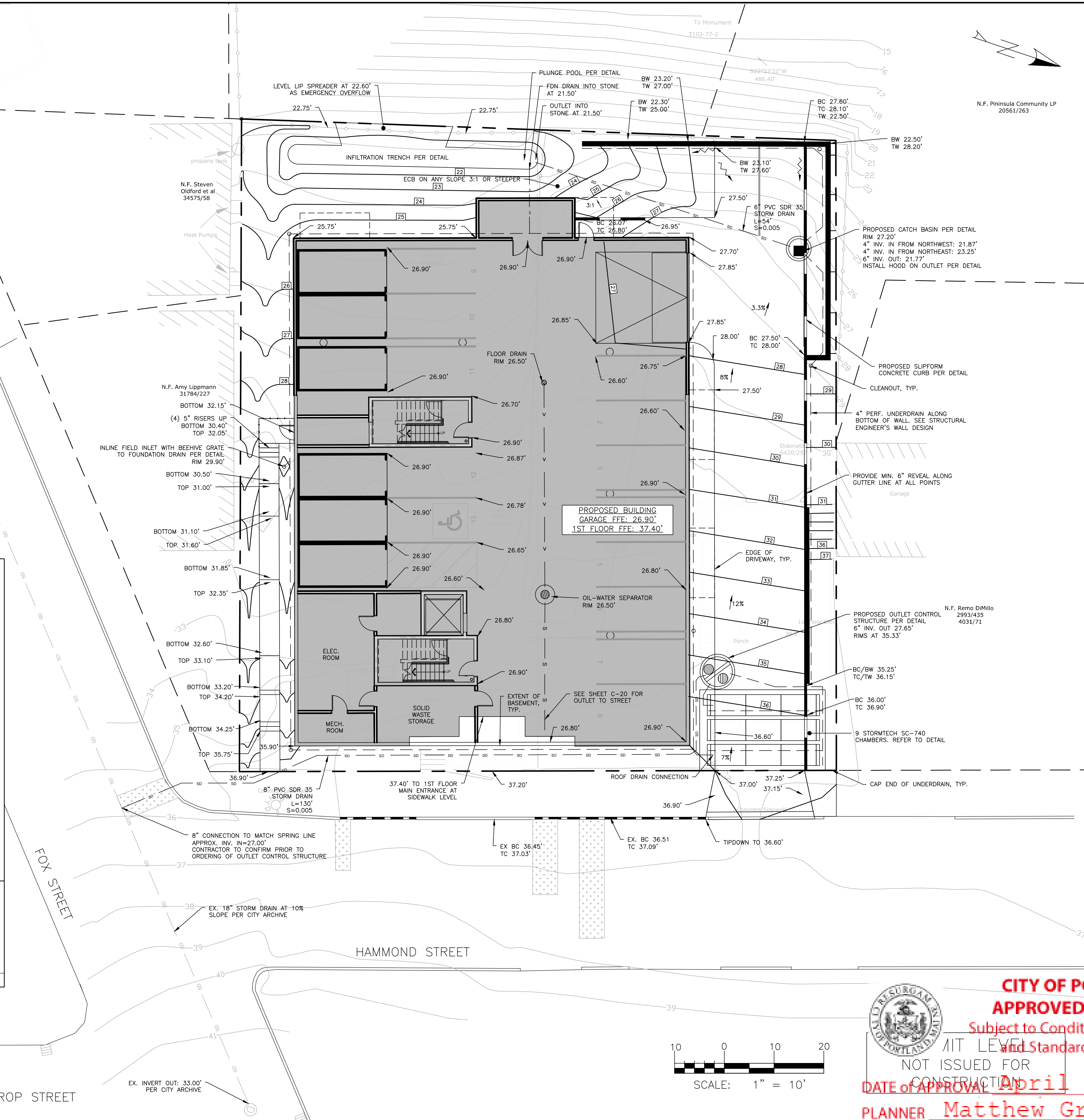
PROJECT NO. PL-000418-2018

1. ALL WORK WITHIN THE CITY STREET RIGHT OF WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.
2. REFER TO STRUCTURAL PLANS FOR FOUNDATION REQUIREMENTS. DESIGN OF ADDITIONAL TEMPORARY SOIL RESTRAINT MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IF NECESSARY FOR CONSTRUCTION.
3. COMBUSTIBLE SHALL ENSURE ALL FOUNDATION WALLS AND UNDERDRAINS ARE CONSTRUCTED WITH POSITIVE OUTLET TO PROPOSED CONNECTIONS.
4. COORDINATE ROOF LEADERS WITH THE ARCHITECT.
5. ALL SPOT GRADES WITH THE TEXT INSIDE THE BUILDING FOOTPRINT CORRESPOND TO THE FINISHED GRADE ELEVATION. SPOT GRADES WITH THE TEXT SHOWN OUTSIDE THE BUILDING FOOTPRINT REPRESENT THE FINISHED GRADE OUTSIDE OF THE BUILDING.

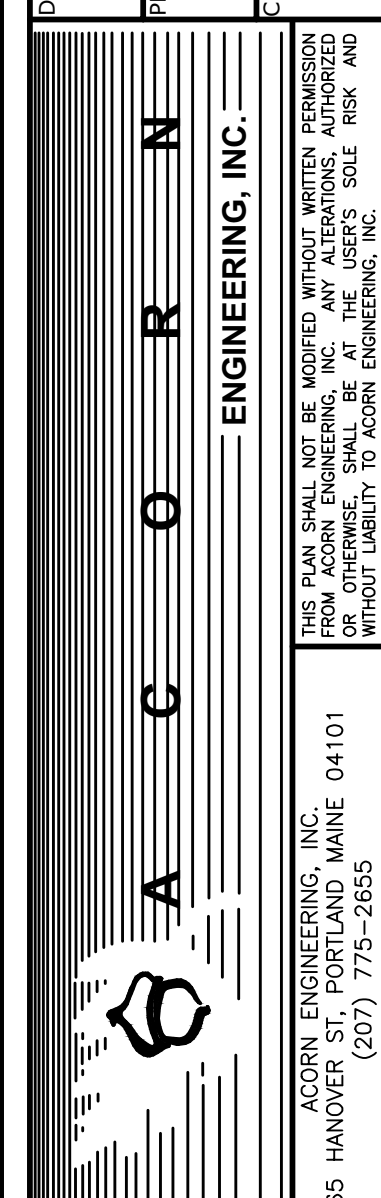
<u>AVERAGE GRADE & BUILDING HEIGHT CALCULATIONS:</u>	
NORTHERLY CORNER:	37.00'
EASTERLY CORNER:	35.90'
SOUTHERLY CORNER:	25.75'
WESTERLY CORNER:	27.70'
AVERAGE GRADE:	31.59'
ROOF ELEV:	71.40'
BUILDING HEIGHT:	39.81'



UNDERDRAINED SUBSURFACE
SAND FILTER
SCALE: 1"=5'

[illegible]

DRAWING NAME:	GRADING & DRAINAGE PLAN
PROJECT NAME:	HAMMOND HOUSE REDEVELOPMENT
CLIENT:	HAMMOND HOUSE, LLC 94 SOUTH STREET, YARMOUTH, ME 04096



FILE:	1112_CIVIL
JN:	1112
SCALE:	1"=10'
DESIGNED BY:	SJL
DRAWN BY:	SJL
CHECKED BY:	WHS





1 EAST ELEVATION
1/4" = 1'-0"

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ARCHITECTURE

HAMMOND HOUSE
10 HAMMOND STREET
PORTLAND, MAINE

RSA
RYANSENATORE
ARCHITECTURE
500 CONGRESS STREET
PORTLAND, MAINE 04101
207-650-8414
senatorearchitecture.com

CONSULTANTS:

REVISIONS:
PROGRESS PRINT ONLY
Not for Construction
MARCH 29, 2019

DATE:

PROJECT No. 1846

DRAWN BY: RRT, RJS

CHECKED BY: RJS

SCALE: AS NOTED

SHEET TITLE:

EAST
ELEVATION



CITY OF PORTLAND
APPROVED SITE PLAN
Subject to Conditions of Approval
and Standard Conditions

A2-0

DATE of APPROVAL April 9, 2019

PLANNER Matthew Grooms

PROJECT NO. PL-000418-2018



1 WEST ELEVATION
1/4" = 1'-0"

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CONSULTANTS:

REVISIONS:
PROGRESS PRINT ONLY
Not for Construction
MARCH 29, 2019

DATE:

PROJECT No. 1846

DRAWN BY: RRT, RJS

CHECKED BY: RJS

SCALE: AS NOTED

SHEET TITLE:
WEST
ELEVATION



CITY OF PORTLAND
APPROVED SITE PLAN
Subject to Conditions of Approval
and Standard Conditions

A2-1

DATE of APPROVAL April 9, 2019

PLANNER Matthew Grooms

PROJECT NO. PL-000418-2018



1 SOUTH ELEVATION
1/4" = 1'-0"



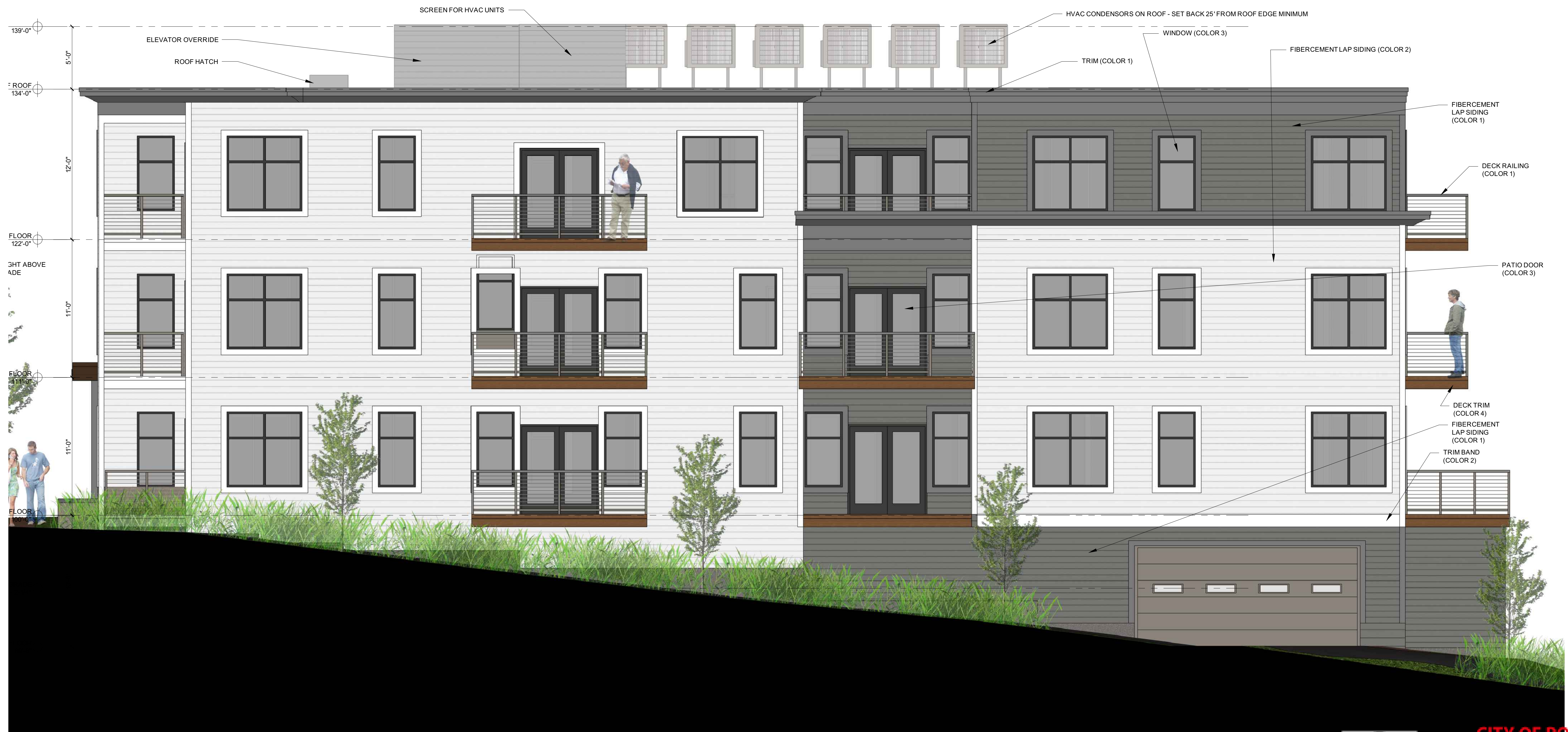
CITY OF PORTLAND
APPROVED SITE PLAN
Subject to Conditions of Approval
and Standard Conditions

A2-3

DATE of APPROVAL April 9, 2019

PLANNER Matthew Grooms

PROJECT NO. PL-000418-2018



1 NORTH ELEVATION
1/4" = 1'-0"

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CONSULTANTS:

REVISIONS:
PROGRESS PRINT ONLY
Not for Construction
MARCH 29, 2019

DATE:

PROJECT No. 1846

DRAWN BY: RRT, RJS

CHECKED BY: RJS

SCALE: AS NOTED

SHEET TITLE:

NORTH
ELEVATION



CITY OF PORTLAND
APPROVED SITE PLAN
Subject to Conditions of Approval
and Standard Conditions

A2-2

DATE of APPROVAL April 9, 2019

PLANNER Matthew Grooms

PROJECT NO. PL-000418-2018

PLANNING BOARD

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

August 14, 2024

Steven Bushey
300 Southborough Dr.
Suite 200
South Portland, ME 04106

Project Name: Major Site Plan
Address: 331 Cumberland Avenue
Applicant: Youth & Family Outreach
Gorrill Palmer Engineering

Project ID: PL-002938-2024
CBL: 003 K010

Planner: Eric Freeman

Dear Steve,

On August 13, 2024, the Planning Board approved a major site plan application for a six story mixed-use building with 60 residential units and new facilities for Youth & Family Outreach along with associated site and streetscape improvements at 331 Cumberland Avenue in the B-3 Downtown Business zone. The decision is based upon the application, documents and plans as submitted. The Planning Board reviewed the proposal for conformance with the standards of the Site Plan Ordinance, Ch. 14, Article 14, Section 14.6. based on the information provided to the Board in the application, plans, and reports through testimony and other information submitted by the applicant, the Planning Board adopted the findings, conclusions and recommendations contained in the Planning Board Report for the public hearing on August 13, 2024, which is attached hereto and incorporated herein by reference. Based upon those findings, conclusions and recommendations, the Planning Board found that the application met all relevant standards and voted (4-0) to approve the application with the following conditions as presented below.

Site Plan Review

On the basis of the application, plans, reports and other information submitted by the Applicant; findings and recommendations contained in the Planning Board Report for the public hearing on August 13, 2024 for application # PL-002938-2024 relevant to the site plan regulations; and the testimony presented at the

Planning Board hearing, the Planning Board voted (4-0) to find that the plan is in conformance with the site plan standards of the Land Use Code, subject to the following conditions of approval:

PRIOR TO APPLYING FOR A BUILDING PERMIT

1. The applicant shall coordinate with the Planning Authority to address the City of Portland's design review memo, dated August 9, 2024, to the satisfaction of the Planning Authority.
2. The applicant shall provide draft condominium documents for review and approval by the Planning Authority and Corporation Counsel.
3. The applicant shall provide revised stormwater discharge calculations to be reviewed and approved by the Department of Public Works and that any further stormwater or utility comments have been addressed to the satisfaction of the Planning Authority and the Department of Public Works.
4. The applicant shall revise their Transportation Demand Management (TDM) plan to be in compliance with TDM standards laid out in section 17.3 of the Technical Manual.
5. The applicant shall ensure that all stormwater management and utility plans have been reviewed and approved by the Department of Public Works and that all outstanding comments have been addressed to the satisfaction of the Planning Authority and the Department of Public Works.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

6. The applicant shall provide a draft stormwater maintenance agreement for review and acceptance by Corporation Counsel and the Department of Public Works.

PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY

7. The applicant shall contribute \$20,800 to the City's Tree Fund, in lieu of planting 54 of the 60 required street trees.
8. The applicant shall provide the Planning Authority with a written agreement between Youth & Family Outreach and the entity managing the on-site residences, which expressly permits residents the option to utilize the exterior play area during off-hours as a community amenity space.

Standard Procedures

Note: The following standard procedures and requirements apply to all approved site plans:

1. Site Plan Expiration The site plan approval will be deemed to have expired unless work has commenced within one (1) year of the approval or within a time period up to three (3) years from the approval date as agreed upon in writing by the City and the applicant. Requests to extend approvals must be received before the one (1) year expiration date.

2. Separate Building Permits Are Required This approval does not constitute approval of building plans, which must be reviewed and approved by the City of Portland's Permitting and Inspections Department.
3. Performance Guarantee and Inspection Fees A performance guarantee covering the site improvements and an inspection fee payment of 2.0% of the guarantee amount and three (3) final sets of plans must be submitted to and approved by the Planning and Urban Development Department and Public Works Department prior to the release of a building permit, street opening permit or certificate of occupancy for site plans.
4. Construction Management Plans The applicant, contractor and subcontractors are required to conform to the approved Construction Management Plan, and all conditions contained within the project's approval, for the entire duration of the project. Any amendments to the approved Construction Management Plan shall be reviewed and approved by the Department of Public Works prior to the execution. The Planning Authority and the Department of Public Works have the right to seek revisions to an approved Construction Management Plan. The applicant shall coordinate the project's construction schedule with the timing of nearby construction activities to avoid cumulative impacts on a neighborhood and prevent unsafe vehicle and pedestrian movements. Accordingly, nearby construction activities could involve a delay in the commencement of construction.
5. Preconstruction Meeting Prior to the release of a building permit and scheduling of a preconstruction meeting, a hard copy set of approved plans shall be submitted to the Development Review Coordinator. A pre-construction meeting shall be held at the project site with the contractor, Development Review Coordinator, Public Works representative, and owner to review the construction schedule and critical aspects of the site work. At that time, the Development Review Coordinator will confirm that the contractor is working from the approved site plan and the approved Construction Management Plan. The site/building contractor shall provide one (1) copy 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 pre-construction meeting.
6. Department of Public Works Permits If work or obstructions will occur within the public right-of-way, such as utilities, curb, sidewalk, driveway construction, site deliveries and equipment siting, a Street Opening and/or Occupancy Permits are required for your site. Please contact the Department of Public Works Permit Clerk at (207) 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)
7. Develop Site According to Plan The site shall be developed and maintained as depicted on the site plan and in the written submission of the applicant. Any modifications of an approved site plan or alteration of a parcel, or of any approved exterior elevations, which were the subject of site plan approval after May 20, 1974, shall require the prior approval of an amended site plan by the Planning Board or Planning Authority pursuant to the terms of Chapter 14, Land Use, of the Portland City Code.

8. Stormwater Management The owner/operator of an approved stormwater management system, and all assigns shall comply with the conditions of Chapter 32, Stormwater including Article III, Post Construction Stormwater Management, which specifies the annual inspections and reporting requirements.

A maintenance agreement for the stormwater drainage system, as attached, or in substantially the same form, shall be submitted for review by Corporation Counsel. Once approved, the document shall be signed and recorded at the Cumberland County Registry of Deeds prior to the issuance of a building permit. Final copies shall be submitted to both the Department of Planning and Urban Development and the Department of Public Works.

9. Defect Guarantee A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.
10. As-Built Final Plans Final sets of as-built plans shall be submitted digitally to the Planning and Urban Development Department, on a CD or DVD, in AutoCAD format (.dwg), release AutoCAD 2005 or greater. Please provide one hard copy of the mylar.
11. Mylar Copies Mylar copies of the as-built drawings for the public streets and other public infrastructure in the subdivision must be submitted to Public Works prior to the issuance of a certificate of occupancy.
12. Impact Fees New development or changes of use that result in net new residential dwelling units, non- residential building square footage, or water meters, are subject to the City of Portland's impact fee ordinance (Chapter 14, Article XVII). Impact fees are calculated at the time of building permit and must be paid prior to the certificate of occupancy. For more information, visit <https://www.portlandmaine.gov/2409/Impact-Fees>

The Development Review Coordinator must be notified five (5) working days prior to the date required for final site inspection. The Development Review Coordinator can be reached at the Planning and Urban Development Department at drc@portlandmaine.gov or (207)874-8984. All site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact Eric Freeman at (207)874-8724 or via email at efreeman@portlandmaine.gov

Sincerely,



Brandon Mazer, Planning Board Chair

Attachments:

1. Planning Board Report
2. Portland City Code: Chapter 32
3. Sample Stormwater Maintenance Agreement
4. Performance Guarantee Packet

331 Cumberland Avenue
Major Site Plan Application
PL-002938-2024
Youth & Family Outreach, Applicant

Submitted to:	Portland Planning Board	Prepared By:	Eric Freeman
Public Hearing Date:	August 13, 2024	Date:	August 9, 2024

I. INTRODUCTION

Youth & Family Outreach have submitted a Major Site Plan application to construct a new six-story, mixed-use building at 331 Cumberland Avenue in the B-3 zone. This building would include new facilities for Youth & Family Outreach on the first two floors and 60 residential units. This application is being referred to the Planning Board for compliance with the City of Portland's Land Use Code Site Plan Standards, Section 14.6.

The Planning and Urban Development Department mailed 105 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the August 3rd, and August 6th 2024 editions of the Portland Press Herald.

Applicant: Developers Collaborative, Youth & Family Outreach

Applicant Representatives: Gorrill Palmer, Invid Architecture



Figure 1: The proposed building as seen from Cumberland Avenue

II. REQUIRED REVIEWS

Review	Applicable Standards
Site Plan	Section 14.6
B-3 Multifamily Residential Design Standards	Design Manual Section 14.6.4

III. PROJECT DATA

Existing Zoning	B-3 Downtown Business
Property Size	19,592 SF
Existing Use	Youth & Family Outreach facility, empty restaurant space, Surface parking
Proposed Development Program	6-story, mixed-use building with new Youth & Family Outreach facilities and 60 housing units with residential amenities.

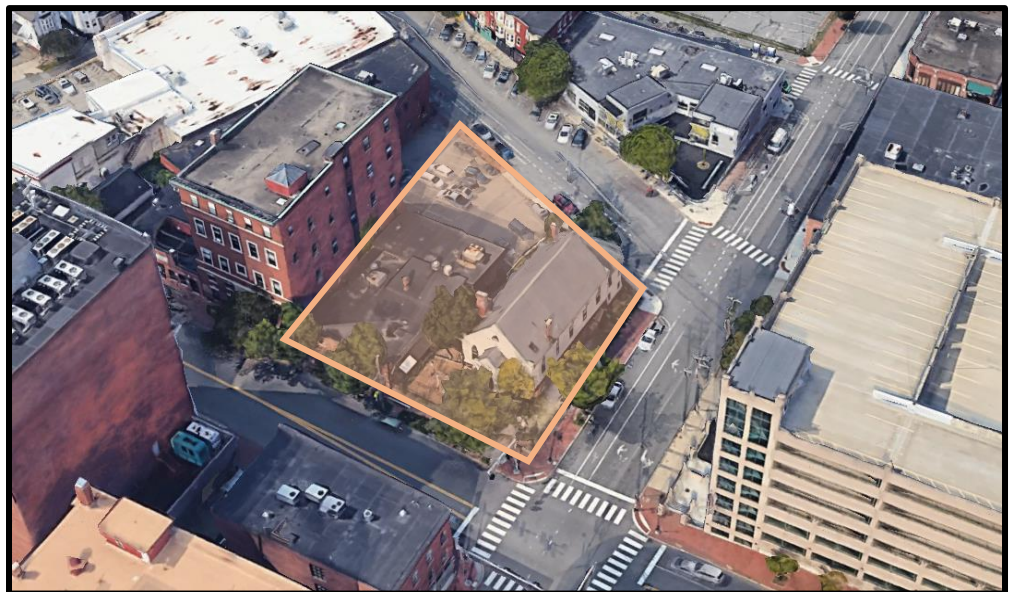
IV. EXISTING CONDITIONS AND SURROUNDING AREA

The existing site is bounded by Cumberland Avenue to the south, Preble Street to the east and Portland Street to the north. A five-story multifamily building abuts the site immediately to the west and the Cumberland Avenue Garage abuts the site to the east across Preble Street. The Preble Street emergency center, Elaine's Way abuts the site to the north across Portland Street. The site is in a transitional area between downtown and Bayside, and the surrounding area consists primarily of mixed-use commercial and residential buildings as well as social services facilities.

There are currently two buildings on this site which would be removed as part of this application; The Preble Street Chapel building located at the corner of Cumberland and Preble Street which is currently occupied by Youth & Family Outreach (YFO) and the former Maria's Restaurant building, which is unoccupied. There is a small surface parking lot behind the former restaurant building along Portland Street. The site also features several trees as well as a small playground area operated by YFO.

The Planning Board previously approved an application submitted by the Portland Housing Development Corporation to redevelop a portion of this parcel on September 15, 2020 (PL-001140-2020). That approval has since expired.

Figure 2: The existing site and surrounding context



V. PROPOSED DEVELOPMENT

The proposed development involves the demolition of the existing Maria's Restaurant building and the Preble Street Chapel to facilitate the construction of a six-story, 60-unit mixed-use building with on-site resident amenities and community space. The first floor will be partially occupied by Youth and Family Outreach (YFO) and will serve as the primary residential entrance, which will front on to Portland Street. The remainder of the first floor would be occupied by four residential units and residential amenities, including bike storage, trash room, laundry and a fitness room. YFO would occupy the entire second floor with staff offices, classrooms, therapy rooms and a kitchen. YFO's primary entrance would be located on the second floor at the corner of Cumberland Avenue and Preble Street. YFO students would be able to directly access an expanded playground area that is proposed to front Cumberland Avenue. The playground would feature landscaping, benches and playground equipment, and would be separated from the street with a decorative fence.

Floors three through six would be entirely residential, with a mixture of studio, 1-bedroom, 2-bedroom and 3-bedroom units. Of the 60 proposed units, 48 would be affordable units, with the remaining 12 being market-rate. An outdoor patio area on the sixth floor will be accessible to all residents.

This application would involve reconstruction of sidewalk along the site's Cumberland, Preble and Portland Street frontages with brick on Cumberland Avenue and Preble Street and concrete pavers on Portland Street. This application also involves pavement repair work on Cumberland Avenue in order to accommodate new utility connections. No on-site parking is proposed.

A total of eight new trees are proposed to be planted, including two new street trees along Preble Street and six new shade trees within the playground area fronting Cumberland Avenue.

This application will utilize existing water, sewer and gas utilities servicing the site from Cumberland Avenue and Preble Street.



Figure 3: Cumberland Avenue Elevation

Figure 4: Portland Street Elevation

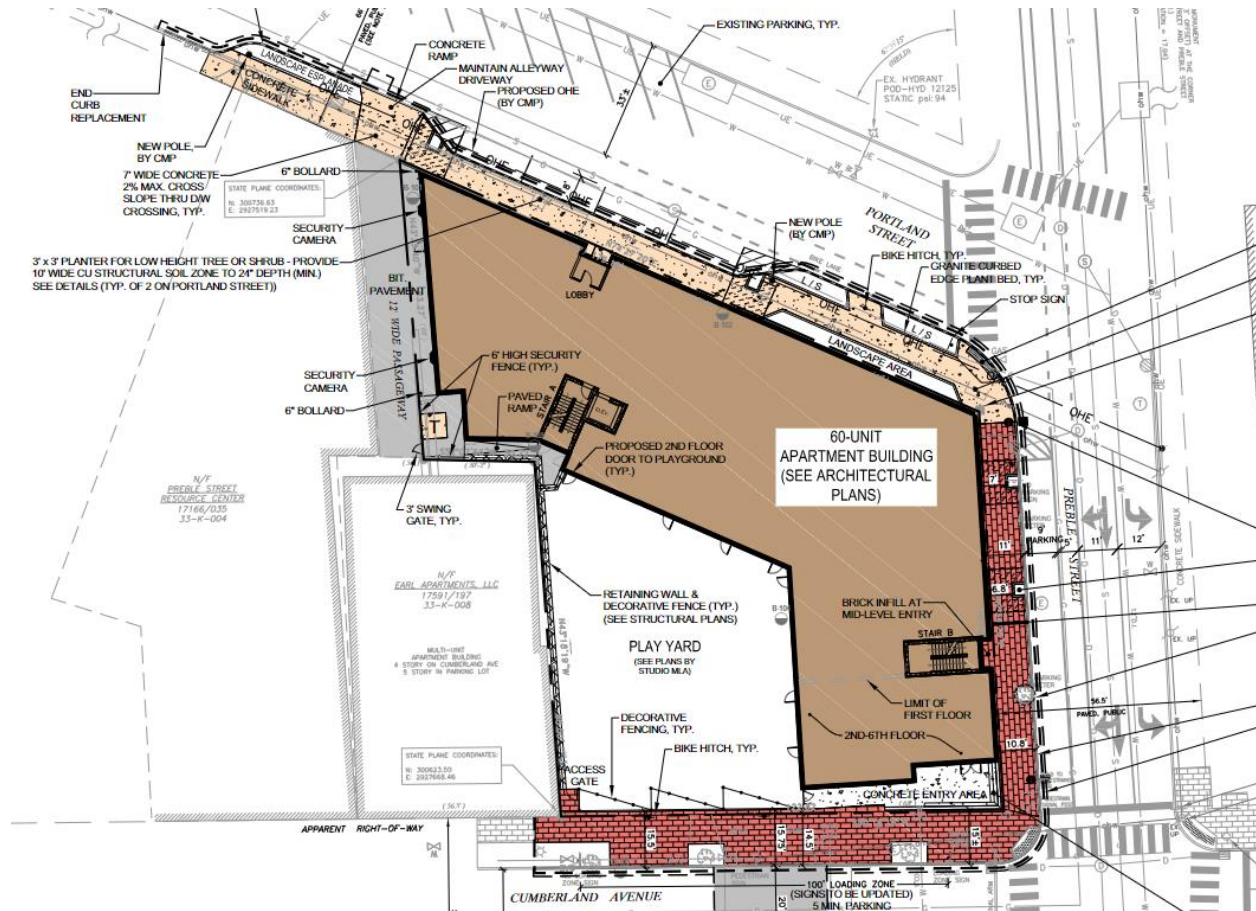


Figure 5: Site Plan

VI. RIGHT, TITLE, & INTEREST

The applicant has demonstrated sufficient right, title and interest to the two parcels involved in this application by deeds associated with these parcels are recorded in the Cumberland County Registry of Deeds in book 35266 pages 282-285.

Full Right, Title and Interest documentation is included as Attachments E and F. Given the long history of the site and the succession of deeds associated with this property, additional clarification was requested regarding the applicant's Right, Title and Interest.

A written legal opinion from Curtis Thaxter Attorneys detailing the three deeds associated with this application can be found as Attachment G. This opinion demonstrated that the applicant has sufficient right, title and interest to redevelop these parcels in the manner proposed. This opinion was reviewed and accepted by Corporation Council. (Attachment S3.) Corporation Counsel confirms that that the information provided demonstrates adequate right, title and interest to proceed with the development as proposed.

FINANCIAL & TECHNICAL CAPACITY

The applicant intends to submit this application to MaineHousing in order to be considered for an allocation award for Low Income Housing Tax Credits (LIHTC). The applicant has provided a letter of

Financial Capacity demonstrating that Youth & family Outreach has financial capacity to construct this application as presented. Full financial capacity documentation is included as attachment C.

Gorrill Palmer and Invivid Architecture have demonstrated capacity and experience working on commercial and residential projects of a similar scale. Full technical capacity documentation is included as attachment D

VII. ZONING ANALYSIS

The subject properties lie within the B-3 Downtown Business zone. The proposed use is permitted by right within the B-3 zone. Relevant sections of the B-3 purpose statement include:

B-3: *To maintain and enhance the role of the downtown as the business and commercial center of the region; to enhance and promote the orderly expansion of retail and service businesses downtown, satisfying the related needs of the city's resident, working, and visitor populations; to encourage increased housing opportunity downtown for a diverse residential population; to enhance the pedestrian environment through the encouragement of intensive mixed-use activities"*

This application is a mixed-use project providing 60 housing units and new childcare facilities for Youth & Family Outreach. The proposed development fits within the context and intent of the B-3 zone.

	Required	Proposed
Lot Size	None	19,592 SF
Maximum Height (ft)	85 ft.	74 ft.
Minimum Street Frontage	15 ft.	122 ft.
Maximum Front Setback	5 ft.	2 ft.
Lot Coverage	Up to 100%	82%
Off-street parking spaces	None	None

The applicant is proposing an increased front setback along Cumberland Avenue. This increased setback is allowable as stated in Section 2 of the B-3 Downtown Design Standards.

Standards for increasing setback beyond street build-to line:

A proposed development may exceed maximum setbacks as required in section 14-220(c) only where the applicant demonstrates to the Planning Board that the introduction of increased building setbacks at the street level:

- I. Provides substantial and viable publicly accessible open space or other amenity at the street level that supports and reinforces pedestrian activity and interest. Such amenities may include without limitation plazas, outdoor eating spaces and cafes, or wider sidewalk circulation areas in locations of substantial pedestrian congestion

- II. *Does not substantially detract from the prevailing street wall character by introducing such additional setback at critical building locations such as prominent form-defining corners, or create a sense of discontinuity in particularly consistent or continuous settings*
- III. *Does not detract from existing publicly accessible open space by creating an excessive amount of open space in one (1) area or by diminishing the viability or liveliness of that existing open space; and*
- IV. *The area of setback is of high quality and character of design and of acceptable orientation to solar access and wind impacts as to be attractive to pedestrian activity.*

Staff are supportive of the increased front Setback given the architectural treatment of the fencing along the street wall and the planting of new street trees along the playground frontage and feel that the proposed design is in conformance with the relevant design standards.

V. SITE PLAN 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

This application proposes to install a new curb extension at the corner of Portland Street and Preble Street, which would remove three existing on-street parking spaces. This curb extension would include landscaping and space for new utility poles. Another smaller curb extension is proposed west of the proposed building along Portland Street, to facilitate the installation of a new utility pole, which would remove one on-street parking space. The project is not anticipated to create any significant impact to surrounding streets and no off-site parking has been allocated for use by residents or YFO staff. The existing five-minute loading zone along Cumberland Avenue will be extended westward and increase the number of pick-up / drop-off spaces from two to five. Parking along Preble and Portland Streets will remain signed as two-hour parking.

Staff consider this standard to be met.

B. Access and circulation

The applicant proposes to reconstruct sidewalks along Cumberland Avenue, Preble Street and Portland Street using brick pavers. Sidewalks are proposed to be rebuilt to City standards. Crosswalks would also be reconstructed at the intersection of Portland Street and Preble Street, and at the intersection of Preble Street and Cumberland Avenue.

The proposed building would have two primary entrances. The primary residential entrance would be located on the first floor along Portland Street, while the primary entrance for Youth & Family Outreach would be located on the second floor fronting Cumberland Avenue. The playground area would be enclosed and would only be accessible from the YFO facility on the second floor. Pick-up and drop-off activities for Youth & Family Outreach will occur on Cumberland Avenue. It is anticipated that the loading and servicing for the residential portions of the proposed building would primarily occur within the alleyway area accessed from Portland Street. The proposed

project is consistent with typical access and circulation for an urban infill development and Staff consider this standard to be met.

C. Public transit access

This standard is not applicable to this application.

D. Parking

There is no on-site parking proposed as part of this application. This project is within $\frac{1}{4}$ mile of fixed-route transit and is thus not required to provide any on-site vehicular parking pending the completion of a Transportation Demand Management (TDM) Plan. Bicycle parking is provided on-site in a secure room on the ground floor with 42 proposed bicycle spaces, which exceeds the required 24 bicycle parking spaces.

E. Transportation demand management (TDM)

The proposed building is over 50,000 Square feet of floor area and is required to provide a Transportation Demand Management plan. The applicant has provided a full TDM plan which outlines the following strategies:

- Staggered pick-up and drop-off times for YFO childcare services to manage loading along Cumberland Avenue.
- Signage in the common ground level residential corridor and the 1st floor YFO entrance identifying nearby public transit locations as well as mapping for pedestrian/bicycle routes on the peninsula.
- A bike room with space for up to 42 bikes. Exceeding the standard for bicycle parking.

In order for this TDM plan to meet the requirements outlined in section 17.3 of the Technical Manual, the applicant will be required to designate a TDM coordinator, outline mode share targets and provide a full reporting regimen.

The full TDM plan is included as Attachment M.

2. Environmental Quality Standards (Section 14.6.2)

A. Preservation of significant natural features

This site is within the built urban environment. There are no known significant natural features on this site.

B. Landscape preservation

The existing site consists largely of developed area and impervious surface. The applicant will preserve three existing mature street trees along Cumberland Avenue and Preble Street. There are several smaller trees located at the back of the existing chapel along Portland Street which are in poor health, and which are planned to be removed. This application is within the B-3 zone, and given that there are no required building setbacks within this zone, there is no requirement for existing trees to be preserved. Staff consider this standard to be met.

C. Site landscaping and buffers

The site's interior playground area will be planted with a mixture of new canopy trees, shrubs, and accent plantings. A total of eight new trees are being proposed, including two new street trees along Preble Street and three along Cumberland Avenue, and six canopy trees in the playground area which are not in close enough proximity to the Public Right of Way to be considered street trees.

The remaining street trees will be provided through a contribution to the City of Portland tree fund. Additional landscaping would be provided within the new curb extension at the corner of Preble and Portland Streets. Additionally, one new planter will installed on Portland Street. Staff consider this standard to be met.



Figure 4: Playground landscaping plan

D. Water quality/storm water management/erosion control

The project will not create more than 1,000 Square Feet of additional impervious surface, therefore DEP Ch. 500 General Standards do not apply.

Per Section 5 of the City of Portland Technical Manual, Major Site plan applications are required to include Stormwater Management Plans. This site will feature on-site stormwater detention and treatment which will discharge into the existing 10" Cumberland Avenue sewer.

Staff have included a Condition of Approval regarding further coordination between the applicant and the Department of Public Works on stormwater detention and discharge. Staff consider this standard to be met.

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

A. Consistency with City Master Plans

There are no long-range plans that apply to this project.

B. Public safety and fire prevention

Youth & Family Outreach has operated at this location for many years and has designed the site with security measures including video surveillance and keyed-door access. The project has been reviewed by the City's Fire Marshall with respect to the public safety and fire prevention requirements, and has been found to meet these requirements. There are existing fire hydrants located on Cumberland Avenue within 500 feet of the development, as required by Section 3.2 of the Technical Manual.

The alleyway along the Portland Street frontage will feature security lighting as well as 24-hour video surveillance. A security fence with a keyed gate will be located at the rear of the alley to separate utilities and rear building access from the street. Staff consider this standard to be met.

C. Availability and capacity of public utilities

The proposed building's sprinkler and domestic water systems will be serviced via an existing 8" water main in Cumberland Avenue. The Fire Department connection will be located along the south side of the building on Portland Street. The applicant has provided an ability to serve letter from the Portland Water District and a wastewater capacity authorization from the Department of Public Works. A domestic sewer connection is proposed to tie into an existing 10" sewer line in Portland Street. The building will be served by Natural gas coming from Cumberland Ave. Staff consider this standard to be met.

4. Site Design Standards (Section 14.6.4)

A. Massing, ventilation, and wind impact

The proposed building is 74 ft. in height which is below the maximum allowable height of 85 ft. The proposed building is similar in scale to surrounding buildings. Given the building's size and location there are no anticipated impacts with respect to building massing, ventilation, or wind, associated with this application. Staff consider this standard to be met.

B. Shadows

The proposed building is similar in height and scale to surrounding buildings. No adverse shadow impacts are anticipated with this application. Staff consider this standard to be met.

C. Snow and ice loading

The proposed building is not in a location where falling snow or ice would impact abutting properties. All street frontages are currently maintained and cleared of snow by the Department of Public Works. Staff consider this standard to be met.

D. View corridors

This standard is not applicable to this application.

E. Historic resources

The proposed building lies within 100 feet of the Congress Street Historic District and was subject to a Historic Preservation Advisory Review, which occurred as part of the design review of the application, and is detailed in the attached design review memo (Attachment S2.)

This application does propose the demolition of the Preble Street Chapel, which was constructed in 1851 and renovated in 1899. This building, as noted above is not located within an historic district, and is not a locally designated historic landmark, and is therefore not protected from demolition. At its June 12, 2024 meeting, the Portland Historic Preservation Board discussed a motion brought forward by a Board member to consider designating the Preble Street Chapel as a landmark. Following Board discussion, no other Board member chose to second the proposed motion and the nomination was withdrawn. Staff consider this standard to be met.

F. Exterior lighting

The proposed development includes full cutoff / dark sky compliant light fixtures to minimize light spillover onto adjacent property. As proposed, the site would feature small amounts of security lighting, particularly in the access corridor accessed via Portland Street.

A full photometric plan was included. Proposed lighting fixtures outlined in the photometric plan meet the standards outlined in Section 12 of the Technical Manual.

Due to the site's location, no significant light impact is anticipated for adjacent properties.

A photometric plan is included as attachment 43.

Staff consider this standard to be met.

G. Noise and vibration

HVAC, air handling units, and other necessary equipment will be installed on the building rooftop and clustered at the center of the building to mitigate visual impacts from street level. Although no architectural utility screening is proposed, the location of the building and the central clustering of rooftop equipment is expected to mitigate noise and visual impacts from surrounding Rights-of-Way.

Staff consider this standard to be met.

H. Signage and wayfinding

The applicant will install new parking signage along Portland Street, Preble Street and Cumberland Avenue. No internal site signage is proposed as part of this application. Staff consider this standard to be met.

I. Zoning-related design standards

This application is subject for review according to the B-3 and multi-family residential housing design standards from the City of Portland *Design Manual* as defined in the land use code section

14.6.4.l. The project is also within 100' of a historic district and is subject to an advisory design review by Historic Preservation staff.

A full Design Review Memo is included as attachment S2.

VI. NEIGHBORHOOD MEETING & PUBLIC COMMENT

The applicant held a neighborhood meeting on June, 26 2024 at 5:30 Pm. The in-person meeting was held in the Community Room at 409 Cumberland Avenue. . Seven members of the public were in attendance. Public comment centered on the demolition of the chapel, YFO operations, traffic, parking and building design. A full sign-in sheet and meeting minutes are included as attachment S.

Additional written public comment has focused on Right Title & Interest, view corridors, property value impacts, construction management impacts and site landscaping.

VII. STAFF RECOMMENDATION

Subject to the proposed motions and conditions of approval listed below, Planning & Urban Development Department staff recommends that the Planning Board find that the proposed Youth & Family Outreach childcare facility with 60 residential units and associated site improvements at 331 Cumberland Avenue (PL-002938-2024) meets the applicable standards of Portland's Land Use Code.

VIII. PROPOSED MOTIONS

A. SITE PLAN REVIEW

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board Report for the public hearing on August 13, 2024 for application # PL-002938-2024 at 331 Cumberland Avenue relevant to the site plan regulations; and the testimony presented at the Planning Board hearing, the Planning Board [finds/does not find] that the plan is in conformance with the site plan standards of the land use code, subject to the following conditions of approval:

PRIOR TO APPLYING FOR A BUILDING PERMIT

1. The applicant shall provide revised stormwater and discharge calculations to be revised and approved by the Department of Public Works and that any further stormwater or utility comments have been addressed to the satisfaction of the Planning Authority and the Department of Public Works.
2. The applicant shall revise their Transportation Demand Management (TDM) plan to be in compliance TDM standards laid out in section 17.3 of the Technical Manual.
3. The Applicant shall submit a draft maintenance agreement for review and consideration by the Department of Public Works pertaining to the maintenance of landscaping and plantings within the Public Right-of-Way on Portland Street.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

4. The applicant shall provide a draft stormwater maintenance agreement for review and acceptance by Corporation Counsel and the Department of Public Works.

PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY

5. The applicant shall contribute \$20,800 to the City's Tree Fund, in lieu of planting 52 of the 60 required street trees.
6. The applicant shall provide the Planning Authority with a written agreement between Youth and Family Outreach and the entity managing the on-site residences, which expressly permits residents the option to utilize the exterior play area during off-hours, as a community amenity space.

B. PLANNING BOARD DECISION

On the basis of the findings, conclusions and recommendations contained in the Planning Board Report for the public hearing on August 13, 2024 for application # PL-002938-2024 at 331 Cumberland Avenue which is attached to the draft approval letter and incorporated therein, the Planning Board **[adopts / does not adopt]** the approval letter as drafted as the Planning Board's decision for application PL-002938-2024 and authorizes the Planning Board Chair to sign the approval letter as drafted.

ATTACHMENTS**Public Comment**

P1-P4. Rehault, George

Staff Materials

S1. Design Review – 6.5.2024

S2. Design Review – 8.9.2024

S3. Youth & Family Outreach RTI Legal Opinion from Corporation Council.

Applicants Submittal

A. Cover Letter

B. Major Site Plan Checklist

C. Financial Capacity

D. Technical Capacity

E. Deeds

F. 1851 Deed

G. Right, Title and Interest Summary Legal Opinion

H. Site Plan Standards

I. Transportation Standards

J. Public Safety Standards

K. Environmental Standards

L. Construction Management Plan

M. Transportation Demand Management

N. Zoning Analysis

O. Ability to Serve Letters

P. Wastewater Capacity Authorization

- Q. Applicant Response to Comments 7.16.2024
- R. Applicant Response to Comments 8.2.2024
- S. Neighborhood Meeting Certification
- T. YFO Parking Analysis

Plans

1. COVER
2. GENERAL NOTES
3. BOUNDARY & EX COND SURVEY
4. EXISTING CONDITION & REMOVALS PLAN
5. SITE LAYOUT PLAN
6. Landscape Plan
7. Playground Plan
8. UTILITY PLAN
9. GRADING DRAINAGE EROSION PLAN
10. Cumberland Ave - Renderings
- 11-16. Building Elevations
17. First Floor Plan
18. Second Floor Plan
19. Third Floor Plan
20. Fourth Floor Plan
21. Fifth Floor Plan
22. Sixth Floor Plan
23. Roof Plan
24. First Floor Condominium Plan
25. Second Floor Condominium Plan
26. Third Floor Condominium Plan
27. Fourth Floor Condominium Plan
28. Fifth Floor Condominium Plan
29. Sixth Floor Condominium Plan
30. Condominium Section
31. Building Sections
32. PORTLAND STREET BUMPOUTS
33. CUMBERLAND AVE ENLARGEMENT
34. RECORDING PLAT
35. SITE & MISC DETAILS
36. SITE & MISC DETAILS
37. SITE & MISC DETAILS
38. SITE & MISC DETAILS
39. FERGUSON DETAILS-R-TANK
40. FERGUSON DETAILS-R-TANK
41. Existing Conditions
42. Tree Images
43. Photometric Plan
44. Lighting Details (1)
45. Lighting Details (2)

Subject: 331 Cumberland Avenue – Major Site Plan Review
Zone: B3
Date of June 5, 2024
Review: Design Review
Reviewer(s): Sean King (Urban Designer), Eric Freeman (Planner), Evan Schueckler (Historic Preservation Manager) 
Project ID: PL-002938-2024

I. INTRODUCTION

The project at 331 Cumberland Avenue for the proposed 60-unit residential condominiums and day care facility is subject for review according to the B-3 and multi-family residential housing design standards from the City of Portland *Design Manual* as defined in the land use code section 14.6.4.I.

The project is also within 100' of a historic landmark and is subject to an advisory design review by Historic Preservation staff.

The built context of the surrounding area contains a variety of building types, architectural styles and mix of uses that vary in height and close proximity to the street typically found throughout Portland's downtown district. Numerous locally designated historical landmarks are within 2-blocks of the proposed development, including the Lancaster Block at 472 Congress Street located at Monument Square Plaza. that exhibit a consistency of architectural ornamentation, materiality and fenestration pattern for a mixed-use building facing the street.

II. HISTORIC PRESERVATION ADVISORY REVIEW

III. DESIGN REVIEW COMMENTS: red text denotes standards not met and require resubmission.

The project at 331 Cumberland Avenue shall meet the following standards based on the B-3 Downtown Business Zone design standards in the City of Portland Design Manual, *Land Use Code Section 14.6.4.I Design standards*.

§(b)(1)a.1. Relationship of pedestrian environment:

- *§(b)(1)a.1.i. General: The exterior design of portions of buildings within the first thirty-five (35) feet of height shall enhance the character, attractiveness, comfort, security, and usability of the street level pedestrian environment. Factors to be considered include the design, placement, character and quality of the following: Not Met*

Staff comment: The property is located in the B-3 Downtown Business zone within close proximity to adjacent mixed-use and residential zones with a variety of building typologies and lot

sizes that contribute to the character of the neighborhood. Staff requests that the Applicant relate more closely to the neighborhood context and exterior materiality at the first 35-feet of the building, particularly along Portland Street and Preble Street. Staff recommends incorporating brick to the base façade of the building and adjust the building placement to provide transitional areas that allow for separation between the residential units located on the ground level from the Portland Street & Preble Street sidewalk.

- *§(b)(1)a.1.i.1) Storefronts and building facades, including such factors as relationship to adjacent or nearby structures or open space, pedestrian character, materials and detailing, transparency (having a visible transmittance (VT) of .7 or higher) and contemporary design: **Not Met***

Staff comment: The proposed building has a contemporary design to include exterior materials that are commonly utilized in larger scale mixed-use residential structures throughout Downtown. Staff has concerns about durability of the fibercement at the building's base and recommends a substitution for brick to create greater articulation for the pedestrian environment.

In addition, staff has concerns about the ground-level residential units along Portland Street and Preble Street due to adjacency of units below grade to be negatively impacted by car headlights and the public sidewalk. Staff suggests a more communal use (such as the Community Room) be located at the corner of Portland Street and Preble Street along with consideration for a transitional space or material to screen residential units at the sidewalk.

Staff is requesting that the Applicant provide window transparency (VT of .7 or higher) and any window treatment that would provide privacy for residential units along Portland Street & Preble Street.

- *§(b)(1)a.1.i.2) Building entrances, including such factors as compatibility with the building's façade, prominence along the street, access to the street, and accessibility for physically handicapped or for those with special needs: **Not Met***

Staff comment: The primary building entrance along Cumberland Avenue is recessed to create an alcove that Staff finds a safety and security concern. Staff recommends placing the building entrance at Cumberland Avenue closer to the street to allow for the door access directly at the street.

- *§(b)(1)a.1.i.3) Blank facades; and **Met***

Staff comment: Staff finds the street facing façades to provide adequate fenestration, massing variation and material changes to reduce large expanses of blank facades.

- *§(b)(1)a.1.i.4) Special features, such as selective use of such features as building arcades and skywalks or elevated walkways:*

Staff comment: Not applicable. The proposed development does not propose any special features to require a review of this design standard.

- *§(b)(1)b. Pedestrian Activities District (PAD)*

Staff comment: Not applicable. The site is not located within the PAD overlay district.

- *§(b)(1)c. Pedestrian Activities District (PAD) encouragement areas shall be designed and constructed to be reasonably capable of being converted to accommodate uses permitted in the PAD overlay zone in accordance with the factors set forth in subsection b. of this section. **Met***

Staff comment: Not applicable. The site is not located within a PAD encouragement area.

- *§(b)(1)d. Sidewalk areas and open space: The design of publicly accessible sidewalk areas and open space shall complement the general pattern of the downtown pedestrian environment, conform to special City of Portland streetscape programs described in the Technical Manual, and enhance the attractiveness, comfort, security, and usability of the pedestrian environment. Factors to be considered include the design, placement, character, durability, and quality of the following:*

1. *Sidewalk, crosswalk, and street paving materials; **Not Met***

Staff comment: The proposed development plan indicates to reconstruct brick sidewalk along the property frontages on Cumberland Ave, Preble Street & Portland Street that Staff finds appropriate in this location. Existing crosswalks to adjacent public sidewalks provide current level of pedestrian service that will remain. The Applicant has proposed a bump out in the curbing along Portland Street, **Staff recommends to add street trees, lighting and shrub plantings as appropriate as a contribution to the pedestrian character in this location.**

2. *Landscaping, planters, irrigation, and tree guards and grates; **Not Met***

Staff comment: The Applicant is required to provide street trees along the property frontages along Cumberland Ave., Preble Street & Portland Street under Technical Manual Section 4. The development plan indicates preservation of existing trees in the esplanade along Cumberland Ave and one tree along Preble Street to protect and remain in place. **Staff recommends coordination with proposed utilities to minimize impacts to existing trees and root system for adequate tree preservation. Staff suggests adding street trees along Portland Street by means of adjusting the building placement to create a transitional space (≥ 5 feet) to allow for curbed planters and street trees while providing some separation between the proposed ground-level residential units and sidewalk.**

3. *Lighting; **Not Met***

Staff comment: The Applicant has submitted lighting plan and proposed lighting fixtures that does not include lighting within the public right of way required under *Technical Manual Section 10. Municipal Street Lighting Standards*. Staff requests the Applicant locate new light fixtures along Portland Street and Preble Street that are within the Peninsula zone under Figure X-4 & Figure X-7A and specify the Peninsula Medium Street light pole and fixture under Figure X-7B found under *Technical Manual Section 10. Municipal Street Lighting Standards*.

4. Pedestrian amenities such as benches and other seating, trash receptacles, kiosks, bus shelters, artwork, directional and informational signage, fountains, and other special features; and **Not Met**

Staff comment: The development plan does not indicate any pedestrian amenities along the property frontages, Staff recommends the Applicant identify areas within the public right-of-way that could adequately provide for seating, trash receptacles, bus shelter and/or informational signage as an identified Gateway under section VIII of the City's Design Manual.

Staff recommends that the Applicant consider a publicly accessible linear plaza with outdoor seating, shade trees, planters and expansion of the brick sidewalk to accommodate for safe passage along the public sidewalk.



Figure 1 – Staff diagram onto Drawing L101, dated 05-02-2024

5. Sidewalk vendors and sidewalk cafes. **Not Applicable**

Staff comment: The development plan does not propose a use conducive for sidewalk vendors, café furnishings or retail, Staff recommends permanent pedestrian amenities within or adjacent to the public sidewalk.

- §(b)(1)e. Relationship to existing development:
 1. General: Proposed development shall respect, enhance, and be integrated with the existing character of the general pattern of development in the downtown, surrounding building environment and streetscape, as described and illustrated in the Downtown Urban Design Guidelines (Appendix 1). Factors to be considered include the relationship to the following existing patterns:
 - i. Street walls and building setbacks; **Not Met**

Staff comment: The prevailing street wall and building setbacks are primarily located directly onto the street at the build-to line. Staff observes several building precedents along Cumberland Ave. that recess the primary building entry to allow for door swing while maintaining a building placement directly adjacent to the public right-of-way.

The development plan incorporates a generous front setback at the ground floor at Cumberland Ave. for the Infant 1 room and primary entry that is deeply recessed with a

partition wall that mitigates the grade change at the corner. Staff finds the partition wall along Cumberland Avenue does not fit within the surrounding context and recommends the Applicant enclose the proposed alcove with storefront windows facing the street and a primary door entry perpendicular to the property frontage.

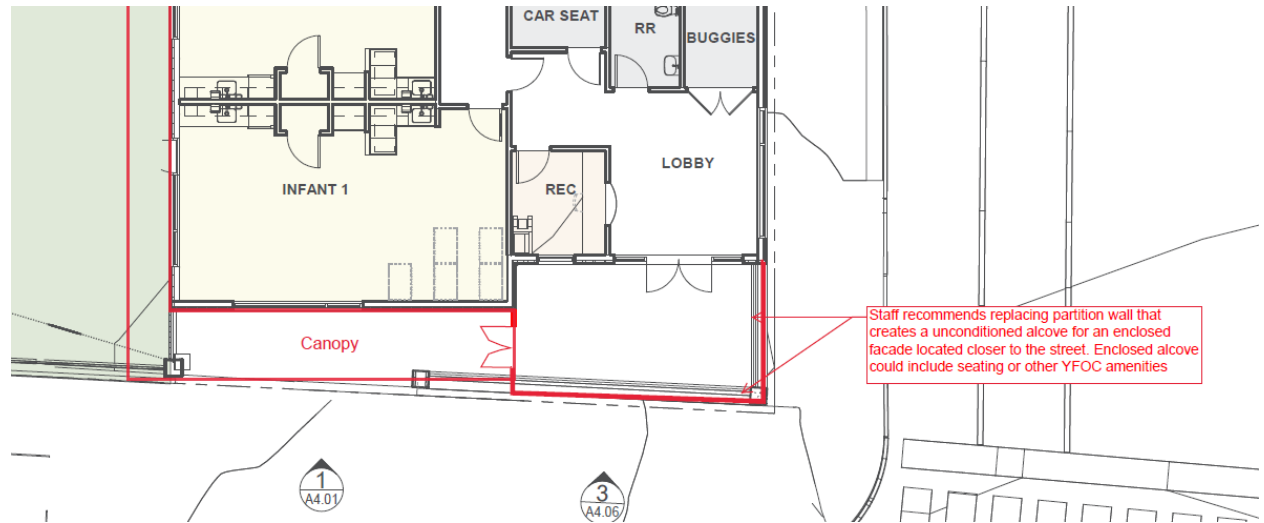


Figure 2 – Staff diagram onto Drawing A1.02, dated 05-03-2024

ii. Open space; Not Met

Staff comment: Staff finds the proposed privately accessible open space for the Youth and Family Outreach is located appropriately to prioritize the property's corner with the new building. Staff is recommending a publicly accessible linear park directly adjacent to the Cumberland Ave sidewalk to provide for pedestrian amenities, see design standard §(b)(1)d.4. Pedestrian amenities & Figure 1 for additional information.

iii. Building form, scale and massing; Not Met

Staff comment: The proposed building is segmented by a base that transitions to a lower level as the site slopes down towards Portland Street from Cumberland Ave. The building delineates the base from the upper floors with a stepback along the majority of street facing facades, with the exemption of the building massing at the corner as a distinct building expression that Staff finds appropriate. Staff is recommending additional massing treatments to further reduce the building massing along Portland Street and Preble Street with particular attention towards this corner. Staff suggest that the Applicant consider recessed balconies and/or window bay projections to allow residents the opportunity for additional light, air and private open space into the units.

iv. Façade proportion and composition; Met

Staff comment: The proposed building design begins to identify a composition with a base, middle and top, however Staff recommends additional consistency with the surrounding buildings for neighborhood context. Staff has concerns about the proposed wood-look

fibercement paneling at the first two stories along Portland Street & Preble Street as an introduced exterior material at the ground-level to the neighborhood. Staff recommends a brick façade treatment that responds more closely to the context as a durable, textured exterior material.

The middle portion of the building is setback from the lower two levels and provides a mostly symmetrical fenestration pattern and rhythm both vertically and horizontally that Staff finds appropriate.

The top portion of the building does not have a clear termination, with the exception of the corner projection at Cumberland Ave with the vertical parapet roofline extension. Staff recommends a cornice articulation above the top level that is more consistent with larger buildings found in the neighborhood and suggests the additional roofline articulation at the corners that express the property as a defined gateway into the City center.

v. *Pedestrian circulation and building entrances*; **Not Met**

Staff comment: The proposed development plan identifies a primary entrance as recessed, oriented towards Cumberland Avenue and delineated from the upper levels by a horizontal canopy to wrap around the building's internal playscape for the day care facility proposed to occupy the second floor. Staff has safety concerns for the recessed alcove created by the proposed partition wall along the property frontage and recommends the addition of conditioned space to the build-to line along Cumberland. See design review standard §(b)(1)e. *Relationship to existing development: i. Street walls and building setbacks & Figure 2 for Staff recommendations.*

The primary entrance for the residential units is located at Portland Street and is recessed with an overhead canopy. Staff request that the Applicant clarify the location of the double door shown on first floor plan and recommends the door entry is within close proximity to the build-to street line. In addition, Staff recommends addition articulation for residents that may include addressing signage, change in exterior material and/or additional expression of the overhead canopy.

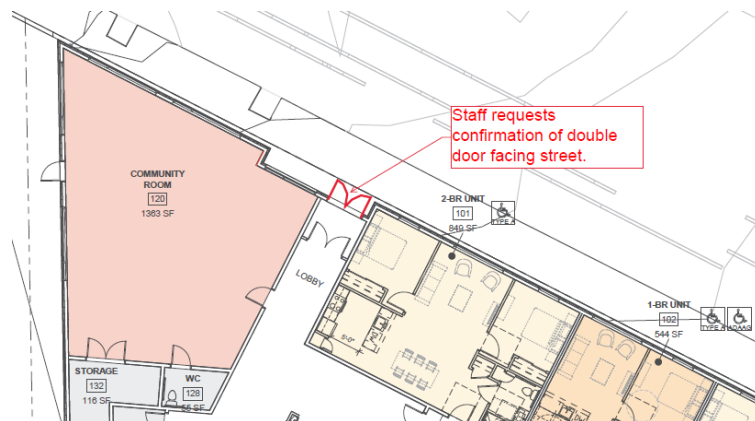


Figure 3 – Staff diagram onto Drawing A1.01, dated 05-03-2024

vi. Parking, Not Applicable

Staff comment: The proposed development plan removes the existing surface parking and driveway at Portland Street into the property site and does not propose any parking within the property.

2. Standards for increasing setback beyond street build-to line: A proposed development may exceed maximum setbacks: Not Met

Staff comment: The proposed development plan proposes to demolish the existing buildings on site to create an Elle-shaped building placed primarily along the property frontages, with the exception of the private open space along Cumberland Avenue intended for the day care facility as a playspace. Under this design standard, a proposed development may exceed the maximum setback based on an evaluation of open space and amenity; prevailing character and continuity; support for existing open space; quality and orientation. *Staff finds the setback along Cumberland Ave creates minimal publicly accessible open space and recommends the Applicant add pedestrian amenities (such as permanent outdoor seating, trees in planters, and special surface treatments) as a linear open space would support open space within this location.*

3. Roof top appurtenances: All mechanical equipment, ventilating and air conditioning and other building systems, elevators, stairways, radio or television masts or equipment, or other rooftop elements not intended for human occupancy shall be fully enclosed in a manner consistent with the character, shape and materials of the principal building, Not Met

Staff comment: *The Applicant is requested to submit a roof level plan that indicates all proposed mechanical equipment and other building systems to require screening that is integrated into the building design.*

- *§(b)(1)f. Shadow impact on open space: The location, massing and orientation of portions of buildings in excess of sixty-five (65) feet in height shall be such that substantial shadow impacts on public plazas, parks, and other publicly accessible open space are avoided. Not Applicable*

Staff comment: Portions of the proposed building along Portland Street exceed 65 feet in height however will not impact any public open spaces as there are none within the immediate vicinity.

- *§(b)(1)g. Wind impacts: The location, massing, orientation and architectural design of a new building or a building addition shall be such that no significant adverse wind impacts are created. Met*

Staff comment: The proposed building design utilizes a variety of features to break down the building's mass and height with stepback at the upper floors and variation in the façade planes to help mitigate the potential impact of winds.

- *§(b)(1)h. Setbacks for existing structures: The location and design of proposed structures shall not create a detrimental impact on the structural integrity or the safety of adjacent structures or the occupants thereof; Met*

Staff comment: The proposed development plan does not pose a detrimental impact on the structural integrity of any adjacent structures as it is standalone on a parcel bounded by public streets and sufficient separation from abutting buildings. Existing structures to be demolished to construct the proposed Ell-shaped building.

- *§(b)(1)i. Building tops: Buildings or structures which exceed one hundred fifty (150) feet in height shall be designed so as to provide a distinctive top to the building which visually conveys a sense of interest and vertical termination to the building. Not Applicable*

Staff comment: Not applicable, building does not exceed 150 feet in height

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. Not Met*

Staff comment: The property is located in the B-3 Downtown Business zone within close proximity to adjacent mixed-use and residential zones with a variety of building typologies and lot sizes that contribute to the character of the neighborhood. **Staff requests that the Applicant provide further articulation along the ground level at Portland Street and Preble Street and recommends the Applicant incorporate brick into the base of the building to complement the character and quality of exterior materials found in the neighborhood.**

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

Staff comment: The proposed building is located within close proximity to the street that responds to the surrounding context of building located at the street.

3. *Open space on the site for all multiple-family development shall be integrated into the development site. Not Met*

Staff comment: The development plan indicates a generous play yard that appears to only be accessed by the day care facility during operating hours. **Open space for the proposed 60 residential units is not provided and is required under this design standard for multi-family developments. Staff recommends that the Applicant incorporate communal outdoor open space, where appropriate within the building footprint (such as shared rooftop amenity, roof area created by stepback at third floor or end of internal corridor at each floor) or within ground plane areas (such as transitional area along Portland Street, linear park along Cumberland Avenue or at shared passageway easement at Portland Street) – See additional Staff recommendations under design standard §(b)(1)d. Sidewalk areas and open space.**

In addition, the Applicant is requested to provide private open space for the residential units (such as recessed or projecting balconies) as an alternative to meet open space for multi-family developments.

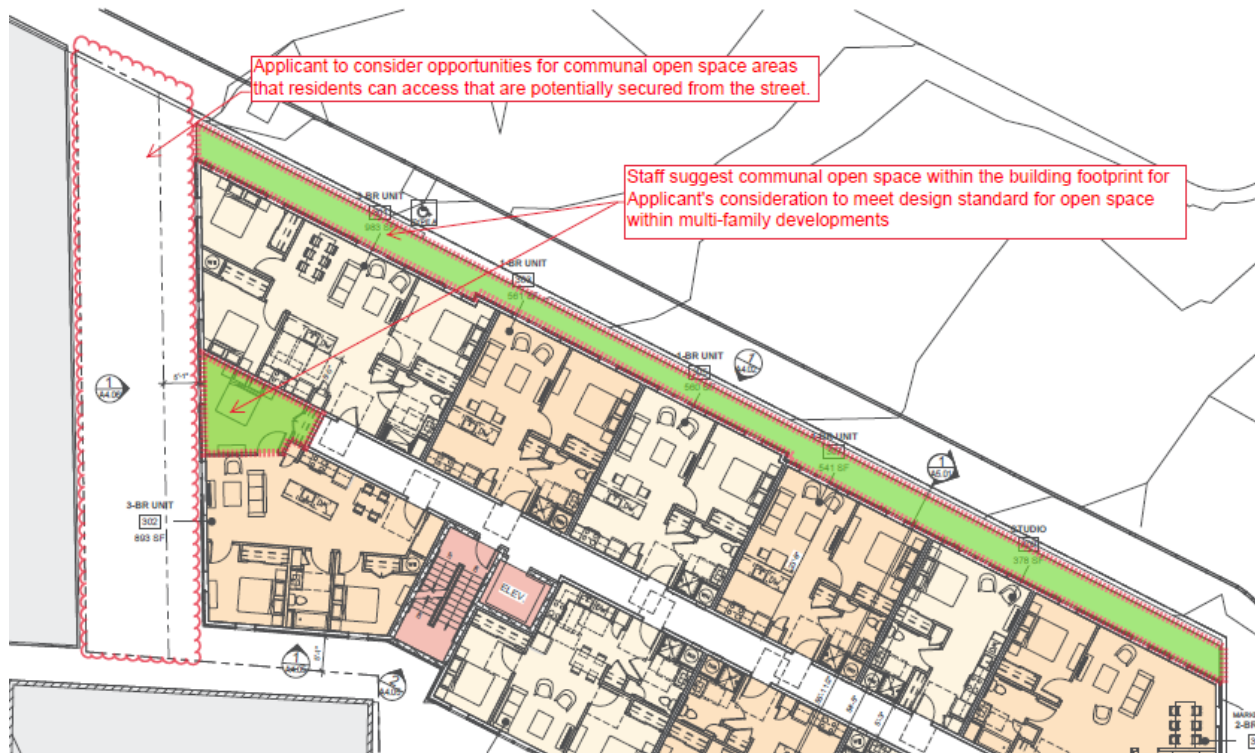


Figure 4 – Staff diagram onto Drawing A1.03, dated 05-03-2024

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.* **Met**

Staff comment: Sufficient windows and interior unit storage provided at each residential unit.

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. **Not Applicable**

Staff comment: Not applicable, no surface parking or driveways into the property are proposed.

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. **Not Applicable**

Staff comment: Not applicable, the proposed development plan does not propose a conversion to lodging houses as the existing structures are to be demolished.

Updates to the City of Portland Technical Manual

Submitted To:	Chair Mazer and Portland Planning Board	Prepared By:	Matthew Grooms, Development Review Manager
Public Hearing Date:	December 10, 2024	Date:	December 6, 2024

I. INTRODUCTION

The Department of Planning & Urban Development, in close coordination with the Department of Public Works and Department of Parks and Recreation, has prepared a reformatted and updated version of the *City of Portland Technical Manual*, in order to align the City's technical standards and requirements with ReCode Portland; a years-long effort to update the Land Use Code to facilitate the implementation of *Portland's Plan 2030*. This effort has involved reorganization of the document, reformatting of content to visually tie this document to the land use code, and a series of substantive amendments stemming from ReCode; including the establishment of a new Low Impact Development (LID) section, along with updates to the City's stormwater management and site landscaping requirements. In large part, the proposed edits represent an effort to bring standards into alignment with current and best practice, and to reorganize material for legibility and consistency with the land use code.

The Planning Board held a workshop on the proposed changes on November 26, 2024. The feedback from this workshop is summarized below, along with subsequent edits that were proposed in response to this feedback. This public hearing was noticed in the Portland Press Herald, appearing in the November 29th and 30th editions of the publication.

II. PLANNING BOARD WORKSHOP – NOVEMBER 26, 2024

At the Board's November 26th workshop, staff from Planning and Urban Development and the Department of Public Works presented the revised technical manual, focusing primarily on the substantive amendments being proposed. These included the creation of a new low impact development section within the document, changes to site landscaping requirements, particularly with respect to street tree requirements, and updates to the City's local stormwater management standards. The presentation also discussed the proposed reorganization, and invited feedback on other aspects of the technical manual.

The Board, in its review of the draft technical manual, provided the following feedback:

- Consider the financial impact of these changes on applicants, particularly with the introduction of LID requirements and the increase in the street tree fee in-lieu amount.

Discussion: While the City has not completed a LID cost analysis specific to the proposed methodology or projects on which the tool was tested, the City did provide a few resource as attachment F, prepared by the Environmental Protection Agency (EPA), which detail at a high-level the cost, both short-term and long-term, of designing and constructing in accordance with LID principles. This analysis shows that the up-front costs may be higher than traditional forms of development, however, that LID typically reduces the long-term operating costs of the development, and further reduces strains on public infrastructure. The City would also note that the LID scoring tool offers a broad suite of options for applicants to achieve points, many of which

are low-cost and fairly easy to employ in a variety of circumstances. Further, the scoring tool, as detailed in the workshop, generously awards points for new development occurring in areas considered priority growth areas, where there are limited or no natural resources that would be impacted by new development. For example, infill development and redevelopment, which constitute a significant percentage of what the City reviews, are easily able to achieve passing scores, by virtue of the fact that they rarely involve impacts to critical natural resources, such as wetlands and other habitat areas.

With regard to street trees, the City is proposing to postpone consideration of the increase in the street tree fee in-lieu amendment, to allow for additional time to coordinate with Parks and Recreation staff around other amendments to this section of the Technical Manual. Additional potential amendments include updates to the recommended tree list, updates to figures, and updates around soil volume requirements. Given this, the City will continue to recommend that the contribution amount be \$400, until the broader list of changes are brought forward.

- Consider the implementation of waiver criteria for the LID requirements, in order to establish specific parameters under which an applicant could be considered for a waiver.

Discussion: Following the workshop, City staff met to discuss the potential of adding waiver criteria around the LID standards, and ultimately decided not to include specific criteria. This decision was based in part on the fact that the City will soon be required to adopt a LID ordinance or regulation, which may either not allow for a waiver, or may establish criteria for a waiver, as is the case for the Maine DEP Ch. 500 Flooding Standard. Further, as discussed elsewhere in this report, the LID scoring tool provides numerous pathways for development to achieve a passing score, and based upon this framework, there appears to be limited justifiable criteria for considering and granting a waiver of these requirements. The City also has concerns that the introduction of waiver language may actually serve to invite waiver requests, which the City would discourage. As with other technical standards that do not contain waiver criteria, the review authority will continue to have the ability to waive requirements in accordance with the provisions of the site plan and subdivision ordinance, within the Land Use Code.

- Consider strategies to incentivize applicants achieving higher LID scores than the minimum requirement.

Discussion: The City is continuing to evaluate opportunities to incentivize LID implementation beyond the minimum requirement. Staff are considering whether high achieving projects could be eligible for additional stormwater service charge credits, and would note that certain LID strategies may reduce a development's overall impact fee amount. Additionally, the City would note that the scoring tool works in concert with a set of LID standards, included in proposed Section 3 of the Technical Manual. These standards are established loosely around a framework that requires applicants to preserve natural resources, and if this is not an option, then minimize impacts to those resources and mitigate any impacts. Under this paradigm, applicants will be required to demonstrate that preservation is not feasible, and the review authority will need to accept this argument in order to permit minimal impact and mitigation. This framework will naturally facilitate LID scores that are higher than the minimum requirement for many projects.

- Confirm that City projects, particularly those occurring within the public right-of-way, such as roadway reconfigurations, comply with Technical Manual requirements.

Discussion: In speaking with staff at the Department of Public Works, the City can confirm that transportation projects, such as roadway reconfigurations, sidewalk construction, and the striping of bicycle lanes are completed in accordance with the requirements of the Technical Manual, which is referenced in Ch. 25 of the City Code.

- Consider the adoption of a fee in-lieu requirement for sidewalks and curbing, where waivers are being sought.

Discussion: The City will continue to explore this feedback outside of this process, as this would require an amendment to the Land Use Code, wherein the waiver criteria for sidewalks and curbing is listed.

- Consider strategies to reduce light trespass from interior lit-spaces onto surrounding exterior areas.

Discussion: The City will continue to explore this feedback outside of this process. Interior lighting is currently not regulated by the City's land use code, and oftentimes, at time of site plan approval, information around a building's interior design and interior lighting is not yet known.

- Consider whether the proposed bicycle parking requirement; requiring a certain percentage of bicycle parking spaces near the principal entrance, is the correct approach.

Discussion: This text has been revised to be less prescriptive, and would therefore not require a waiver if an applicant is unable, or has legitimate rationale for not providing bicycle parking at the entrance.

III. PROPOSED FORMAT

The following table summarizes at a high level, how content from the [currently adopted version of the technical manual](#) has been reorganized and amended within the updated draft. The column at left, lists out each of the current sections of the technical manual, with the column at right, identifying where content was relocated to within the updated draft. Notes are provided beneath each section to identify how content was reorganized, and where minor or more substantive amendments have been made. Across all sections, some clean-up has occurred, which includes for example, the removal of purpose or intention statements, citations of building code requirements, and other content that is not regulatory in nature.

Current Technical Manual Sections	Updated Technical Manual Sections
Sec. 1 – Transportation Systems and Street Design Standards	Sec. 1 – Transportation Systems and Street Design Standards
<u>Notes:</u> - Content remains largely unchanged, with text and tables having been reformatted. - Provides additional guidance around the location of required bicycle parking. Applicants are encouraged to situate parking here, and no longer required to place a certain percentage here.	
Sec. 2 – Sanitary Sewer and Storm Drain Design Standards	Sec. 6 – Sanitary Sewer and Storm Drain Design Standards
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V. SUBSTANTIVE AMENDMENTS

A. Section 3 - Low Impact Development (LID) Standards

Within the current version of the technical manual, applicants are encouraged to consider ways to incorporate low impact development strategies into new development in both Section 4 (Landscape Preservation and Landscaping Standards), and Section 5 (Portland Stormwater Management Standards and Maine DEP Chapter 500 Stormwater Management), though neither of these standards include enforceable language around LID.

For the reference of the Planning Board and members of the public, low impact development is defined as an approach to land use and stormwater management that mimics natural hydrologic conditions in order to reduce the impact of development on the environment.

In July of 2020, the City of Portland was issued a Municipal Separate Storm Sewer General Permit (MS4GP) by Maine DEP, which was later modified in November of 2021. A stipulation of this permit was that the City adopt a low impact development ordinance no later than July of 2024. The City of Portland, along with 14 other MS4 communities, developed the [Interlocal Stormwater Working Group \(ISWG\)](#), and coordinated closely to develop a model ordinance for low-impact development (Attachment B) to serve as a framework for the member communities. The July 2024 timeframe has since been extended, however the City of Portland, as part of ReCode, is seeking to adopt low impact development regulations, in consultation with the Maine DEP, prior to the State's required timing.

The proposed LID framework largely draws from existing City requirements around natural resource protection, stormwater management, site landscaping, and erosion and sedimentation control, and establishes a quantifiable rubric for evaluating new development, and ensuring that impacts associated with the aforementioned requirements are broadly minimized, while continuing to provide flexibility for various forms of new development and uses in a variety of different locations.

The draft low impact development standards feature five separate categories of impacts, which are as follows:

1. Wetlands, Streams and Drainage
2. Natural Areas and Habitats
3. Soils and Slopes
4. Vegetation and Landscaping
5. Impervious Area and Stormwater Management

These categories are organized around a common hierarchy for evaluating impacts, which first prioritizes the preservation of the natural resource or feature, and if this is infeasible, then requires mitigation to help off-set the impact of new development with respect to these categories.

A key component of the City's proposed LID framework is that it is objective and measurable, and incorporates a separate scoring tool to evaluate development (Attachment 3a). The scoring tool parallels the draft LID standards, and awards applications points based upon the degree to which impacts are minimized or mitigated. Projects may receive up to 178 points in total, and are required to receive a minimum score of 80 points in order to comply with the LID standard. This tool was designed specifically to provide a wide variety of development types, including redevelopment, infill development or greenfield development, for commercial, institutional, residential, and industrial uses, numerous potential pathways to achieve a passing score. In testing this tool on past high-impact development applications, several applications as designed and approved were found to not receive a passing score, though for each application, there were reasonable strategies that were identified which, if implemented, would have led to the project receiving a passing score.

The tool also incorporates bonus points, which are awarded for applications that incorporate innovative site design or engineering that supports low impact development aims. These for example include the use of structured parking, the provision of a green roof, the provision of stormwater treatment beyond what is required, or the restoration of previously degraded natural features.

B. Section 4 - Site Landscaping Requirements

The site landscaping section of the technical manual currently includes two key areas of content; landscape preservation, and site landscaping, with supplemental and associated requirements around the use of other materials, such as fences or other structures, which may also function to help screen various uses and/or site elements. Within this draft, the section around landscape preservation has been relocated to the LID section of the technical manual, as these requirements align with the principles of LID, to preserve and minimize impacts to natural resources. As with other sections of this document, content has been reorganized to flow more logically, and text and tables have been reformatted.

Substantive changes are largely centered around street tree requirements, which were updated as part of ReCode. This update revised how street tree requirements are calculated for multi-family residential

development, which previously had been based upon the number of residential units, as opposed to the property's street frontage (one tree per 25 to 35 feet of frontage), which is the basis for other land uses. ReCode brought the multi-family street tree requirement into alignment with this model, which will likely result in a significantly reduced street tree requirement for most multi-family projects. Whereas previously, a project such as 201 Federal Street, was required to provide 268 street trees, that project would now be required to provide approximately 13 street trees. With this lesser requirement, the City is seeking to reinforce its street tree requirement and encourage applicants to employ additional protective measures as necessary to ensure that planted trees survive and mature. In order to achieve this, the City is proposing to eliminate several of the identified street tree alternatives, which for example permit the planting of new street trees in locations off-site. These alternatives are rarely utilized by applicants, and require substantial coordination between the City and applicant, and on-going monitoring.

As mentioned above, the City had previously recommended increasing the street tree fee in-lieu amount from \$400 to \$1,000, however in subsequent discussions with Parks and Recreation staff, there are additional amendments that the Parks Department and City Arborist would like the City to consider which will take additional time to prepare. In light of this, the City is proposing to postpone taking action on this item, and will instead plan to bring forward additional amendments to this section at a later date for the Board to consider.

C. Section 5 - Stormwater Management Standards

The City of Portland has delegated review authority to review applications subject to stormwater review under Maine DEP Ch. 500; with many of the regulations of Ch. 500 adopted and referred to in the current Section 5 of the Technical Manual. For example, stormwater treatment requirements are referenced in section 5, with applicants required to review the state statute to understand exact requirements. These include the basic standard, related to erosion and sedimentation control requirements; the general standard, related to stormwater quality treatment; the flooding standard, related to stormwater quantity control; the redevelopment standard, related to requirements for the redevelopment of non-roof impervious areas; and the urban impaired stream standard, related to development within an identified urban impaired stream watershed.

The City has adopted more stringent stormwater management requirements as compared with the State's minimum requirements, particularly around the thresholds at which point stormwater standards are applied, in part due to the nature and scale of development that occurs in Portland. Currently, the City requires stormwater management for all major site plan applications, and minor site plan applications that involve the creation of 1,000 square feet or more of new impervious area, 5,000 square feet of new non-roof redeveloped area (such as off-street parking or other ground-level hardscaped area), and 10,000 square feet of new non-impervious developed area. These thresholds are significantly beneath the State's thresholds, which apply when more than one acre of land area is disturbed.

Reorganization: In this draft the City is proposing to restructure the existing section 5 document to have it flow more logically, and introduces a series of substantive amendments to the City's stormwater management requirements. In the current version, all major site plan applications are required to submit a stormwater management plan, along with minor site plan applications which surpass the above listed thresholds. With this draft, most development, excluding small-scale residential uses (one through four units), which surpass the above listed thresholds, would be required to submit a stormwater management plan demonstrating compliance with applicable review standards. This means that major site plans beneath these thresholds would no longer be required to submit a stormwater plan, which is currently a

requirement.

Redevelopment Standard: The City is also proposing to amend the treatment requirement for projects triggering the redevelopment standard. Whereas currently such projects are required to treat a minimum of 50% of non-roof redeveloped area, under this draft, such projects would be required to treat 95% of non-roof redeveloped area, which aligns with the current treatment requirement for new impervious surface, and which would markedly increase the level of treatment provided for many infill and redevelopment projects that the City reviews. This amendment may also encourage the conversion of existing non-roof impervious area, such as off-street surface parking into building area or pervious surface.

Stormwater Detention Volume Standard: This draft establishes a new minimum stormwater detention volume standard, which would require applicable projects to detain a minimum volume of stormwater, calculated as 1-inch of rainfall times the project's proposed impervious surfaces, and controlling the discharge of the detained flows into the City's storm sewer system at the specified maximum rate. The goal of this standard is to reduce the volume of stormwater runoff a project site releases into the City's storm sewer system during the most frequent rainfall events to improve system wide storm sewer capacity and to help the City meet its long term water quality goals through combined sewer overflow reduction and stream channel protection. The level of required detention would be dependent upon whether the project is tying into a separated or combined sewer system as specified in the draft standard.

Small-Scale Residential Uses: The City currently exempts one- and two-family residential development from most of the City's locally adopted stormwater management requirements, with the exception that such development is required to adhere to the basic erosion and sedimentation control standard. The proposed draft would create a new requirement for small scale residential projects, expanded to encompass one through four family residential development, in line with code amendments adopted through ReCode. This standard would now require such projects to provide stormwater treatment for at least 75% of newly created impervious area, using an approved best management practice (BMP), located in the [City of Portland Stormwater Credit Manual](#). While the standard would require additional treatment, it does continue to exempt such projects from entering into a stormwater maintenance agreement with the City, and allows for such projects to claim stormwater credits to help off-set their stormwater service charge. As noted above, this change would increase the level of treatment being provided for one- and two-family development, while simultaneously reducing the stormwater management requirements for small-scale multi-family development, with three or four units.

VI. STAFF ANALYSIS

Section 2.1.10 of the City's land use code grants the Planning Board the authority to review and approve technical standards through the *Technical Manual*. In order to do so, the Planning Board must find that such standards are additional to and consistent with the provisions of the land use code, necessary and reasonable, and "in accordance with sound engineering...practice." As discussed previously, in addition to clerical edits for the sake of clarity or consistency and reorganization to assist with document legibility and administration, the proposed edits to the *Technical Manual* also include substantive edits. These edits are generally designed to reflect lessons learned through practice, and to bring standards into alignment with state and national guidance in engineering and other relevant fields.

VII. MOTION FOR THE BOARD TO CONSIDER

On the basis of material provided in this report, public testimony, and other information provided during the Planning Board's review at the December 10, 2024 public hearing, the Planning Board finds that the

proposed revisions to the *City of Portland Technical Manual* **[are / are not]** consistent with the requirements of Section 2.1.10(P) of the land use code and **[approves, approves with conditions, or does not approve]** such revisions.

VIII. ATTACHMENTS

A. Draft Technical Manual

1. Title Page and Table of Contents
2. Transportation and Street Standards
3. Transportation Studies
4. Low Impact Development Standards
 - i. LID Scoring Tool
5. Site Landscaping Standards
6. Stormwater Management Standards
7. Sanitary Sewer and Storm Drain Standards
8. Water Supply Standards
9. Lighting Standards
10. Shadow Standards
11. Public Safety Standards
12. Site Location of Development Standards
13. Erosion and Sedimentation Control Standards
14. Solar Energy Standards
15. Submission and Plan Requirements

B. Low Impact Development Model Ordinance

C. Summary of LID Approach to DEP

D. LID Scoring Tool Guide

E. Comparison of Proposed Stormwater Requirements Compared with Ch. 500 Requirements

F. EPA – Costs of Low Impact Development Overview

Updates to the City of Portland Technical Manual

Submitted To:	Chair Mazer and Portland Planning Board	Prepared By:	Matthew Grooms, Development Review Manager
Public Hearing Date:	December 10, 2024	Date:	December 6, 2024

I. INTRODUCTION

The Department of Planning & Urban Development, in close coordination with the Department of Public Works and Department of Parks and Recreation, has prepared a reformatted and updated version of the *City of Portland Technical Manual*, in order to align the City's technical standards and requirements with ReCode Portland; a years-long effort to update the Land Use Code to facilitate the implementation of *Portland's Plan 2030*. This effort has involved reorganization of the document, reformatting of content to visually tie this document to the land use code, and a series of substantive amendments stemming from ReCode; including the establishment of a new Low Impact Development (LID) section, along with updates to the City's stormwater management and site landscaping requirements. In large part, the proposed edits represent an effort to bring standards into alignment with current and best practice, and to reorganize material for legibility and consistency with the land use code.

The Planning Board held a workshop on the proposed changes on November 26, 2024. The feedback from this workshop is summarized below, along with subsequent edits that were proposed in response to this feedback. This public hearing was noticed in the Portland Press Herald, appearing in the November 29th and 30th editions of the publication.

II. PLANNING BOARD WORKSHOP – NOVEMBER 26, 2024

At the Board's November 26th workshop, staff from Planning and Urban Development and the Department of Public Works presented the revised technical manual, focusing primarily on the substantive amendments being proposed. These included the creation of a new low impact development section within the document, changes to site landscaping requirements, particularly with respect to street tree requirements, and updates to the City's local stormwater management standards. The presentation also discussed the proposed reorganization, and invited feedback on other aspects of the technical manual.

The Board, in its review of the draft technical manual, provided the following feedback:

- Consider the financial impact of these changes on applicants, particularly with the introduction of LID requirements and the increase in the street tree fee in-lieu amount.

Discussion: While the City has not completed a LID cost analysis specific to the proposed methodology or projects on which the tool was tested, the City did provide a few resource as attachment F, prepared by the Environmental Protection Agency (EPA), which detail at a high-level the cost, both short-term and long-term, of designing and constructing in accordance with LID principles. This analysis shows that the up-front costs may be higher than traditional forms of development, however, that LID typically reduces the long-term operating costs of the development, and further reduces strains on public infrastructure. The City would also note that the LID scoring tool offers a broad suite of options for applicants to achieve points, many of which

are low-cost and fairly easy to employ in a variety of circumstances. Further, the scoring tool, as detailed in the workshop, generously awards points for new development occurring in areas considered priority growth areas, where there are limited or no natural resources that would be impacted by new development. For example, infill development and redevelopment, which constitute a significant percentage of what the City reviews, are easily able to achieve passing scores, by virtue of the fact that they rarely involve impacts to critical natural resources, such as wetlands and other habitat areas.

With regard to street trees, the City is proposing to postpone consideration of the increase in the street tree fee in-lieu amendment, to allow for additional time to coordinate with Parks and Recreation staff around other amendments to this section of the Technical Manual. Additional potential amendments include updates to the recommended tree list, updates to figures, and updates around soil volume requirements. Given this, the City will continue to recommend that the contribution amount be \$400, until the broader list of changes are brought forward.

- Consider the implementation of waiver criteria for the LID requirements, in order to establish specific parameters under which an applicant could be considered for a waiver.

Discussion: Following the workshop, City staff met to discuss the potential of adding waiver criteria around the LID standards, and ultimately decided not to include specific criteria. This decision was based in part on the fact that the City will soon be required to adopt a LID ordinance or regulation, which may either not allow for a waiver, or may establish criteria for a waiver, as is the case for the Maine DEP Ch. 500 Flooding Standard. Further, as discussed elsewhere in this report, the LID scoring tool provides numerous pathways for development to achieve a passing score, and based upon this framework, there appears to be limited justifiable criteria for considering and granting a waiver of these requirements. The City also has concerns that the introduction of waiver language may actually serve to invite waiver requests, which the City would discourage. As with other technical standards that do not contain waiver criteria, the review authority will continue to have the ability to waive requirements in accordance with the provisions of the site plan and subdivision ordinance, within the Land Use Code.

- Consider strategies to incentivize applicants achieving higher LID scores than the minimum requirement.

Discussion: The City is continuing to evaluate opportunities to incentivize LID implementation beyond the minimum requirement. Staff are considering whether high achieving projects could be eligible for additional stormwater service charge credits, and would note that certain LID strategies may reduce a development's overall impact fee amount. Additionally, the City would note that the scoring tool works in concert with a set of LID standards, included in proposed Section 3 of the Technical Manual. These standards are established loosely around a framework that requires applicants to preserve natural resources, and if this is not an option, then minimize impacts to those resources and mitigate any impacts. Under this paradigm, applicants will be required to demonstrate that preservation is not feasible, and the review authority will need to accept this argument in order to permit minimal impact and mitigation. This framework will naturally facilitate LID scores that are higher than the minimum requirement for many projects.

- Confirm that City projects, particularly those occurring within the public right-of-way, such as roadway reconfigurations, comply with Technical Manual requirements.

Discussion: In speaking with staff at the Department of Public Works, the City can confirm that transportation projects, such as roadway reconfigurations, sidewalk construction, and the striping of bicycle lanes are completed in accordance with the requirements of the Technical Manual, which is referenced in Ch. 25 of the City Code.

- Consider the adoption of a fee in-lieu requirement for sidewalks and curbing, where waivers are being sought.

Discussion: The City will continue to explore this feedback outside of this process, as this would require an amendment to the Land Use Code, wherein the waiver criteria for sidewalks and curbing is listed.

- Consider strategies to reduce light trespass from interior lit-spaces onto surrounding exterior areas.

Discussion: The City will continue to explore this feedback outside of this process. Interior lighting is currently not regulated by the City's land use code, and oftentimes, at time of site plan approval, information around a building's interior design and interior lighting is not yet known.

- Consider whether the proposed bicycle parking requirement; requiring a certain percentage of bicycle parking spaces near the principal entrance, is the correct approach.

Discussion: This text has been revised to be less prescriptive, and would therefore not require a waiver if an applicant is unable, or has legitimate rationale for not providing bicycle parking at the entrance.

III. PROPOSED FORMAT

The following table summarizes at a high level, how content from the [currently adopted version of the technical manual](#) has been reorganized and amended within the updated draft. The column at left, lists out each of the current sections of the technical manual, with the column at right, identifying where content was relocated to within the updated draft. Notes are provided beneath each section to identify how content was reorganized, and where minor or more substantive amendments have been made. Across all sections, some clean-up has occurred, which includes for example, the removal of purpose or intention statements, citations of building code requirements, and other content that is not regulatory in nature.

Current Technical Manual Sections	Updated Technical Manual Sections
Sec. 1 – Transportation Systems and Street Design Standards	Sec. 1 – Transportation Systems and Street Design Standards
<u>Notes:</u> - Content remains largely unchanged, with text and tables having been reformatted. - Provides additional guidance around the location of required bicycle parking. Applicants are encouraged to situate parking here, and no longer required to place a certain percentage here.	
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For the reference of the Planning Board and members of the public, low impact development is defined as an approach to land use and stormwater management that mimics natural hydrologic conditions in order to reduce the impact of development on the environment.

In July of 2020, the City of Portland was issued a Municipal Separate Storm Sewer General Permit (MS4GP) by Maine DEP, which was later modified in November of 2021. A stipulation of this permit was that the City adopt a low impact development ordinance no later than July of 2024. The City of Portland, along with 14 other MS4 communities, developed the [Interlocal Stormwater Working Group \(ISWG\)](#), and coordinated closely to develop a model ordinance for low-impact development (Attachment B) to serve as a framework for the member communities. The July 2024 timeframe has since been extended, however the City of Portland, as part of ReCode, is seeking to adopt low impact development regulations, in consultation with the Maine DEP, prior to the State's required timing.

The proposed LID framework largely draws from existing City requirements around natural resource protection, stormwater management, site landscaping, and erosion and sedimentation control, and establishes a quantifiable rubric for evaluating new development, and ensuring that impacts associated with the aforementioned requirements are broadly minimized, while continuing to provide flexibility for various forms of new development and uses in a variety of different locations.

The draft low impact development standards feature five separate categories of impacts, which are as follows:

1. Wetlands, Streams and Drainage
2. Natural Areas and Habitats
3. Soils and Slopes
4. Vegetation and Landscaping
5. Impervious Area and Stormwater Management

These categories are organized around a common hierarchy for evaluating impacts, which first prioritizes the preservation of the natural resource or feature, and if this is infeasible, then requires mitigation to help off-set the impact of new development with respect to these categories.

A key component of the City's proposed LID framework is that it is objective and measurable, and incorporates a separate scoring tool to evaluate development (Attachment 3a). The scoring tool parallels the draft LID standards, and awards applications points based upon the degree to which impacts are minimized or mitigated. Projects may receive up to 178 points in total, and are required to receive a minimum score of 80 points in order to comply with the LID standard. This tool was designed specifically to provide a wide variety of development types, including redevelopment, infill development or greenfield development, for commercial, institutional, residential, and industrial uses, numerous potential pathways to achieve a passing score. In testing this tool on past high-impact development applications, several applications as designed and approved were found to not receive a passing score, though for each application, there were reasonable strategies that were identified which, if implemented, would have led to the project receiving a passing score.

The tool also incorporates bonus points, which are awarded for applications that incorporate innovative site design or engineering that supports low impact development aims. These for example include the use of structured parking, the provision of a green roof, the provision of stormwater treatment beyond what is required, or the restoration of previously degraded natural features.

B. Section 4 - Site Landscaping Requirements

The site landscaping section of the technical manual currently includes two key areas of content; landscape preservation, and site landscaping, with supplemental and associated requirements around the use of other materials, such as fences or other structures, which may also function to help screen various uses and/or site elements. Within this draft, the section around landscape preservation has been relocated to the LID section of the technical manual, as these requirements align with the principles of LID, to preserve and minimize impacts to natural resources. As with other sections of this document, content has been reorganized to flow more logically, and text and tables have been reformatted.

Substantive changes are largely centered around street tree requirements, which were updated as part of ReCode. This update revised how street tree requirements are calculated for multi-family residential

development, which previously had been based upon the number of residential units, as opposed to the property's street frontage (one tree per 25 to 35 feet of frontage), which is the basis for other land uses. ReCode brought the multi-family street tree requirement into alignment with this model, which will likely result in a significantly reduced street tree requirement for most multi-family projects. Whereas previously, a project such as 201 Federal Street, was required to provide 268 street trees, that project would now be required to provide approximately 13 street trees. With this lesser requirement, the City is seeking to reinforce its street tree requirement and encourage applicants to employ additional protective measures as necessary to ensure that planted trees survive and mature. In order to achieve this, the City is proposing to eliminate several of the identified street tree alternatives, which for example permit the planting of new street trees in locations off-site. These alternatives are rarely utilized by applicants, and require substantial coordination between the City and applicant, and on-going monitoring.

As mentioned above, the City had previously recommended increasing the street tree fee in-lieu amount from \$400 to \$1,000, however in subsequent discussions with Parks and Recreation staff, there are additional amendments that the Parks Department and City Arborist would like the City to consider which will take additional time to prepare. In light of this, the City is proposing to postpone taking action on this item, and will instead plan to bring forward additional amendments to this section at a later date for the Board to consider.

C. Section 5 - Stormwater Management Standards

The City of Portland has delegated review authority to review applications subject to stormwater review under Maine DEP Ch. 500; with many of the regulations of Ch. 500 adopted and referred to in the current Section 5 of the Technical Manual. For example, stormwater treatment requirements are referenced in section 5, with applicants required to review the state statute to understand exact requirements. These include the basic standard, related to erosion and sedimentation control requirements; the general standard, related to stormwater quality treatment; the flooding standard, related to stormwater quantity control; the redevelopment standard, related to requirements for the redevelopment of non-roof impervious areas; and the urban impaired stream standard, related to development within an identified urban impaired stream watershed.

The City has adopted more stringent stormwater management requirements as compared with the State's minimum requirements, particularly around the thresholds at which point stormwater standards are applied, in part due to the nature and scale of development that occurs in Portland. Currently, the City requires stormwater management for all major site plan applications, and minor site plan applications that involve the creation of 1,000 square feet or more of new impervious area, 5,000 square feet of new non-roof redeveloped area (such as off-street parking or other ground-level hardscaped area), and 10,000 square feet of new non-impervious developed area. These thresholds are significantly beneath the State's thresholds, which apply when more than one acre of land area is disturbed.

Reorganization: In this draft the City is proposing to restructure the existing section 5 document to have it flow more logically, and introduces a series of substantive amendments to the City's stormwater management requirements. In the current version, all major site plan applications are required to submit a stormwater management plan, along with minor site plan applications which surpass the above listed thresholds. With this draft, most development, excluding small-scale residential uses (one through four units), which surpass the above listed thresholds, would be required to submit a stormwater management plan demonstrating compliance with applicable review standards. This means that major site plans beneath these thresholds would no longer be required to submit a stormwater plan, which is currently a

requirement.

Redevelopment Standard: The City is also proposing to amend the treatment requirement for projects triggering the redevelopment standard. Whereas currently such projects are required to treat a minimum of 50% of non-roof redeveloped area, under this draft, such projects would be required to treat 95% of non-roof redeveloped area, which aligns with the current treatment requirement for new impervious surface, and which would markedly increase the level of treatment provided for many infill and redevelopment projects that the City reviews. This amendment may also encourage the conversion of existing non-roof impervious area, such as off-street surface parking into building area or pervious surface.

Stormwater Detention Volume Standard: This draft establishes a new minimum stormwater detention volume standard, which would require applicable projects to detain a minimum volume of stormwater, calculated as 1-inch of rainfall times the project's proposed impervious surfaces, and controlling the discharge of the detained flows into the City's storm sewer system at the specified maximum rate. The goal of this standard is to reduce the volume of stormwater runoff a project site releases into the City's storm sewer system during the most frequent rainfall events to improve system wide storm sewer capacity and to help the City meet its long term water quality goals through combined sewer overflow reduction and stream channel protection. The level of required detention would be dependent upon whether the project is tying into a separated or combined sewer system as specified in the draft standard.

Small-Scale Residential Uses: The City currently exempts one- and two-family residential development from most of the City's locally adopted stormwater management requirements, with the exception that such development is required to adhere to the basic erosion and sedimentation control standard. The proposed draft would create a new requirement for small scale residential projects, expanded to encompass one through four family residential development, in line with code amendments adopted through ReCode. This standard would now require such projects to provide stormwater treatment for at least 75% of newly created impervious area, using an approved best management practice (BMP), located in the [City of Portland Stormwater Credit Manual](#). While the standard would require additional treatment, it does continue to exempt such projects from entering into a stormwater maintenance agreement with the City, and allows for such projects to claim stormwater credits to help off-set their stormwater service charge. As noted above, this change would increase the level of treatment being provided for one- and two-family development, while simultaneously reducing the stormwater management requirements for small-scale multi-family development, with three or four units.

VI. STAFF ANALYSIS

Section 2.1.10 of the City's land use code grants the Planning Board the authority to review and approve technical standards through the *Technical Manual*. In order to do so, the Planning Board must find that such standards are additional to and consistent with the provisions of the land use code, necessary and reasonable, and "in accordance with sound engineering...practice." As discussed previously, in addition to clerical edits for the sake of clarity or consistency and reorganization to assist with document legibility and administration, the proposed edits to the *Technical Manual* also include substantive edits. These edits are generally designed to reflect lessons learned through practice, and to bring standards into alignment with state and national guidance in engineering and other relevant fields.

VII. MOTION FOR THE BOARD TO CONSIDER

On the basis of material provided in this report, public testimony, and other information provided during the Planning Board's review at the December 10, 2024 public hearing, the Planning Board finds that the

proposed revisions to the *City of Portland Technical Manual* **[are / are not]** consistent with the requirements of Section 2.1.10(P) of the land use code and **[approves, approves with conditions, or does not approve]** such revisions.

VIII. ATTACHMENTS

A. Draft Technical Manual

1. Title Page and Table of Contents
2. Transportation and Street Standards
3. Transportation Studies
4. Low Impact Development Standards
 - i. LID Scoring Tool
5. Site Landscaping Standards
6. Stormwater Management Standards
7. Sanitary Sewer and Storm Drain Standards
8. Water Supply Standards
9. Lighting Standards
10. Shadow Standards
11. Public Safety Standards
12. Site Location of Development Standards
13. Erosion and Sedimentation Control Standards
14. Solar Energy Standards
15. Submission and Plan Requirements

B. Low Impact Development Model Ordinance

C. Summary of LID Approach to DEP

D. LID Scoring Tool Guide

E. Comparison of Proposed Stormwater Requirements Compared with Ch. 500 Requirements

F. EPA – Costs of Low Impact Development Overview



CITY OF PORTLAND TECHNICAL MANUAL



DRAFT

1. November 2024



PREAMBLE

The technical standards contained herein have been promulgated by the Departments of Public Works and the Planning and Urban Development pursuant to §13.5.3(A) and §14.3.1. of the City of Portland Land Use Code following a public hearing of the Planning Board on December 10, 2024.

The technical standards contained herein may be periodically updated and/or amended by the Planning Board pursuant to §2.1.10(P) of the City of Portland Land Use Code.

RECORD OF AMENDMENTS		
Date	Section(s)	Application Number

TABLE OF CONTENTS

1	TRANSPORTATION & STREET STANDARDS
2	TRANSPORTATION STUDIES
3	LOW IMPACT DEVELOPMENT STANDARDS
4	SITE LANDSCAPING STANDARDS
5	STORMWATER MANAGEMENT STANDARDS
6	SANITARY SEWER & STORM DRAIN STANDARDS
7	WATER SUPPLY STANDARDS
8	LIGHTING STANDARDS
9	SHADOW STANDARDS
10	PUBLIC SAFETY STANDARDS
11	SITE LOCATION OF DEVELOPMENT STANDARDS
12	EROSION & SEDIMENTATION CONTROL STANDARDS
13	SOLAR ENERGY STANDARDS
14	SUBMISSION & PLAN REQUIREMENTS

1. TRANSPORTATION SYSTEMS, STREET DESIGN STANDARDS

1.1. HORIZONTAL ALIGNMENT OF STREETS

The horizontal alignment of all proposed streets shall conform to the following standards:

1.1.1. Horizontal curves shall have centerline radii of not less than 110 feet.

1.1.2. The alignment centerline shall be straight for at least 100 feet between reverse curves whenever either curve has a centerline radius of less than 200 feet.

1.1.3. When two streets intersect and one street is an arterial or collector street, or both streets are arterial or collector streets, the angle of intersection shall be 90 degrees. When two streets intersect and neither street is an arterial or collector street, the angle of intersection shall be at least 75 degrees and no greater than 105 degrees.

1.1.4. When two streets intersect, adjoining right-of-way lines shall be connected by a circular arc with radius of at least ten (10) feet. The connecting arc shall be tangent to the right-of-way lines on both streets. When the angle of intersection is other than 90 degrees, a radius greater than ten (10) feet may be required.

1.1.5. All dead-end streets shall provide a turnaround at the end of the street, subject to approval by the reviewing authority. Turnarounds shall be designed to facilitate future street connectivity and shall always be designed to the right (refer to Figure I-5).

1.1.6. Street intersections with more than four (4) legs shall be prohibited.

1.1.7. The minimum distance between intersections on any street shall be as follows unless the Department of Public Works determines that unique conditions of the site necessitate a lesser length. The distance between intersections shall be measured from the intersection of street centerlines at one intersection to the intersection of street centerlines at the other intersection. Streets shall be classified in accordance with the Functional Classification Guidelines as set forth by MaineDOT.

Local Street and Local Street Intersection	200 feet
Local Street and Collector Street Intersection	250 feet
Local Street and Arterial Street Intersection	300 feet
Collector Street and Collector Street Intersection	400 feet
Collector Street and Arterial Street Intersection	500 feet
Arterial Street and Arterial Street Intersection	500 feet

1.2. STREET GRADES

1.2.1. Street grades shall conform to the following standards, as shown in Figures I-1, I-2, and I-3:

- A. The maximum grade for the centerline of all streets shall not exceed eight (8) percent.
- B. The minimum grade for the centerline of all streets shall not be less than one-half (0.5) percent.
- C. The cross-slope for local streets shall be three (3) percent. The cross-slope for other street classifications shall be two (2) percent.
- D. Cross-slopes for sidewalks shall be one (1) percent minimum and two (2) percent maximum, sloping down and away from the street line to the top of the curb at the gutter line, including pedestrian access routes across driveways, as shown in Figure I-10C.
- E. Street grades at intersections shall not be more than three (3) percent for a distance of one hundred (100) feet from the center of the intersection.

1.2.2. Curbless “shared streets” shall be considered on a case-by-case basis after consideration of context, design, and maintenance. Approval of any curbless “shared street” shall be subject to review by the Department of Public Works.

1.3. VERTICAL ALIGNMENT

Where two adjacent street segments are proposed to have different straight-line centerline finish grades, vertical curves shall be used to connect the adjacent street segments. Vertical curves shall be parabolic and tangent to each of the adjacent grades. The minimum vertical curve length, “L”, shall be calculated based on the following formula:

$$L = K \times A$$

where “A” is the absolute value of the algebraic difference between the beginning grade and the ending grade of the vertical curve, with both grades expressed in percent, and “K” is a factor whose value depends on street design speed. The K values corresponding to the minimum vertical curve lengths for the above street classifications and vertical curve types (sag curve or crest curve) are as follows:

TABLE 1-A VERTICAL ALIGNMENT STANDARDS

Vertical Curve Type	Local Street	Collector Street	Arterial Street
Crest	K = 20	K = 30	K = 50
Sag	K = 30	K = 40	

1.4. SIGHT DISTANCE

Where driveways or new streets enter an existing street, vehicular sight-distance shall conform to standards established by the MaineDOT as contained in their publication, *Chapter 299, Highway Driveway and Entrance Rules*. For driveways frequently accessed by large vehicles, greater site distance will be required according to Maine DOT guidelines.

1.5. DRIVEWAY DESIGN

1.5.1. All driveways shall be designed according to Table 1-B., unless otherwise approved by the Department of Public Works.

TABLE 1-B. DRIVEWAY DESIGN STANDARDS

Requirement	Minor Driveway (serving <10 residential spaces)	All other driveways
A. Number of driveways	No more than one (1) driveway shall be permitted.	No more than two (2) driveways shall be permitted. Adjacent sites under common ownership shall have no more than two (2) driveways combined.
B. Minimum/maximum driveway width	10 feet minimum, 20 feet maximum, measured at the property line.	For two-way driveways (preferred): • 20 feet minimum, 24 feet maximum for residential/commercial uses • 30 feet maximum for industrial uses Larger driveway openings may be permitted by the Department of Public Works on a case-by-case basis.
C. Driveway Spacing	Spacing of new or reconfigured driveways shall take the existing pattern of driveways in the surrounding context into account, and shall limit the impact to on-street parking and existing street trees. Shared driveways are encouraged. Driveway locations may be rejected based on documented or anticipated safety or operational issues.	• 50 feet along local streets • 100 feet along arterial and collector streets with posted speeds of 35 mph or less • 150 feet for roadways posted at speeds greater than 35 mph Driveway locations may be rejected based on documented or anticipated safety or operational issues.
D. Driveway separation from intersections	• At least 35 feet along local roads • 50 feet along collectors/ arterials Distance shall be measured from the projection of the right-of-way line at the roadway to the centerline of the driveway. Driveway locations may be rejected based on documented or anticipated safety or operational issues.	• At least 35 feet along local roads • 100 feet along collectors/ arterials Distance shall be measured from the projection of the right-of-way line at the driveway to the centerline of the driveway. Driveway locations may be rejected based on documented or anticipated safety or operational issues.
E. Curbing	2-foot granite corner radius “bugs” (also known as a “bullnose”) shall be used where possible. Tipdowns may be used if the driveway crosses a narrow sidewalk.	Granite radii (where sufficient esplanade is available) or tipdowns shall be used. Granite radii shall not cross the pedestrian access route.
F. Driveway intersection angle	Perpendicular to the street, where possible. Where necessary, the driveway shall intersect the street between 75 and 105 degrees unless otherwise approved by the Department of Public Works.	
G. Design vehicle	Driveways shall be designed to accommodate site-specific design vehicles, and shall not be designed larger than necessary, as determined by turning movement diagrams and engineering judgment.	
H. Loading	All necessary functions for loading, circulation, and parking maneuvers shall occur within the site and outside of the right-of-way to the extent practicable, given the site context.	
I. Circulation	Vehicle circulation shall be completely contained within the site to the extent practicable, given the site context.	
J. Backing Maneuvers	Backing maneuvers may be permitted to enter the site. Backing maneuvers from a site may be permitted based on upon site context including functional class of the adjacent street, traffic volumes, and speeds.	Backing maneuvers into and out of the site are prohibited. All vehicles must enter and exit the site facing forward.
K. Parking area size	All driveways shall serve a parking area of at least 8’ x 16’, clear of any encroachment, plus any setbacks required by zoning. Parking areas and parked cars shall not encroach upon the public right-of-way.	

1.5.2. Auxiliary lanes serving driveways. A left-turn lane and/or right-turn lane with appropriate storage and transition may be considered where engineering analysis indicates a need. The need for auxiliary lanes shall be

considered with the context of the impacts to sidewalks, bikeways, transit stop, on-street parking, and traffic safety. All new auxiliary lanes are subject to the approval of the Department of Public Works.

1.6. SIDEWALK AND CURB RAMPS

1.6.1. Sidewalk construction and materials. Sidewalks shall be brick, concrete or hot mix asphalt. The City Sidewalk Materials Policy (Appendix 1) shall be consulted to determine the appropriate type of sidewalk and driveway construction to use on various streets and in different areas of the City. Within the city's historic districts, only brick shall be used. Sidewalk and driveway construction details are illustrated in Figures I-10 and I-11. All new concrete sidewalks which abut existing concrete sidewalks must be doweled in prior to pouring. All new brick sidewalks shall be constructed with bricks running perpendicular to the path of pedestrian travel, including through driveway crossings.

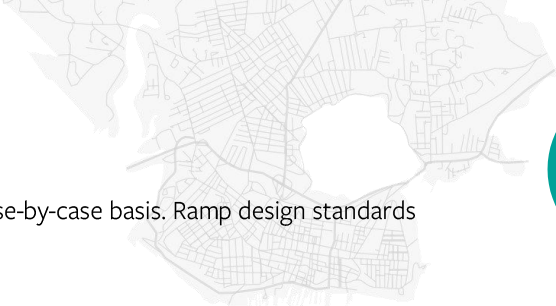
1.6.2. Sidewalk accessibility. All sidewalks shall meet any minimum standards set forth by current Americans with Disabilities Act (ADA) and Public Right-of-Way Accessibility Guidelines (PROWAG). There are no exceptions unless technical infeasibilities are identified, documented, and approved by the Department of Public Works. In case of conflict, these standards shall supersede this manual.

- A. **Sidewalk width.** The minimum sidewalk clear width shall be five (5) feet. Where obstructions, such as utility poles, are located in sidewalks, a minimum clear and direct pedestrian access route width of five (5) feet shall be provided between the obstruction and one edge of the sidewalk. Wider sidewalks may be required in locations where heavy pedestrian traffic is expected, based on the site context. New sidewalks shall be at least as wide within the right-of-way as the sidewalk(s) along the adjacent properties.
- B. **Level changes.** The maximum allowable vertical level change at any point is $\frac{1}{4}$ -inch. A level change of $\frac{1}{4}$ -inch to $\frac{1}{2}$ -inch shall be formed with a beveled slope no steeper than 26.6 degrees (2:1). Level changes greater than $\frac{1}{2}$ -inch shall be designed as ramps.
- C. **Running slope.** Sidewalks shall be designed with a running slope no greater than the adjacent street slope.
- D. **Cross-slope.** Sidewalks, including pedestrian access routes across driveways, shall be constructed with a minimum cross-slope of 1% and a maximum cross-slope of 2% post-construction. Finished cross-slopes of greater than 2% shall not be acceptable. Designed cross-slopes of 1.5% are encouraged. Cross-slopes shall be consistent across the width of the sidewalk.

1.6.3. Curb ramps. ADA-compliant curb ramps are required on all projects involving construction of new streets or new sidewalks, and on all projects involving alterations to the abutting street, including repaving of existing streets and sidewalks.

Curb ramps shall be designed to prevent ponding of water at the base of the ramp. Ramp designs and details will indicate how positive drainage away from the landing in the vicinity of curb ramps will be achieved.

- A. **Applicability.** ADA-compliant curb ramps are required at all marked and unmarked crossing locations. Ramps shall not be provided only where there is no crossing present due to safety concerns or a lack of pedestrian facilities on the opposite corner.
- B. **Orientation.** Curb ramps shall be designed with the direction of travel on the ramp perpendicular to the curb line and parallel to the crosswalk, where feasible. Where existing conditions, such as narrow right-of-way width or utility constraints preclude such layouts, parallel ramps, where the entire sidewalk ramps down, are acceptable.



Diagonal ramps are not desirable, but may be approved by DPW on a case-by-case basis. Ramp design standards are provided in Figure I-6.

- C. **Detectable warning panels.** All pedestrian curb ramps shall include truncated dome warning panels as shown in Figure I-7. Any curb ramp that is not intended to be used by pedestrians (e.g., ramps serving bikeways) shall not include warning panels. Warning panels shall also be provided where a crossing is present without a curb ramp (for example, where pedestrian facilities are at the same grade as the street, within a median refuge, etc.). All warning panels shall be uncoated cast iron, as detailed in Figure I-7. DPW reserves the right to require the installation of warning panels at driveway locations in such situations where volume or configuration of traffic may necessitate their placement.

1.6.4. Shared use paths. Shared use paths and other pedestrian access routes in the right-of-way shall conform to the same ADA requirements as sidewalks discussed herein. The appropriate material for shared use paths may differ from the material prescribed in the Sidewalk Material Policy. The appropriate material shall be determined by the Department of Public Works if not already documented in a transportation plan or master plan. Shared use paths shall be 10 feet in width or greater to allow for two-way traffic and passing.

1.6.5. Curb extensions. Curb extensions (also known as bump-outs, bulb-outs, or neckdowns) describe any localized narrowing of the roadway, typically at pedestrian crosswalk locations. The installation of any curb extension is subject to the approval of the Department of Public Works.

- A. **Applicability.** Curb extensions may be considered where one or more of the following conditions are met:
1. There is a documented speeding issued confirmed by a speed study;
 2. Curb extensions are necessary to construct one or more ADA-compliant curb ramps at an existing or proposed crosswalk;
 3. As determined necessary at uncontrolled midblock crossings;
 4. At signalized intersections, where reducing the pedestrian crossing time improves signal timing;
 5. At locations where there is a history of crashes involving pedestrians and/or crashes involving right-turning vehicles; or
 6. Where they are prescribed in a master plan or transportation plan.
- B. **Curb extension design.** Curb extensions, where permitted, shall be constructed to achieve the applicable goal(s) without disrupting the functionality of the roadway or intersection. Curb extensions:
1. Shall not impede necessary turning movements for trucks or emergency vehicles or winter operations;
 2. Shall not negatively impact drainage without adequate mitigation;
 3. Shall not impede upon, or narrow to an unacceptable degree, the adjacent travel or bicycle lanes; and
 4. Shall be constructed with radial curb (typically 10-foot radius or greater) at transition points to assist with drainage and maintenance, as shown in Figure I-19.

Curb extensions that encompass on-street parallel parking lanes should generally not exceed six (6) feet in width, as shown in Figure I-19.

1.6.6. Non-compliance. ADA-compliance is required both within and outside of the public right-of-way. Any construction within the public right-of-way that is not built to ADA-compliance shall be reconstructed at the Applicant's expense.

Where strict compliance with ADA is technically infeasible in an alteration of an existing condition, the alteration must be made to the maximum extent technically feasible. The extent to which compliance is technically infeasible shall be documented, and an acceptable design shall be approved by the Department of Public Works. This process should occur during the design phase.

1.7. DRIVEWAY APRONS

Any driveway, or section thereof, located within any public street right-of-way shall be designed and built according to the following specifications:

1.7.1. Construction and materials. The portion of the driveway within the public-right-of-way within the pedestrian access route shall be comprised of the same material as the abutting sidewalk as identified in the Sidewalk Material Policy (Appendix 1) and constructed according to Figure I-10 through I-12.

1.7.2. Pedestrian access route. Where a driveway crosses a sidewalk, shared use path, or other pedestrian access route, a pedestrian access route shall be constructed across the driveway apron with a maximum cross-slope of 2% (1.5% preferred). The pedestrian access route shall be designed and constructed to meet the elevation of the adjacent sidewalk or shared use pathway to the extent feasible.

The pedestrian access route shall be constructed at the same width as the adjacent sidewalk or shared use path to the extent feasible. For pedestrian access routes connecting to adjacent sidewalks, the minimum width is four (4) feet, with five (5) feet preferred.

1.7.3. Driveway apron slope. The driveway apron shall ramp up to the grade of the sidewalk, where feasible. The portion of the driveway between the roadway and the pedestrian access route shall be designed to a maximum slope of 15%, unless otherwise approved by the Department of Public Works. This slope should be minimized to the extent possible while maintaining ADA-compliance and continuity of travel along the pedestrian access route.

1.7.4. Driveway design. Where feasible, driveways shall be designed to keep the pedestrian access route at a consistent elevation for continuity of travel. The portion of the driveway between the roadway and pedestrian access route shall be sloped to provide the full transition between the roadway and sidewalk elevations where feasible. Along roadways where the sidewalk width plus esplanade width is less than seven (7) feet, the sidewalk may be transitioned using ADA-compliant ramps in order to create a suitable driveway crossing.

1.8. ROADWAY CONSTRUCTION, SURFACE, AND AGGREGATES

1.8.1. All roadways shall be constructed in accordance with Chapter 25 of the City of Portland Code of Ordinances and the most current edition of the MaineDOT Standard Specifications unless otherwise indicated herein or otherwise directed in writing by the Department of Public Works.

1.8.2. Aggregates used in concrete mixes and in the construction of street, sidewalks and aprons shall meet the requirements in SECTION 703 – AGGREGATES of the most current edition of the *State of Maine Department of Transportation Standard Specifications* with the following clarifications, additions and modifications:

- A. 703.06(a) Aggregate Base Gravels shall adhere to MaineDOT standard specifications listed in Sections 304 and 703 for type “A” material.
- B. 703.06(c) Aggregate Subbase Gravels shall adhere to MaineDOT standard specifications listed in Sections 304 and 703 for type “D” material.
- C. 703.18 Common Borrow shall not contain any particle of bituminous material.
- D. 703.19 Granular Borrow shall adhere to MaineDOT standard specification 703.19 for Granular Borrow material.
- E. 703.20 Gravel Borrow shall adhere to MaineDOT standard specification 703.20 for Gravel Borrow material.

TABLE 1-C. MINIMUM THICKNESS FOR PAVEMENT STRUCTURE MATERIALS

Street Classification	Minimum Materials Thickness (Inches)			
	Wearing Course Pavement	Base Course Pavement	Agg. Base Course	Agg. Subbase Course
Minor Residential	1 ½	2	3	15
Residential	1 ½	2	3	15
Collector	1 ½	2 ½	3	18
Commercial/Industrial	2	3	3	18

TABLE 1.D. MINIMUM PLACEMENT TEMPERATURES FOR HOT MIX ASPHALT PAVEMENT

Base Temperature (° F)	Mat Thickness (Inches)					
	½	¾	1	1 ½	2	3+
40-50*	-	-	-	-	285	275
50-60	-	310	300	295	280	270
60-70	310	300	290	285	275	265
70-80	300	290	285	280	270	265
80-90	290	280	275	270	265	260
90+	280	275	270	265	260	255

* Surface course pavement shall be placed when the air or road base temperature is less than 50 degrees F.

1.9. STREETS ON ISLANDS IN CASCO BAY

Reserved.

1.10. PARKING LOT AND PARKING SPACE DESIGN

1.10.1. Parking lots, except for temporary lots to be used for less than one year, shall be constructed of a permanent and durable hard surface that is not subject to ponding or erosion, both onsite and within the right-of-way, and shall meet accessibility standards. Any proposed permanent parking lot surface must allow for delineation of parking spaces and circulation aisles.

1.10.2. Parking spaces shall meet the following dimensional requirements:

- A. Standard parking space: 9 feet wide by 18 feet long, except that low turnover parking spaces, such as those used by residents or employees, may be designed with a width of 8.5' and considered a standard parking space.
- B. Compact parking space: 8 feet wide by 15 feet long
- C. Motorcycle/motorized scooter parking space: 4 feet wide by 8 feet long

1.10.3. Obstructions within parking areas, including columns and other permanent fixtures, shall not be located within the dimensions of a parking space. Where these obstructions are present, parking shall be striped and dimensioned to omit these obstructions. Such obstructions should not significantly impact vehicle maneuverability, visibility ability to open doors, etc.

1.10.4. All spaces provided shall be safely accessible. Substandard and specialty spaces that are open to the general public shall be labeled as such using signage or pavement markings to inform users.

1.10.5. Compact spaces. Any parking lot with five or more spaces may contain a mix of standard and compact spaces. Up to 20% of parking spaces in a parking area may be compact. Compact parking spaces should be limited in high-turnover parking areas or locations where the typical vehicle is likely to be larger than a typical passenger vehicle. Vehicle turning analysis may be required for review by the Department of Public Works to ensure that spaces function as designed.

1.10.6. Accessible parking. All parking areas shall provide accessible parking per ADA and the Maine Fair Housing Act. ADA standards for number of spaces, dimensions, buffers, cross-slopes, materials, pedestrian accessibility, and other requirements shall apply with no exceptions. Accessible spaces shall be considered "standard" parking spaces for the purposes of calculating the allowable number of compact spaces.

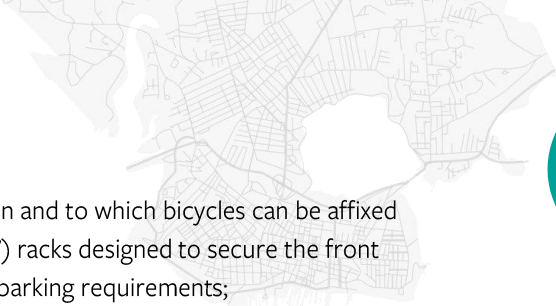
1.10.7. Vehicular access shall be provided by one or more aisles. The minimum two-way drive aisle width is 24 feet for standard, right-angle parking, and is otherwise dependent on parking space orientation, as illustrated in Figure I-16A. Accessible parking spaces shall be served by at least one aisle of standard width or greater.

1.11. MOTORCYCLE/MOTORIZED SCOOTER/MOPED PARKING

To distinguish motorcycle/motorized scooter/moped parking spaces from standard parking spaces, the spaces shall be painted and delineated with signage. These painted spaces shall be angled and shall be four (4) feet wide by eight (8) feet long. The dimensions for on-street motorcycle/motorized scooter/moped parking are outlined in Figure I-16B. On-street motorcycle/motorized scooter/moped parking may also be located where standard vehicle parking would be prohibited because of sight restrictions, such as adjacent to a crosswalk or an approach to a traffic control device. Motorcycles/motorized scooters/mopeds do not create the same sight impediment as a standard vehicle.

1.12. BICYCLE PARKING

1.12.1. Bicycle parking shall:

- 
- A. Provide secure, durable racks that maintain bicycles in an upright position and to which bicycles can be affixed with customary lock and cable mechanisms. Fence-type (“wheel bender”) racks designed to secure the front wheel only and wave racks are prohibited from counting toward bicycle parking requirements;
 - B. Be installed on a hard surface that is suitably sized and provides sufficient clearance from obstacles;
 - C. Be separated from car parking by a physical barrier such as curbing, wheel stops, parking bollards or similar features;
 - D. Be adequately illuminated where nighttime use is anticipated;
 - E. Be provided under covered areas and/or in secure storage lockers or rooms, if intended for long-term use; and
 - F. Be provided within the public right-of-way or be publicly accessible if intended for uses that expect visitation, customers, or short-term usage.

1.12.2. Placement of off-street bicycle parking racks shall conform to the bicycle parking rack placement criteria (drawn from the *Bicycle Facility Design Guide of the District Department of Transportation, 2006*) as illustrated in Figure I-24.

1.12.3. For commercial or industrial uses requiring more than ten (10) bicycle parking spaces:

- A. A minimum of ten percent (10%) of required bicycle parking shall be provided within fifty (50) feet of the main entry point of the structure, or shall be no further from such entry than the nearest five (5) non-handicapped parking spaces; and
- B. Where there is more than one structure on a site, or where a structure has more than one main entrance, the parking shall be distributed to adequately serve all structures or main entrances.

1.12.4. Directional signage. If bicycle parking is not directly visible from the public right-of-way, directional signage shall be provided indicating the availability and location of bicycle parking facilities.

1.12.5. Approved bicycle rack design. Bicycle racks that are required to meet site plan requirements shall:

- A. Provide multiple points of contact between the rack and the bicycle;
- B. Allow bicycles to be located without the need to lift the bicycle into the rack; and
- C. Be placed in such a way as to allow the intended number of bikes to be securely locked. A minimum of ten percent (10%) of required bicycle parking shall be provided within fifty (50) feet of the main entry point of the structure, or shall be no further from such entry than the nearest five (5) non-handicapped parking spaces.

2.12.6. Approved bicycle racks by location. Bicycle racks that are required to meet site plan requirements shall use approved racks based on the proposed location of the rack:

- A. **Private property.** A variety of commercially available racks are acceptable for installation on private property, including but not limited to those catalogue listings identified herein (Figures I-24 and I-25).
- B. **In the Public Right-of-Way.** Bicycle parking may be located within a public right-of-way where site conditions cannot reasonably accommodate bicycle parking on private property or in the case of sites that expect high-turnover or short-term bike parking usage. Bike parking may be placed either adjacent to or within reasonable walking distance of the site, if such areas are available that meet the bicycle parking rack placement criteria (drawn from the *Bicycle Facility Design Guide of the District Department of Transportation, 2006*) as illustrated in

Figure I-24. Bicycle racks within the public right-of-way shall be placed to allow for the safe storage of bicycles while limiting encroachment onto adjacent sidewalks. If no location within the right-of-way is available, a financial contribution commensurate with the cost for purchase and installation of the required number of bicycle racks shall be made to the Sustainable Transportation Fund.

The following approved brands, installed according to company specifications, shall be permitted in the public right-of-way:

1. DERO 'Downtown Rack' Inverted U-Rack (Figure I-25);
2. DERO 'Bike Hitch' (Figure I-24); or
3. Old Port District, including Commercial Street: DERO Bike Hitch only (Figure I-24).

Equivalent bicycle racks by other manufacturers are acceptable upon prior approval by the reviewing authority.

Bicycle racks in the public right-of-way shall become the property of the City of Portland.

Bicycle racks in the public right-of-way shall match the designated street furniture color for that location, as described in the Municipal Street Lighting Standards in this manual. Where there is no designated street furniture color, bicycle racks in the public right-of-way shall be black (manufacturer's specification).

1.13. BICYCLE ROUTES AND LANES

The City has developed bike network plans to show present and proposed bikeways, including neighborhood byways, dedicated bicycle lanes, and shared use pathways. Positive identification of bikeways shall be provided by pavement markings, bike lane symbols, and/or signage. The following standards shall be applied to the installation of bike facilities:

1.13.1. Design. The design of any new or modified bicycle facility shall be reviewed and approved by the Department of Public Works prior to application and shall be consistent with the following design standards:

- A. Vehicular travel lanes and bicycle lanes shall be separated by a minimum six (6) inch solid white painted edge line adjacent to the travel lane. At intersections, the white edge line shall be a dashed line (two (2) foot painted length by four (4) foot opening) across the intersection and for 50 feet to 100 feet in advance of the intersection, as appropriate. Where there is the potential for right-turning vehicle conflicts with through bicycle movements at intersections, green paint within the bicycle lane is recommended and may be required;
- B. Bike lanes shall have a minimum width of five (5) feet. Six (6) feet is preferred for bicycle lanes adjacent to curbed street sections. Where sufficient street width exists, a painted buffer of one (1) foot or more may be provided between the bicycle lane and vehicle travel lanes. Where a bicycle lane is adjacent to on-street parking with moderate to high utilization and/or turnover rates, this buffer should be placed between the bicycle lane and parking lane. The location of the buffer shall be determined in consultation with the Department of Public Works. Where a buffer of one foot or greater is provided, the width of the bicycle lane may be reduced to four (4) feet, if necessary, with approval from the Department of Public Works. Design shall take into account the location of potential obstructions, such as catch basins;

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- C. Where the minimum or recommended width for bicycle lanes is not immediately available, reallocation of general travel lane widths or the number and configuration of general travel lanes shall be considered, as appropriate, in consultation with the Department of Public Works;
 - D. On-street bicycle lanes and associated buffers shall not exceed eight (8) feet in total width unless vertical delineation is provided in the buffer area. Applicability and materials of vertical delineation shall be determined by the Department of Public Works;
 - E. Shared use paths shall be designed to facilitate two-way traffic by users of multiple, nonmotorized modes. In general, shared use paths shall be ten (10) feet or greater in width, and free of any obstructions, including a 2-foot clear zone on each side of the pathway. Refer to the *AASHTO Guide for the Development of Bicycle Facilities* for shared use path design considerations;
 - F. On bicycle routes, or other roads with considerable bicycle traffic and insufficient roadway width to provide a bicycle lane, shared lane markings (“sharrows”) may be used. Where used, sharrows shall be placed in the center of the travel lane(s) serving the bike route(s) or where bicyclists are expected;
 - G. On two-way roadways with excess roadway width for one bicycle lane, but not two, installation of a single bicycle lane should be considered. The single bicycle lane should be placed in the uphill direction, if located on a hill. Otherwise, if parking is provided on only one side of the roadway, bicycle lane placement should be prioritized on the side of the street with no parking. Where possible, streets with bicycle lanes in only one direction should be paired with another lane on an adjacent parallel street to achieve bicycle mobility in both directions, if possible; and
 - H. Standard bike lanes and all other on-street bicycle facilities such as separated bike lanes shall be designed in accordance with the most recent version of nationally-recognized design guides, such as the *NACTO Urban Bikeway Design Guide*, the *NACTO Urban Street Design Guide*, the *FHWA Separated Bike Lane Planning and Design Guide*, *MassDOT’s Separated Bike Lane Planning & Design Guide*, or other best practice as it becomes available.

1.13.2. Bike network considerations. Bicycle facilities shall be designed within the context of the citywide bicycle network.

1.13.3. Pavement markings and signage. Bicycle lanes shall be marked with appropriate pavement markings such as longitudinal lines and stenciled symbols, as illustrated in Figure I-18. Bike routes shall be identified by appropriate signage as found in the FHWA ‘Manual of Uniform Traffic Control Devices’, as illustrated in Figure I-18.

1.14. ELECTRIC VEHICLE INFRASTRUCTURE

1.14.1. New structured and surface parking lots of five or more spaces shall 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). An additional 50% of spaces must be made EV-ready, meaning that they are served by sufficient conduit and electrical service to allow for future installation of electric vehicle supply equipment at every space.

1.14.2. An applicant may request a reduction in the number of required EV-installed or EV-ready parking spaces in Level 3 EV charging is proposed. In this case, spaces served by Level 3 charging may be substituted for Level 2 at a ratio to be determined in consultation with the Department of Public Works.

1.14.3. In the case of new structured and surface parking of greater than 100 spaces, the review authority may establish the EV parking requirements on the basis of an EV parking demand study. Such study shall be prepared by a qualified professional using industry best practice, and account for future growth in EV demand.

1.15. TRAFFIC CONTROL DEVICES

All intersections of two or more roadways shall be controlled by one of the traffic control methods listed herein. All traffic control shall be selected and installed in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).

1.15.1. Traffic signals.

- A. All new traffic signals are subject to the approval of the Department of Public Works. Proposed traffic signals are required to meet at least one [traffic signal warrant](#) set by the MUTCD. Signals justified Warrant 3 (Peak Hour Volume), Warrant 7 (Crash Experience), or Warrant 8 (Roadway Network) without meeting at least one other warrant may require additional study. Development projects that trigger, or further exceed, one or more signal warrants at one or more existing or proposed intersections or driveways may be required to install a traffic signal at those locations.
- B. New or modified traffic signals also required the submission of a traffic signal plan, including locations of all equipment, underground utilities, phasing and timing plans, and a specific list of all traffic signal hardware. Plans shall be submitted to the Department of Public Works for review and approval prior to installation.
- C. New traffic signal proposals are subject to review by MaineDOT, as appropriate. All city, state, and federal guidelines with regard to installation, activation, and monitoring shall apply.
- D. Existing traffic signals that do not meet MUTCD signal warrants may be removed if they present operational or safety issues. All removals of existing traffic signals are subject to coordination with and the approval of the Department of Public Works and MaineDOT.
- E. The City of Portland traffic signal specifications can be found in the [City of Portland Traffic Signal Policy and Guidance Manual](#).

1.15.2. Stop control. Stop signs shall be installed in accordance with MUTCD. Stop signs shall be accompanied by a stop line 12" in width.

Stop control shall not be used for speed control. Stop control should generally not be used on intersection approaches with multiple travel lanes. Stop control shall not be used for intersections with five (5) or more approaches. Such intersections shall be signalized (if warranted), equipped with a roundabout, or otherwise realigned or regulated so that the number of approaches is reduced to four (4) or fewer.

1.15.3. Roundabouts. Where sufficient right-of-way is available, circular intersections (i.e., roundabouts or traffic circles) should be considered. Such intersections may provide operational and safety benefits compared to signalized or stop-controlled intersections. Where selected as the appropriate traffic control measure, roundabouts shall be designed in accordance with the MUTCD Chapter 3C, with signage according to MUTCD Section 2B.07. Neighborhood traffic circles may be considered as stop-controlled intersections as a traffic calming measure. All such treatments are subject to the approval of the Department of Public Works.



1.15.4. Yield control. Yield control should generally only be implemented in the following scenarios:

- A. At certain channelized turning lanes separated from adjacent travel lanes by an island (even if the adjacent lanes are controlled by a stop sign or signal);
- B. At the entering roadway for a merging movement, including at a roundabout; or
- C. Where engineering judgment determines that yield control is appropriate subject to the approval of the Department of Public Works.

1.16. PUBLIC CROSSWALKS

1.16.1. Public crosswalks shall meet the requirements of the Manual on Uniform Traffic Control Devices (MUTCD), unless City standards specify a stricter measure. Public improvements may include but shall not be limited to any one or combination of the following:

- A. Crosswalks;
- B. Curb bump outs or curb extensions, where warranted;
- C. Pedestrian crossing signs (curbside, overhead or in the street);
- D. Rectangular Rapid Flashing Beacons (RRFBs);
- E. Pedestrian hybrid beacons;
- F. Pedestrian activated traffic control signal (red, yellow, green); and
- G. Medians or raised islands.

1.16.2. Crossing locations shall be designed to the following standards unless otherwise directed by the Department of Public Works:

- A. **Street markings.** Crosswalks on public streets shall consist of 24-inch block style white lines, placed 48 inches apart on center, for an overall width of 8 feet (or wider; at least as wide as the sidewalks served by the crosswalk);
- B. **Street lighting.** Crosswalk locations shall be adequately illuminated for visibility at nighttime; and
- C. **Signage.** Select crosswalk locations may need to be accentuated through the use of signage mounted curbside, overhead, or on the roadway centerline, as described hereinafter. Crosswalk signs shall be placed directly adjacent to crosswalks, and advance warning signs shall be placed in accordance with MUTCD. Standard signs shall be black legend on a fluorescent background.

1.17. PUBLIC TRANSIT FACILITIES

Where required, public transit facilities shall meet the following standards:

1.17.1. Transit pullout bays.

- A. Transit pullout bays shall be located in the City right-of-way along the property frontage; or
- B. Where space constraints prevent locating a transit pullout bay along the property frontage, transit pullout bays may be located within reasonable walking distance of the site;
- C. Where possible, transit pullout bays shall be located at intersections. At signalized intersections, far-side bus stops are preferred. Mid-block bays are not preferred due to impacts to parking and traffic; and

- D. The design of the pullout bay shall provide adequate space for vehicles to maneuver through facilities without causing damage to either the vehicles or facilities as detailed herein.

1.17.2. Transit shelters.

- A. Transit shelters shall be located within the site, directly adjacent to the right-of-way on which the public transportation route is established; or
- B. Where site constraints prevent locating a transit shelter on the site, it shall be located within a public sidewalk area along the property frontage. If a transit shelter is to be located within a public sidewalk area, City sidewalk clearance requirements shall apply; or
- C. Where space constraints prevent locating a transit shelter within a public sidewalk area along the property frontage, it may be located within reasonable walking distance of the site; and
- D. Installation and ongoing maintenance of transit shelters on private property shall be the responsibility of the property owner. Ongoing maintenance of transit shelters located within the City right-of-way or within an easement held by the City shall be the responsibility of the City or of the local or regional transit authority serving the facility.

1.17.3. Where necessary, developments shall provide easement to the City, sufficient in size to accommodate public transit infrastructure and access to the transit stop.

1. TRANSPORTATION SYSTEMS, STREET DESIGN STANDARDS

1.1. HORIZONTAL ALIGNMENT OF STREETS

The horizontal alignment of all proposed streets shall conform to the following standards:

1.1.1. Horizontal curves shall have centerline radii of not less than 110 feet.

1.1.2. The alignment centerline shall be straight for at least 100 feet between reverse curves whenever either curve has a centerline radius of less than 200 feet.

1.1.3. When two streets intersect and one street is an arterial or collector street, or both streets are arterial or collector streets, the angle of intersection shall be 90 degrees. When two streets intersect and neither street is an arterial or collector street, the angle of intersection shall be at least 75 degrees and no greater than 105 degrees.

1.1.4. When two streets intersect, adjoining right-of-way lines shall be connected by a circular arc with radius of at least ten (10) feet. The connecting arc shall be tangent to the right-of-way lines on both streets. When the angle of intersection is other than 90 degrees, a radius greater than ten (10) feet may be required.

1.1.5. All dead-end streets shall provide a turnaround at the end of the street, subject to approval by the reviewing authority. Turnarounds shall be designed to facilitate future street connectivity and shall always be designed to the right (refer to Figure I-5).

1.1.6. Street intersections with more than four (4) legs shall be prohibited.

1.1.7. The minimum distance between intersections on any street shall be as follows unless the Department of Public Works determines that unique conditions of the site necessitate a lesser length. The distance between intersections shall be measured from the intersection of street centerlines at one intersection to the intersection of street centerlines at the other intersection. Streets shall be classified in accordance with the Functional Classification Guidelines as set forth by MaineDOT.

Local Street and Local Street Intersection	200 feet
Local Street and Collector Street Intersection	250 feet
Local Street and Arterial Street Intersection	300 feet
Collector Street and Collector Street Intersection	400 feet
Collector Street and Arterial Street Intersection	500 feet
Arterial Street and Arterial Street Intersection	500 feet

1.2. STREET GRADES

1.2.1. Street grades shall conform to the following standards, as shown in Figures I-1, I-2, and I-3:

- A. The maximum grade for the centerline of all streets shall not exceed eight (8) percent.
- B. The minimum grade for the centerline of all streets shall not be less than one-half (0.5) percent.
- C. The cross-slope for local streets shall be three (3) percent. The cross-slope for other street classifications shall be two (2) percent.
- D. Cross-slopes for sidewalks shall be one (1) percent minimum and two (2) percent maximum, sloping down and away from the street line to the top of the curb at the gutter line, including pedestrian access routes across driveways, as shown in Figure I-10C.
- E. Street grades at intersections shall not be more than three (3) percent for a distance of one hundred (100) feet from the center of the intersection.

1.2.2. Curbless “shared streets” shall be considered on a case-by-case basis after consideration of context, design, and maintenance. Approval of any curbless “shared street” shall be subject to review by the Department of Public Works.

1.3. VERTICAL ALIGNMENT

Where two adjacent street segments are proposed to have different straight-line centerline finish grades, vertical curves shall be used to connect the adjacent street segments. Vertical curves shall be parabolic and tangent to each of the adjacent grades. The minimum vertical curve length, “L”, shall be calculated based on the following formula:

$$L = K \times A$$

where “A” is the absolute value of the algebraic difference between the beginning grade and the ending grade of the vertical curve, with both grades expressed in percent, and “K” is a factor whose value depends on street design speed. The K values corresponding to the minimum vertical curve lengths for the above street classifications and vertical curve types (sag curve or crest curve) are as follows:

TABLE 1-A VERTICAL ALIGNMENT STANDARDS

Vertical Curve Type	Local Street	Collector Street	Arterial Street
Crest	K = 20	K = 30	K = 50
Sag	K = 30	K = 40	

1.4. SIGHT DISTANCE

Where driveways or new streets enter an existing street, vehicular sight-distance shall conform to standards established by the MaineDOT as contained in their publication, *Chapter 299, Highway Driveway and Entrance Rules*. For driveways frequently accessed by large vehicles, greater site distance will be required according to Maine DOT guidelines.

1.5. DRIVEWAY DESIGN

1.5.1. All driveways shall be designed according to Table 1-B., unless otherwise approved by the Department of Public Works.

TABLE 1-B. DRIVEWAY DESIGN STANDARDS

Requirement	Minor Driveway (serving <10 residential spaces)	All other driveways
A. Number of driveways	No more than one (1) driveway shall be permitted.	No more than two (2) driveways shall be permitted. Adjacent sites under common ownership shall have no more than two (2) driveways combined.
B. Minimum/maximum driveway width	10 feet minimum, 20 feet maximum, measured at the property line.	For two-way driveways (preferred): • 20 feet minimum, 24 feet maximum for residential/commercial uses • 30 feet maximum for industrial uses Larger driveway openings may be permitted by the Department of Public Works on a case-by-case basis.
C. Driveway Spacing	Spacing of new or reconfigured driveways shall take the existing pattern of driveways in the surrounding context into account, and shall limit the impact to on-street parking and existing street trees. Shared driveways are encouraged. Driveway locations may be rejected based on documented or anticipated safety or operational issues.	• 50 feet along local streets • 100 feet along arterial and collector streets with posted speeds of 35 mph or less • 150 feet for roadways posted at speeds greater than 35 mph Driveway locations may be rejected based on documented or anticipated safety or operational issues.
D. Driveway separation from intersections	• At least 35 feet along local roads • 50 feet along collectors/ arterials Distance shall be measured from the projection of the right-of-way line at the roadway to the centerline of the driveway. Driveway locations may be rejected based on documented or anticipated safety or operational issues.	• At least 35 feet along local roads • 100 feet along collectors/ arterials Distance shall be measured from the projection of the right-of-way line at the driveway to the centerline of the driveway. Driveway locations may be rejected based on documented or anticipated safety or operational issues.
E. Curbing	2-foot granite corner radius “bugs” (also known as a “bullnose”) shall be used where possible. Tipdowns may be used if the driveway crosses a narrow sidewalk.	Granite radii (where sufficient esplanade is available) or tipdowns shall be used. Granite radii shall not cross the pedestrian access route.
F. Driveway intersection angle	Perpendicular to the street, where possible. Where necessary, the driveway shall intersect the street between 75 and 105 degrees unless otherwise approved by the Department of Public Works.	
G. Design vehicle	Driveways shall be designed to accommodate site-specific design vehicles, and shall not be designed larger than necessary, as determined by turning movement diagrams and engineering judgment.	
H. Loading	All necessary functions for loading, circulation, and parking maneuvers shall occur within the site and outside of the right-of-way to the extent practicable, given the site context.	
I. Circulation	Vehicle circulation shall be completely contained within the site to the extent practicable, given the site context.	
J. Backing Maneuvers	Backing maneuvers may be permitted to enter the site. Backing maneuvers from a site may be permitted based on upon site context including functional class of the adjacent street, traffic volumes, and speeds.	Backing maneuvers into and out of the site are prohibited. All vehicles must enter and exit the site facing forward.
K. Parking area size	All driveways shall serve a parking area of at least 8’ x 16’, clear of any encroachment, plus any setbacks required by zoning. Parking areas and parked cars shall not encroach upon the public right-of-way.	

1.5.2. Auxiliary lanes serving driveways. A left-turn lane and/or right-turn lane with appropriate storage and transition may be considered where engineering analysis indicates a need. The need for auxiliary lanes shall be

considered with the context of the impacts to sidewalks, bikeways, transit stop, on-street parking, and traffic safety. All new auxiliary lanes are subject to the approval of the Department of Public Works.

1.6. SIDEWALK AND CURB RAMPS

1.6.1. Sidewalk construction and materials. Sidewalks shall be brick, concrete or hot mix asphalt. The City Sidewalk Materials Policy (Appendix 1) shall be consulted to determine the appropriate type of sidewalk and driveway construction to use on various streets and in different areas of the City. Within the city's historic districts, only brick shall be used. Sidewalk and driveway construction details are illustrated in Figures I-10 and I-11. All new concrete sidewalks which abut existing concrete sidewalks must be doweled in prior to pouring. All new brick sidewalks shall be constructed with bricks running perpendicular to the path of pedestrian travel, including through driveway crossings.

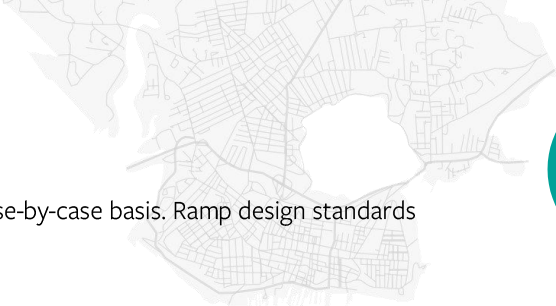
1.6.2. Sidewalk accessibility. All sidewalks shall meet any minimum standards set forth by current Americans with Disabilities Act (ADA) and Public Right-of-Way Accessibility Guidelines (PROWAG). There are no exceptions unless technical infeasibilities are identified, documented, and approved by the Department of Public Works. In case of conflict, these standards shall supersede this manual.

- A. **Sidewalk width.** The minimum sidewalk clear width shall be five (5) feet. Where obstructions, such as utility poles, are located in sidewalks, a minimum clear and direct pedestrian access route width of five (5) feet shall be provided between the obstruction and one edge of the sidewalk. Wider sidewalks may be required in locations where heavy pedestrian traffic is expected, based on the site context. New sidewalks shall be at least as wide within the right-of-way as the sidewalk(s) along the adjacent properties.
- B. **Level changes.** The maximum allowable vertical level change at any point is $\frac{1}{4}$ -inch. A level change of $\frac{1}{4}$ -inch to $\frac{1}{2}$ -inch shall be formed with a beveled slope no steeper than 26.6 degrees (2:1). Level changes greater than $\frac{1}{2}$ -inch shall be designed as ramps.
- C. **Running slope.** Sidewalks shall be designed with a running slope no greater than the adjacent street slope.
- D. **Cross-slope.** Sidewalks, including pedestrian access routes across driveways, shall be constructed with a minimum cross-slope of 1% and a maximum cross-slope of 2% post-construction. Finished cross-slopes of greater than 2% shall not be acceptable. Designed cross-slopes of 1.5% are encouraged. Cross-slopes shall be consistent across the width of the sidewalk.

1.6.3. Curb ramps. ADA-compliant curb ramps are required on all projects involving construction of new streets or new sidewalks, and on all projects involving alterations to the abutting street, including repaving of existing streets and sidewalks.

Curb ramps shall be designed to prevent ponding of water at the base of the ramp. Ramp designs and details will indicate how positive drainage away from the landing in the vicinity of curb ramps will be achieved.

- A. **Applicability.** ADA-compliant curb ramps are required at all marked and unmarked crossing locations. Ramps shall not be provided only where there is no crossing present due to safety concerns or a lack of pedestrian facilities on the opposite corner.
- B. **Orientation.** Curb ramps shall be designed with the direction of travel on the ramp perpendicular to the curb line and parallel to the crosswalk, where feasible. Where existing conditions, such as narrow right-of-way width or utility constraints preclude such layouts, parallel ramps, where the entire sidewalk ramps down, are acceptable.



Diagonal ramps are not desirable, but may be approved by DPW on a case-by-case basis. Ramp design standards are provided in Figure I-6.

- C. **Detectable warning panels.** All pedestrian curb ramps shall include truncated dome warning panels as shown in Figure I-7. Any curb ramp that is not intended to be used by pedestrians (e.g., ramps serving bikeways) shall not include warning panels. Warning panels shall also be provided where a crossing is present without a curb ramp (for example, where pedestrian facilities are at the same grade as the street, within a median refuge, etc.). All warning panels shall be uncoated cast iron, as detailed in Figure I-7. DPW reserves the right to require the installation of warning panels at driveway locations in such situations where volume or configuration of traffic may necessitate their placement.

1.6.4. Shared use paths. Shared use paths and other pedestrian access routes in the right-of-way shall conform to the same ADA requirements as sidewalks discussed herein. The appropriate material for shared use paths may differ from the material prescribed in the Sidewalk Material Policy. The appropriate material shall be determined by the Department of Public Works if not already documented in a transportation plan or master plan. Shared use paths shall be 10 feet in width or greater to allow for two-way traffic and passing.

1.6.5. Curb extensions. Curb extensions (also known as bump-outs, bulb-outs, or neckdowns) describe any localized narrowing of the roadway, typically at pedestrian crosswalk locations. The installation of any curb extension is subject to the approval of the Department of Public Works.

- A. **Applicability.** Curb extensions may be considered where one or more of the following conditions are met:
1. There is a documented speeding issued confirmed by a speed study;
 2. Curb extensions are necessary to construct one or more ADA-compliant curb ramps at an existing or proposed crosswalk;
 3. As determined necessary at uncontrolled midblock crossings;
 4. At signalized intersections, where reducing the pedestrian crossing time improves signal timing;
 5. At locations where there is a history of crashes involving pedestrians and/or crashes involving right-turning vehicles; or
 6. Where they are prescribed in a master plan or transportation plan.
- B. **Curb extension design.** Curb extensions, where permitted, shall be constructed to achieve the applicable goal(s) without disrupting the functionality of the roadway or intersection. Curb extensions:
1. Shall not impede necessary turning movements for trucks or emergency vehicles or winter operations;
 2. Shall not negatively impact drainage without adequate mitigation;
 3. Shall not impede upon, or narrow to an unacceptable degree, the adjacent travel or bicycle lanes; and
 4. Shall be constructed with radial curb (typically 10-foot radius or greater) at transition points to assist with drainage and maintenance, as shown in Figure I-19.

Curb extensions that encompass on-street parallel parking lanes should generally not exceed six (6) feet in width, as shown in Figure I-19.

1.6.6. Non-compliance. ADA-compliance is required both within and outside of the public right-of-way. Any construction within the public right-of-way that is not built to ADA-compliance shall be reconstructed at the Applicant's expense.

Where strict compliance with ADA is technically infeasible in an alteration of an existing condition, the alteration must be made to the maximum extent technically feasible. The extent to which compliance is technically infeasible shall be documented, and an acceptable design shall be approved by the Department of Public Works. This process should occur during the design phase.

1.7. DRIVEWAY APRONS

Any driveway, or section thereof, located within any public street right-of-way shall be designed and built according to the following specifications:

1.7.1. Construction and materials. The portion of the driveway within the public-right-of-way within the pedestrian access route shall be comprised of the same material as the abutting sidewalk as identified in the Sidewalk Material Policy (Appendix 1) and constructed according to Figure I-10 through I-12.

1.7.2. Pedestrian access route. Where a driveway crosses a sidewalk, shared use path, or other pedestrian access route, a pedestrian access route shall be constructed across the driveway apron with a maximum cross-slope of 2% (1.5% preferred). The pedestrian access route shall be designed and constructed to meet the elevation of the adjacent sidewalk or shared use pathway to the extent feasible.

The pedestrian access route shall be constructed at the same width as the adjacent sidewalk or shared use path to the extent feasible. For pedestrian access routes connecting to adjacent sidewalks, the minimum width is four (4) feet, with five (5) feet preferred.

1.7.3. Driveway apron slope. The driveway apron shall ramp up to the grade of the sidewalk, where feasible. The portion of the driveway between the roadway and the pedestrian access route shall be designed to a maximum slope of 15%, unless otherwise approved by the Department of Public Works. This slope should be minimized to the extent possible while maintaining ADA-compliance and continuity of travel along the pedestrian access route.

1.7.4. Driveway design. Where feasible, driveways shall be designed to keep the pedestrian access route at a consistent elevation for continuity of travel. The portion of the driveway between the roadway and pedestrian access route shall be sloped to provide the full transition between the roadway and sidewalk elevations where feasible. Along roadways where the sidewalk width plus esplanade width is less than seven (7) feet, the sidewalk may be transitioned using ADA-compliant ramps in order to create a suitable driveway crossing.

1.8. ROADWAY CONSTRUCTION, SURFACE, AND AGGREGATES

1.8.1. All roadways shall be constructed in accordance with Chapter 25 of the City of Portland Code of Ordinances and the most current edition of the MaineDOT Standard Specifications unless otherwise indicated herein or otherwise directed in writing by the Department of Public Works.

1.8.2. Aggregates used in concrete mixes and in the construction of street, sidewalks and aprons shall meet the requirements in SECTION 703 – AGGREGATES of the most current edition of the *State of Maine Department of Transportation Standard Specifications* with the following clarifications, additions and modifications:

- A. 703.06(a) Aggregate Base Gravels shall adhere to MaineDOT standard specifications listed in Sections 304 and 703 for type “A” material.
- B. 703.06(c) Aggregate Subbase Gravels shall adhere to MaineDOT standard specifications listed in Sections 304 and 703 for type “D” material.
- C. 703.18 Common Borrow shall not contain any particle of bituminous material.
- D. 703.19 Granular Borrow shall adhere to MaineDOT standard specification 703.19 for Granular Borrow material.
- E. 703.20 Gravel Borrow shall adhere to MaineDOT standard specification 703.20 for Gravel Borrow material.

TABLE 1-C. MINIMUM THICKNESS FOR PAVEMENT STRUCTURE MATERIALS

Street Classification	Minimum Materials Thickness (Inches)			
	Wearing Course Pavement	Base Course Pavement	Agg. Base Course	Agg. Subbase Course
Minor Residential	1 ½	2	3	15
Residential	1 ½	2	3	15
Collector	1 ½	2 ½	3	18
Commercial/Industrial	2	3	3	18

TABLE 1.D. MINIMUM PLACEMENT TEMPERATURES FOR HOT MIX ASPHALT PAVEMENT

Base Temperature (° F)	Mat Thickness (Inches)					
	½	¾	1	1 ½	2	3+
40-50*	-	-	-	-	285	275
50-60	-	310	300	295	280	270
60-70	310	300	290	285	275	265
70-80	300	290	285	280	270	265
80-90	290	280	275	270	265	260
90+	280	275	270	265	260	255

* Surface course pavement shall be placed when the air or road base temperature is less than 50 degrees F.

1.9. STREETS ON ISLANDS IN CASCO BAY

Reserved.

1.10. PARKING LOT AND PARKING SPACE DESIGN

1.10.1. Parking lots, except for temporary lots to be used for less than one year, shall be constructed of a permanent and durable hard surface that is not subject to ponding or erosion, both onsite and within the right-of-way, and shall meet accessibility standards. Any proposed permanent parking lot surface must allow for delineation of parking spaces and circulation aisles.

1.10.2. Parking spaces shall meet the following dimensional requirements:

- A. Standard parking space: 9 feet wide by 18 feet long, except that low turnover parking spaces, such as those used by residents or employees, may be designed with a width of 8.5' and considered a standard parking space.
- B. Compact parking space: 8 feet wide by 15 feet long
- C. Motorcycle/motorized scooter parking space: 4 feet wide by 8 feet long

1.10.3. Obstructions within parking areas, including columns and other permanent fixtures, shall not be located within the dimensions of a parking space. Where these obstructions are present, parking shall be striped and dimensioned to omit these obstructions. Such obstructions should not significantly impact vehicle maneuverability, visibility ability to open doors, etc.

1.10.4. All spaces provided shall be safely accessible. Substandard and specialty spaces that are open to the general public shall be labeled as such using signage or pavement markings to inform users.

1.10.5. Compact spaces. Any parking lot with five or more spaces may contain a mix of standard and compact spaces. Up to 20% of parking spaces in a parking area may be compact. Compact parking spaces should be limited in high-turnover parking areas or locations where the typical vehicle is likely to be larger than a typical passenger vehicle. Vehicle turning analysis may be required for review by the Department of Public Works to ensure that spaces function as designed.

1.10.6. Accessible parking. All parking areas shall provide accessible parking per ADA and the Maine Fair Housing Act. ADA standards for number of spaces, dimensions, buffers, cross-slopes, materials, pedestrian accessibility, and other requirements shall apply with no exceptions. Accessible spaces shall be considered "standard" parking spaces for the purposes of calculating the allowable number of compact spaces.

1.10.7. 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, as illustrated in Figure I-16A. Accessible parking spaces shall be served by at least one aisle of standard width or greater.

1.11. MOTORCYCLE/MOTORIZED SCOOTER/MOPED PARKING

To distinguish motorcycle/motorized scooter/moped parking spaces from standard parking spaces, the spaces shall be painted and delineated with signage. These painted spaces shall be angled and shall be four (4) feet wide by eight (8) feet long. The dimensions for on-street motorcycle/motorized scooter/moped parking are outlined in Figure I-16B. On-street motorcycle/motorized scooter/moped parking may also be located where standard vehicle parking would be prohibited because of sight restrictions, such as adjacent to a crosswalk or an approach to a traffic control device. Motorcycles/motorized scooters/mopeds do not create the same sight impediment as a standard vehicle.

1.12. BICYCLE PARKING

1.12.1. Bicycle parking shall:

- A. Provide secure, durable racks that maintain bicycles in an upright position and to which bicycles can be affixed with customary lock and cable mechanisms. Fence-type (“wheel bender”) racks designed to secure the front wheel only and wave racks are prohibited from counting toward bicycle parking requirements;
- B. Be installed on a hard surface that is suitably sized and provides sufficient clearance from obstacles;
- C. Be separated from car parking by a physical barrier such as curbing, wheel stops, parking bollards or similar features;
- D. Be adequately illuminated where nighttime use is anticipated;
- E. Be provided under covered areas and/or in secure storage lockers or rooms, if intended for long-term use; and
- F. Be provided within the public right-of-way or be publicly accessible if intended for uses that expect visitation, customers, or short-term usage.

1.12.2. Placement of off-street bicycle parking racks shall conform to the bicycle parking rack placement criteria (drawn from the *Bicycle Facility Design Guide of the District Department of Transportation, 2006*) as illustrated in Figure I-24.

1.12.3. For commercial or industrial uses requiring more than ten (10) bicycle parking spaces:

- A. A minimum of ten percent (10%) of required bicycle parking shall be provided within fifty (50) feet of the main entry point of the structure, or shall be no further from such entry than the nearest five (5) non-handicapped parking spaces; and
- B. Where there is more than one structure on a site, or where a structure has more than one main entrance, the parking shall be distributed to adequately serve all structures or main entrances.

1.12.4. Directional signage. If bicycle parking is not directly visible from the public right-of-way, directional signage shall be provided indicating the availability and location of bicycle parking facilities.

1.12.5. Approved bicycle rack design. Bicycle racks that are required to meet site plan requirements shall:

- A. Provide multiple points of contact between the rack and the bicycle;
- B. Allow bicycles to be located without the need to lift the bicycle into the rack; and
- C. Be placed in such a way as to allow the intended number of bikes to be securely locked. A minimum of ten percent (10%) of required bicycle parking shall be provided within fifty (50) feet of the main entry point of the structure, or shall be no further from such entry than the nearest five (5) non-handicapped parking spaces.

2.12.6. Approved bicycle racks by location. Bicycle racks that are required to meet site plan requirements shall use approved racks based on the proposed location of the rack:

- A. **Private property.** A variety of commercially available racks are acceptable for installation on private property, including but not limited to those catalogue listings identified herein (Figures I-24 and I-25).
- B. **In the Public Right-of-Way.** Bicycle parking may be located within a public right-of-way where site conditions cannot reasonably accommodate bicycle parking on private property or in the case of sites that expect high-turnover or short-term bike parking usage. Bike parking may be placed either adjacent to or within reasonable walking distance of the site, if such areas are available that meet the bicycle parking rack placement criteria (drawn from the *Bicycle Facility Design Guide of the District Department of Transportation, 2006*) as illustrated in

Figure I-24. Bicycle racks within the public right-of-way shall be placed to allow for the safe storage of bicycles while limiting encroachment onto adjacent sidewalks. If no location within the right-of-way is available, a financial contribution commensurate with the cost for purchase and installation of the required number of bicycle racks shall be made to the Sustainable Transportation Fund.

The following approved brands, installed according to company specifications, shall be permitted in the public right-of-way:

1. DERO 'Downtown Rack' Inverted U-Rack (Figure I-25);
2. DERO 'Bike Hitch' (Figure I-24); or
3. Old Port District, including Commercial Street: DERO Bike Hitch only (Figure I-24).

Equivalent bicycle racks by other manufacturers are acceptable upon prior approval by the reviewing authority.

Bicycle racks in the public right-of-way shall become the property of the City of Portland.

Bicycle racks in the public right-of-way shall match the designated street furniture color for that location, as described in the Municipal Street Lighting Standards in this manual. Where there is no designated street furniture color, bicycle racks in the public right-of-way shall be black (manufacturer's specification).

1.13. BICYCLE ROUTES AND LANES

The City has developed bike network plans to show present and proposed bikeways, including neighborhood byways, dedicated bicycle lanes, and shared use pathways. Positive identification of bikeways shall be provided by pavement markings, bike lane symbols, and/or signage. The following standards shall be applied to the installation of bike facilities:

1.13.1. Design. The design of any new or modified bicycle facility shall be reviewed and approved by the Department of Public Works prior to application and shall be consistent with the following design standards:

- A. Vehicular travel lanes and bicycle lanes shall be separated by a minimum six (6) inch solid white painted edge line adjacent to the travel lane. At intersections, the white edge line shall be a dashed line (two (2) foot painted length by four (4) foot opening) across the intersection and for 50 feet to 100 feet in advance of the intersection, as appropriate. Where there is the potential for right-turning vehicle conflicts with through bicycle movements at intersections, green paint within the bicycle lane is recommended and may be required;
- B. Bike lanes shall have a minimum width of five (5) feet. Six (6) feet is preferred for bicycle lanes adjacent to curbed street sections. Where sufficient street width exists, a painted buffer of one (1) foot or more may be provided between the bicycle lane and vehicle travel lanes. Where a bicycle lane is adjacent to on-street parking with moderate to high utilization and/or turnover rates, this buffer should be placed between the bicycle lane and parking lane. The location of the buffer shall be determined in consultation with the Department of Public Works. Where a buffer of one foot or greater is provided, the width of the bicycle lane may be reduced to four (4) feet, if necessary, with approval from the Department of Public Works. Design shall take into account the location of potential obstructions, such as catch basins;

- 
- C. Where the minimum or recommended width for bicycle lanes is not immediately available, reallocation of general travel lane widths or the number and configuration of general travel lanes shall be considered, as appropriate, in consultation with the Department of Public Works;
 - D. On-street bicycle lanes and associated buffers shall not exceed eight (8) feet in total width unless vertical delineation is provided in the buffer area. Applicability and materials of vertical delineation shall be determined by the Department of Public Works;
 - E. Shared use paths shall be designed to facilitate two-way traffic by users of multiple, nonmotorized modes. In general, shared use paths shall be ten (10) feet or greater in width, and free of any obstructions, including a 2-foot clear zone on each side of the pathway. Refer to the *AASHTO Guide for the Development of Bicycle Facilities* for shared use path design considerations;
 - F. On bicycle routes, or other roads with considerable bicycle traffic and insufficient roadway width to provide a bicycle lane, shared lane markings (“sharrows”) may be used. Where used, sharrows shall be placed in the center of the travel lane(s) serving the bike route(s) or where bicyclists are expected;
 - G. On two-way roadways with excess roadway width for one bicycle lane, but not two, installation of a single bicycle lane should be considered. The single bicycle lane should be placed in the uphill direction, if located on a hill. Otherwise, if parking is provided on only one side of the roadway, bicycle lane placement should be prioritized on the side of the street with no parking. Where possible, streets with bicycle lanes in only one direction should be paired with another lane on an adjacent parallel street to achieve bicycle mobility in both directions, if possible; and
 - H. Standard bike lanes and all other on-street bicycle facilities such as separated bike lanes shall be designed in accordance with the most recent version of nationally-recognized design guides, such as the *NACTO Urban Bikeway Design Guide*, the *NACTO Urban Street Design Guide*, the *FHWA Separated Bike Lane Planning and Design Guide*, *MassDOT’s Separated Bike Lane Planning & Design Guide*, or other best practice as it becomes available.

1.13.2. Bike network considerations. Bicycle facilities shall be designed within the context of the citywide bicycle network.

1.13.3. Pavement markings and signage. Bicycle lanes shall be marked with appropriate pavement markings such as longitudinal lines and stenciled symbols, as illustrated in Figure I-18. Bike routes shall be identified by appropriate signage as found in the FHWA ‘Manual of Uniform Traffic Control Devices’, as illustrated in Figure I-18.

1.14. ELECTRIC VEHICLE INFRASTRUCTURE

1.14.1. New structured and surface parking lots of five or more spaces shall 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). An additional 50% of spaces must be made EV-ready, meaning that they are served by sufficient conduit and electrical service to allow for future installation of electric vehicle supply equipment at every space.

1.14.2. An applicant may request a reduction in the number of required EV-installed or EV-ready parking spaces in Level 3 EV charging is proposed. In this case, spaces served by Level 3 charging may be substituted for Level 2 at a ratio to be determined in consultation with the Department of Public Works.

1.14.3. In the case of new structured and surface parking of greater than 100 spaces, the review authority may establish the EV parking requirements on the basis of an EV parking demand study. Such study shall be prepared by a qualified professional using industry best practice, and account for future growth in EV demand.

1.15. TRAFFIC CONTROL DEVICES

All intersections of two or more roadways shall be controlled by one of the traffic control methods listed herein. All traffic control shall be selected and installed in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).

1.15.1. Traffic signals.

- A. All new traffic signals are subject to the approval of the Department of Public Works. Proposed traffic signals are required to meet at least one [traffic signal warrant](#) set by the MUTCD. Signals justified Warrant 3 (Peak Hour Volume), Warrant 7 (Crash Experience), or Warrant 8 (Roadway Network) without meeting at least one other warrant may require additional study. Development projects that trigger, or further exceed, one or more signal warrants at one or more existing or proposed intersections or driveways may be required to install a traffic signal at those locations.
- B. New or modified traffic signals also required the submission of a traffic signal plan, including locations of all equipment, underground utilities, phasing and timing plans, and a specific list of all traffic signal hardware. Plans shall be submitted to the Department of Public Works for review and approval prior to installation.
- C. New traffic signal proposals are subject to review by MaineDOT, as appropriate. All city, state, and federal guidelines with regard to installation, activation, and monitoring shall apply.
- D. Existing traffic signals that do not meet MUTCD signal warrants may be removed if they present operational or safety issues. All removals of existing traffic signals are subject to coordination with and the approval of the Department of Public Works and MaineDOT.
- E. The City of Portland traffic signal specifications can be found in the [City of Portland Traffic Signal Policy and Guidance Manual](#).

1.15.2. Stop control. Stop signs shall be installed in accordance with MUTCD. Stop signs shall be accompanied by a stop line 12" in width.

Stop control shall not be used for speed control. Stop control should generally not be used on intersection approaches with multiple travel lanes. Stop control shall not be used for intersections with five (5) or more approaches. Such intersections shall be signalized (if warranted), equipped with a roundabout, or otherwise realigned or regulated so that the number of approaches is reduced to four (4) or fewer.

1.15.3. Roundabouts. Where sufficient right-of-way is available, circular intersections (i.e., roundabouts or traffic circles) should be considered. Such intersections may provide operational and safety benefits compared to signalized or stop-controlled intersections. Where selected as the appropriate traffic control measure, roundabouts shall be designed in accordance with the MUTCD Chapter 3C, with signage according to MUTCD Section 2B.07. Neighborhood traffic circles may be considered as stop-controlled intersections as a traffic calming measure. All such treatments are subject to the approval of the Department of Public Works.



1.15.4. Yield control. Yield control should generally only be implemented in the following scenarios:

- A. At certain channelized turning lanes separated from adjacent travel lanes by an island (even if the adjacent lanes are controlled by a stop sign or signal);
- B. At the entering roadway for a merging movement, including at a roundabout; or
- C. Where engineering judgment determines that yield control is appropriate subject to the approval of the Department of Public Works.

1.16. PUBLIC CROSSWALKS

1.16.1. Public crosswalks shall meet the requirements of the Manual on Uniform Traffic Control Devices (MUTCD), unless City standards specify a stricter measure. Public improvements may include but shall not be limited to any one or combination of the following:

- A. Crosswalks;
- B. Curb bump outs or curb extensions, where warranted;
- C. Pedestrian crossing signs (curbside, overhead or in the street);
- D. Rectangular Rapid Flashing Beacons (RRFBs);
- E. Pedestrian hybrid beacons;
- F. Pedestrian activated traffic control signal (red, yellow, green); and
- G. Medians or raised islands.

1.16.2. Crossing locations shall be designed to the following standards unless otherwise directed by the Department of Public Works:

- A. **Street markings.** Crosswalks on public streets shall consist of 24-inch block style white lines, placed 48 inches apart on center, for an overall width of 8 feet (or wider; at least as wide as the sidewalks served by the crosswalk);
- B. **Street lighting.** Crosswalk locations shall be adequately illuminated for visibility at nighttime; and
- C. **Signage.** Select crosswalk locations may need to be accentuated through the use of signage mounted curbside, overhead, or on the roadway centerline, as described hereinafter. Crosswalk signs shall be placed directly adjacent to crosswalks, and advance warning signs shall be placed in accordance with MUTCD. Standard signs shall be black legend on a fluorescent background.

1.17. PUBLIC TRANSIT FACILITIES

Where required, public transit facilities shall meet the following standards:

1.17.1. Transit pullout bays.

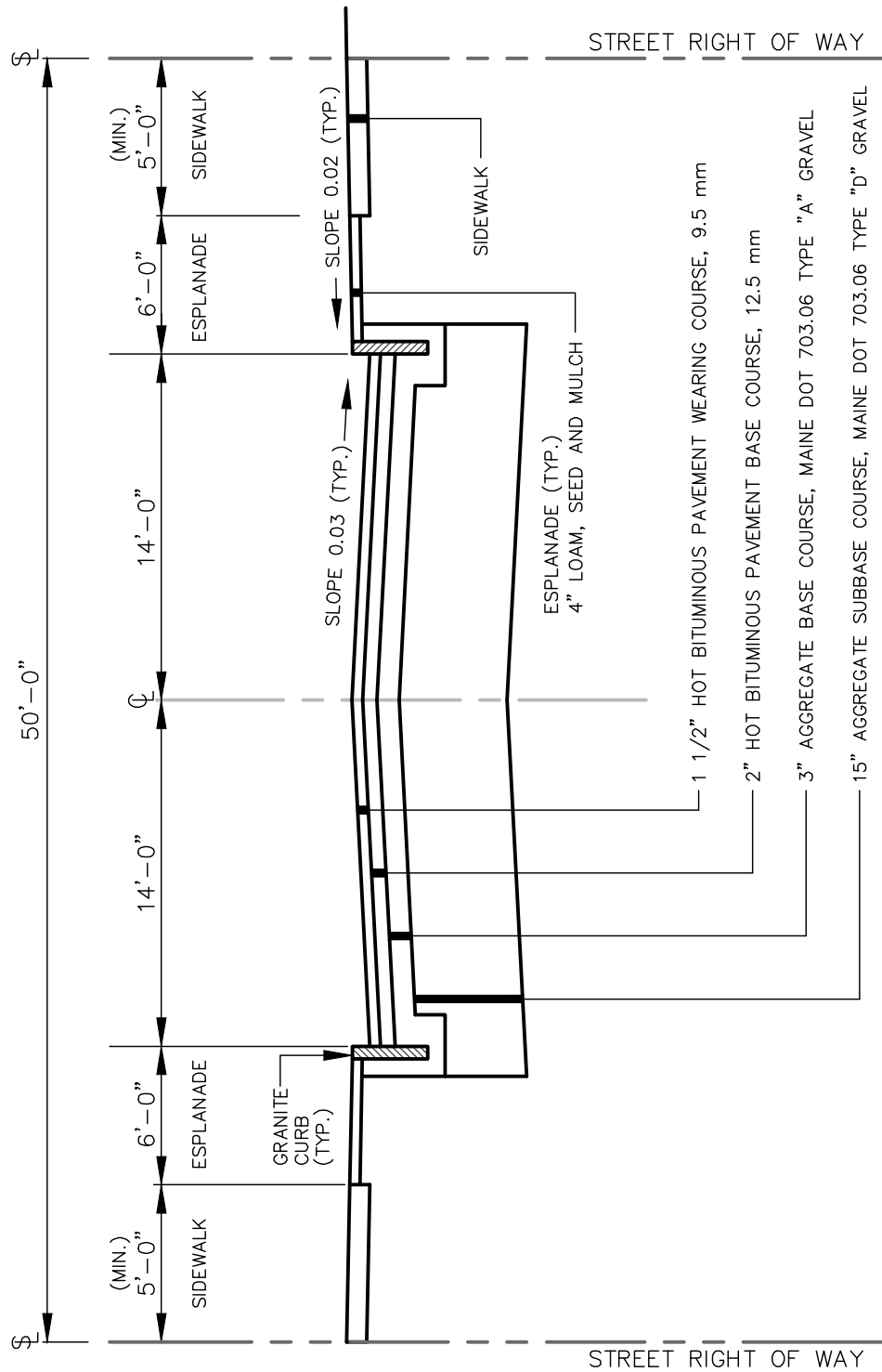
- A. Transit pullout bays shall be located in the City right-of-way along the property frontage; or
- B. Where space constraints prevent locating a transit pullout bay along the property frontage, transit pullout bays may be located within reasonable walking distance of the site;
- C. Where possible, transit pullout bays shall be located at intersections. At signalized intersections, far-side bus stops are preferred. Mid-block bays are not preferred due to impacts to parking and traffic; and

- D. The design of the pullout bay shall provide adequate space for vehicles to maneuver through facilities without causing damage to either the vehicles or facilities as detailed herein.

1.17.2. Transit shelters.

- A. Transit shelters shall be located within the site, directly adjacent to the right-of-way on which the public transportation route is established; or
- B. Where site constraints prevent locating a transit shelter on the site, it shall be located within a public sidewalk area along the property frontage. If a transit shelter is to be located within a public sidewalk area, City sidewalk clearance requirements shall apply; or
- C. Where space constraints prevent locating a transit shelter within a public sidewalk area along the property frontage, it may be located within reasonable walking distance of the site; and
- D. Installation and ongoing maintenance of transit shelters on private property shall be the responsibility of the property owner. Ongoing maintenance of transit shelters located within the City right-of-way or within an easement held by the City shall be the responsibility of the City or of the local or regional transit authority serving the facility.

1.17.3. Where necessary, developments shall provide easement to the City, sufficient in size to accommodate public transit infrastructure and access to the transit stop.



LOCAL STREET CROSS SECTION

NOT TO SCALE

DATE:
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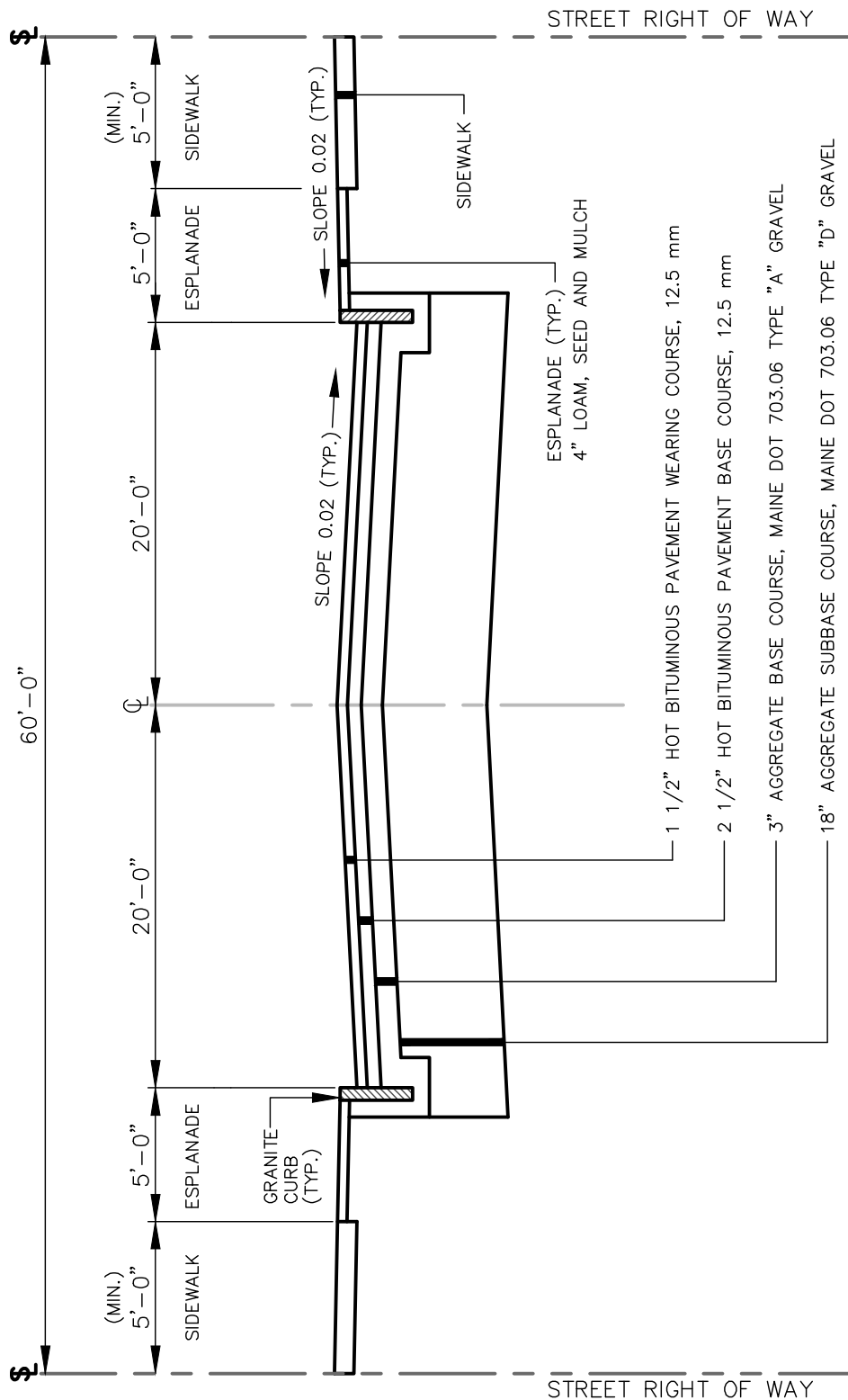
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TRANSPORTATION
DESIGN STANDARDS
SECTION I

FIGURE:

LOCAL STREET CROSS SECTION

I-1



DATE:
NOV. 2022
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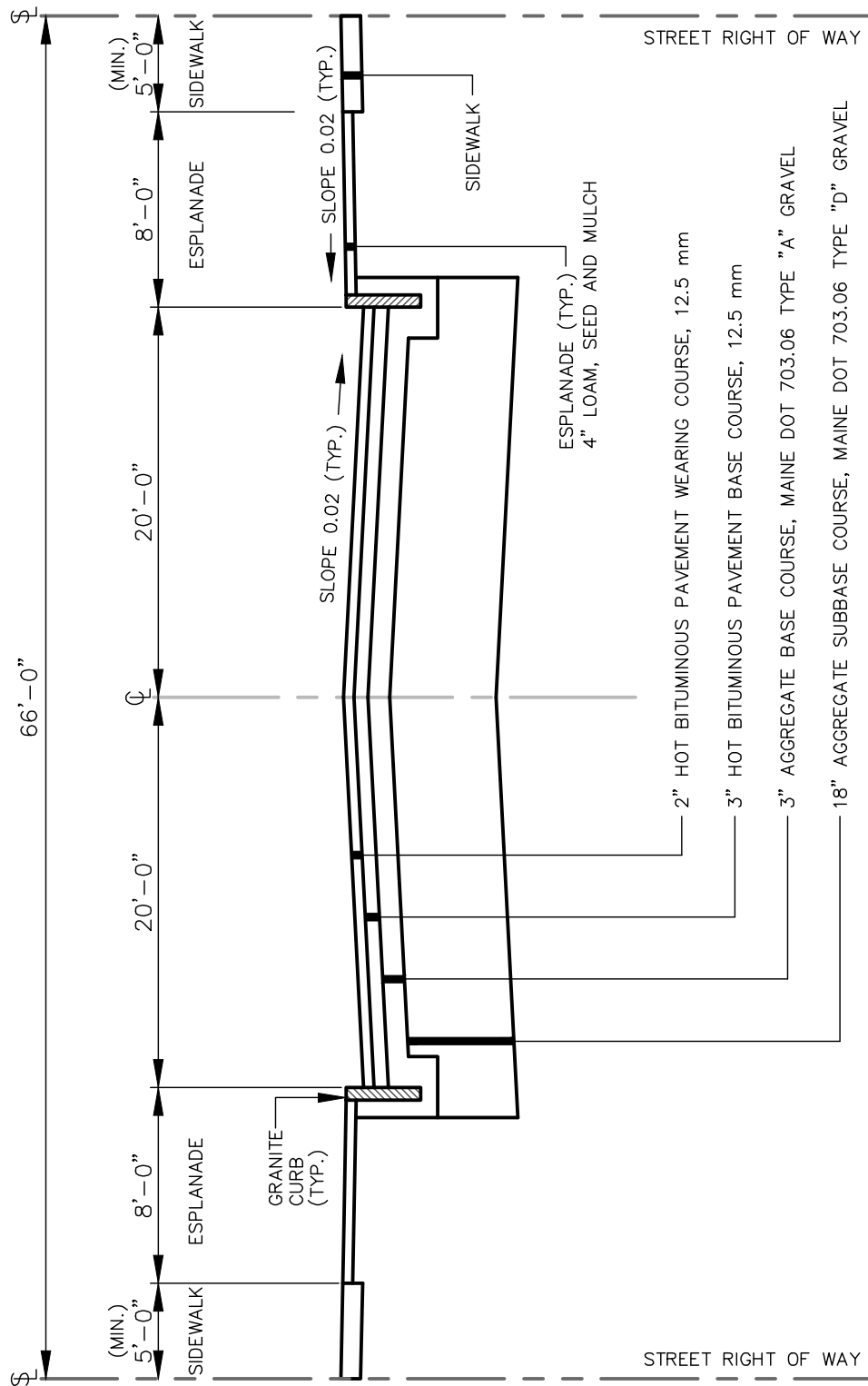
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DESIGN STANDARDS
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FIGURE:

COLLECTOR STREET CROSS SECTION

I-2



ARTERIAL STREET CROSS SECTION

NOT TO SCALE

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NOV. 2022
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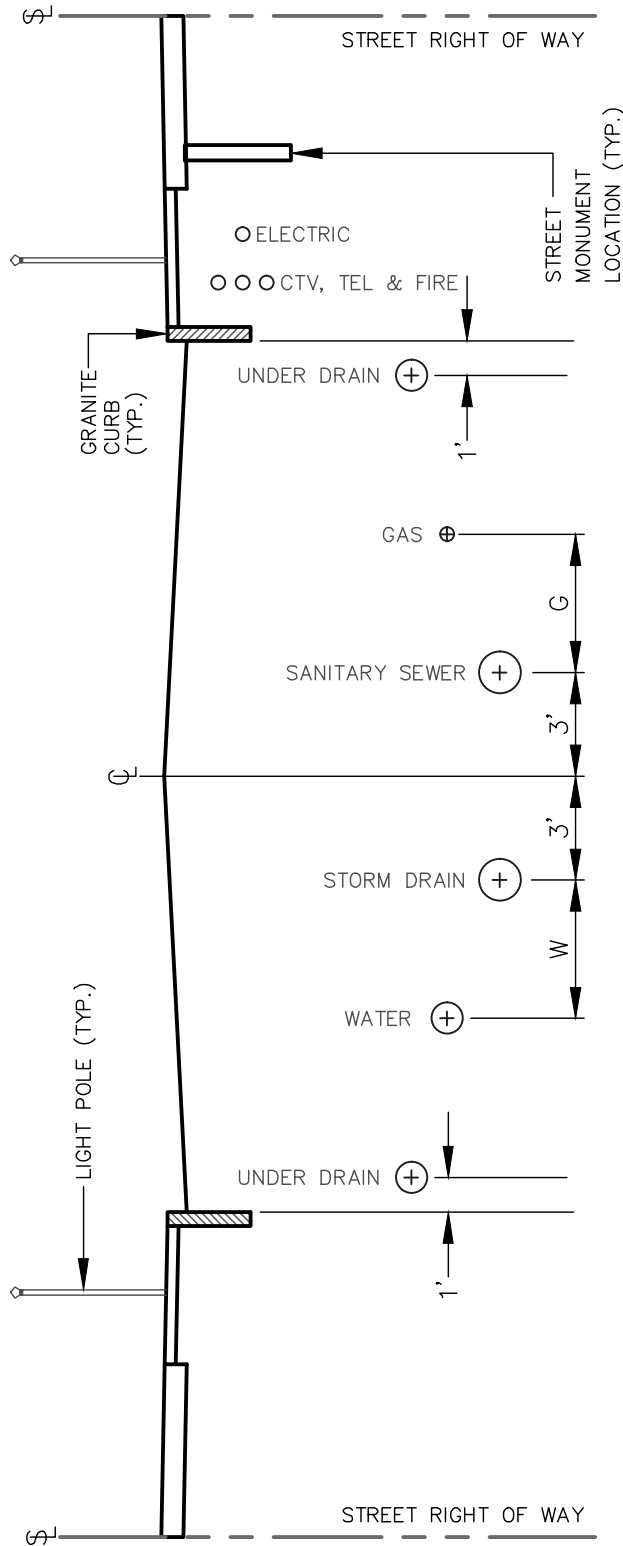
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**TRANSPORTATION
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FIGURE:

ARTERIAL STREET CROSS SECTION

I-3



NOTES:

1. DEPTH OF SANITARY SEWER AND STORM DRAIN PER CITY ENGINEER.
2. DEPTH OF UNDER DRAIN SHALL BE 3'-6" FROM GUTTER LINE TO PIPE INVERT.
3. DEPTHS OF ELECTRIC, TELEPHONE, CABLE TELEVISION AND FIRE TO BE AT LEAST 36 INCHES BELOW FINISH GRADE. DEPTHS OF OTHER UTILITIES PER REQUIREMENTS OF APPLICABLE UTILITY COMPANY. WHEN TREES ARE PROPOSED FOR THE ESPLANADE, THE UTILITIES DESIGNATED FOR THAT LOCATION SHALL MAKE NECESSARY PROVISIONS.
4. APPLICABLE WARNING TAPE SHALL BE PLACED OVER EACH UTILITY.
5. RIGID PVC CONDUIT IS REQUIRED FOR STREET AND DRIVEWAY CROSSINGS AND OTHER PAVEMENT CROSSINGS MORE THAN 12 FEET IN LENGTH. CONDUITS CROSSING STREETS SHALL BE ENCASED IN CONCRETE. CONCRETE SHALL BE DESIGNED TO HAVE MINIMUM 3,000 PSI COMP. STRENGTH AND SHALL HAVE A MINIMUM 4" THICK ENCASEMENT ON ALL SIDES OF CONDUIT.
6. UTILITY MANHOLES SHALL NOT BE LOCATED WITHIN TRAVEL LANE VEHICLE TRACKING TO THE EXTENT POSSIBLE.

STREET CLASSIFICATION	R.O.W. WIDTH (ft.)	UTILITY LOCATION DIMENSIONS	
		W (ft.)	G (ft.)
LOCAL	50	5	5
COLLECTOR	60	7	7
ARTERIAL	66	8	8

UTILITY LOCATIONS IN STREETS

NOT TO SCALE

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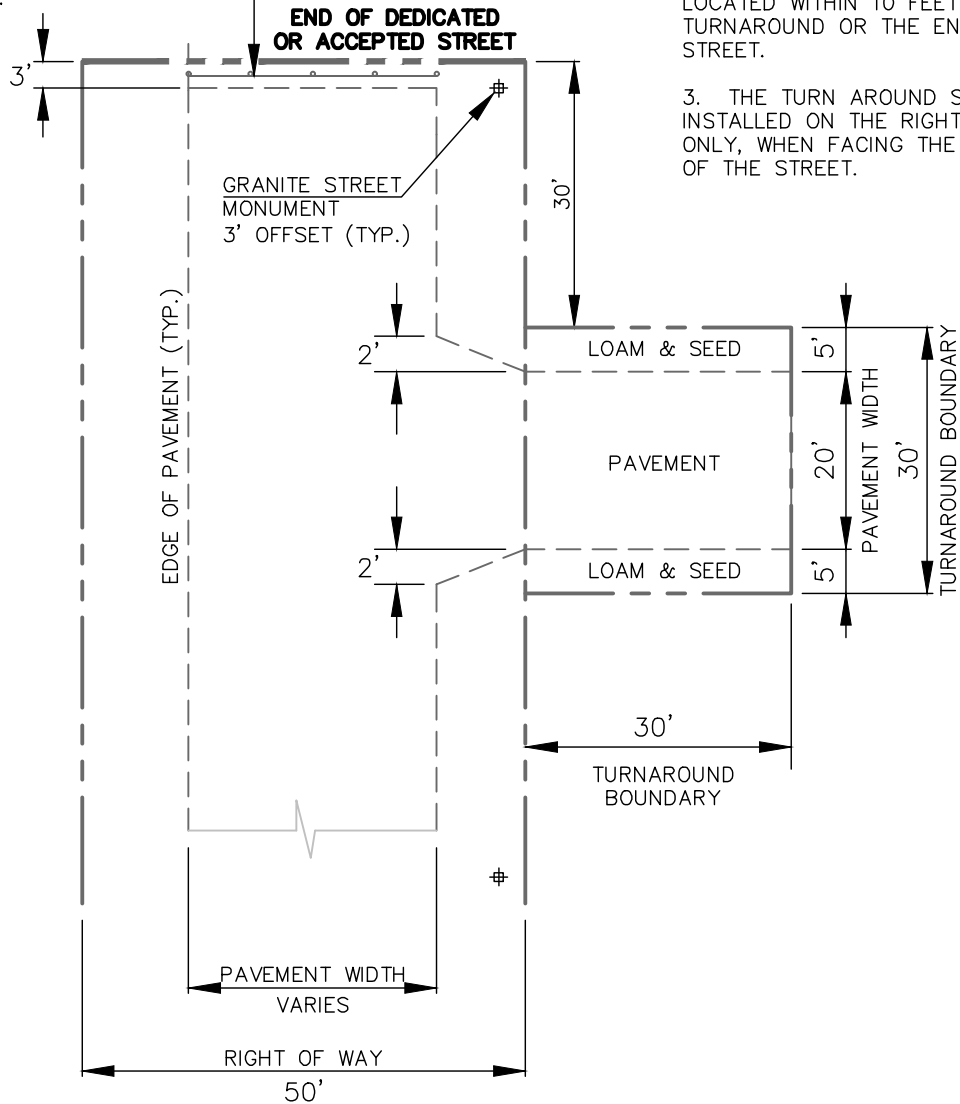
**TRANSPORTATION
DESIGN STANDARDS
SECTION I**

FIGURE:

I-4

UTILITY LOCATIONS IN STREETS

GALVANIZED STEEL OR PRESSURE
TREATED WOOD GUARDRAIL WITH OM4-2
END OF ROADWAY MARKER SIGN OR
APPROVED EQUAL. DPW RESERVES THE
RIGHT TO WAIVE THE REQUIREMENT OF A
GUARD RAIL BASED ON SITE SPECIFIC
SNOW STORAGE AND TURNAROUND
CONSIDERATIONS.



NOTES

1. A TURNAROUND EASEMENT SHALL BE CONVEYED TO THE CITY.
2. NO DRIVEWAYS SHALL BE LOCATED WITHIN 10 FEET OF THE TURNAROUND OR THE END OF THE STREET.
3. THE TURN AROUND SHALL BE INSTALLED ON THE RIGHT SIDE ONLY, WHEN FACING THE DEAD END OF THE STREET.

TURNAROUND ON DEAD END STREET

NOT TO SCALE

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FIGURE:

TURNAROUND ON DEAD END STREET

I-5

GENERAL NOTES

1. DESIGN OF ACCESSIBLE RAMPS AND ASSOCIATED FACILITIES ARE GOVERNED BY THE 2010 AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN, WHICH IS DETAILED IN DOJ SECTION 28 CFR 35.151. ADDITIONAL GUIDANCE AND INFORMATION CAN BE FOUND IN THE PROPOSED PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES PUBLISHED BY THE U.S. ACCESS BOARD. IN ANY CASE WHERE THE DESIGN REQUIREMENTS ARE MORE STRINGENT BETWEEN ADA STANDARDS AND CITY REQUIREMENTS, THE ADA STANDARDS SHALL GOVERN.
2. SIDEWALKS SHALL BE CONSTRUCTED IN BRICK, CONCRETE, OR BITUMINOUS, ACCORDING TO THE SIDEWALK & DRIVEWAY APRON MATERIALS POLICY, UNLESS DIRECTED OTHERWISE BY THE CITY ENGINEER.
3. SIDEWALKS AND RAMPS SHALL BE BUILT ACCORDING TO THE FOLLOWING DIMENSIONS AND GRADES:
SIDEWALK RUNNING SLOPE: MATCH ADJACENT STREET GRADE
SIDEWALK CROSS SLOPE: 1.0% MINIMUM, 2.0% MAXIMUM
SIDEWALK WIDTH: 5'-0" MINIMUM, WIDER PREFERRED
ESPLANADE (WHERE PROVIDED) 2'-0" MINIMUM, 4'-0" OR GREATER PREFERRED IF LANDSCAPED.
4. TWO CURB RAMPS ARE REQUIRED AT EACH SIDEWALK CORNER. EACH CURB RAMP SHALL CONNECT THE PEDESTRIAN ACCESS ROUTE AT EACH PEDESTRIAN STREET CROSSING. IN ALTERATIONS WHERE PHYSICAL CONSTRAINTS PREVENT TWO CURB RAMPS FROM BEING INSTALLED AT A STREET CORNER, A SINGLE PEDESTRIAN CURB RAMP MAY BE PERMITTED.
5. OPPOSING CURB RAMPS AT A SINGLE CROSSING SHALL ALIGN TO PROVIDE A STRAIGHT PATH OF TRAVEL FROM THE TOP OF THE RAMP TO THE CURB RAMP ON THE OPPOSITE SIDE OF THE ROADWAY TO THE MAXIMUM EXTENT FEASIBLE.
6. ALL SIDEWALKS AND RAMPS SHALL DRAIN TOWARD THE STREET, DRIVEWAY, OR PARKING AREA, WITH A MAXIMUM CROSS SLOPE OF 2.0%.
7. LEVEL LANDINGS (NO GREATER THAN 2.0% SLOPE IN ANY DIRECTION) AT THE BOTTOM OF PERPENDICULAR RAMPS SHALL BE WHOLLY CONTAINED WITHIN MARKED CROSSWALKS.
8. PONDING SHALL NOT BE PERMITTED WITHIN THE CURB RAMP LIMITS. RAMPS SHALL NOT ALTER ROADWAY DRAINAGE PATTERNS.
9. TRANSITION FROM RAMPS TO WALKS OR STREET SURFACE SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. PAVEMENT AT THE STREET SURFACE SHALL BE MILLED AND REPAVED TO ACHIEVE FLUSH CONDITION.
10. CURB RAMP AND FORM WORK SLOPES SHALL BE CHECKED WITH A DIGITAL LEVEL OF AN APPROPRIATE LENGTH. NO PORTION OF A RAMP RUN SHALL EXCEED THE MAXIMUM SLOPE REQUIREMENT.
11. THE COUNTER SLOPE WITHIN 2' OF THE CURB RAMP SHALL BE 5% MAXIMUM. IN ALTERATIONS, IF THE COUNTER SLOPE OF 5% MAXIMUM CANNOT BE ACHIEVED, THE SLOPE ELEVATION MAY BE ADJUSTED SO THAT THE COMBINED COUNTER SLOPE AND RAMP SLOPE DO NOT EXCEED 13.3%.
12. VERTICAL DROP-OFF EDGES TO RAMPS SHALL NOT BE BUILT UNLESS THE RAMP ABUTS AN ESPLANADE OR OTHER AREA NOT TO BE USED BY PEDESTRIANS.
13. AT MARKED CROSSWALKS, THE FULL WIDTH OF THE RAMP OR LANDING SHALL BE CONTAINED WITHIN THE PAVEMENT MARKINGS.
14. DETECTABLE WARNING PANELS SHALL BE PROVIDED ON ALL RAMPS AS PER FIGURE I-7 OF THESE STANDARD DETAILS.
15. RAMP FLARES SHOULD BE LOCATED OUTSIDE THE DIRECT LINE OF TRAVEL MOST LIKELY TO BE FOLLOWED BY THE VISUALLY IMPAIRED.
16. SIGNS, POLES, PLANTERS, MAILBOXES, ETC. SHALL NOT BE LOCATED WHERE THEY WILL INTERFERE WITH THE USE OF SIDEWALK RAMPS.
17. SIDEWALK RAMPS SHALL NOT BE LOCATED WHERE USERS MUST CROSS DROP INLET GRATES, MANHOLE COVERS, OR OTHER ACCESS LIDS. IF THIS CANNOT BE AVOIDED, THEN GRATE DESIGN AND PLACEMENT SHALL CONFORM TO ADA REQUIREMENTS.
18. THE PUBLIC SIDEWALK CURB RAMP STANDARDS DEPICTED HERE MAY NOT BE APPROPRIATE FOR ALL LOCATIONS. FIELD CONDITIONS AT INDIVIDUAL LOCATIONS MAY REQUIRE SPECIFIC DESIGNS. RAMP DESIGNS THAT ARE COMPLIANT WITH ADA BUT NOT LISTED IN THESE DETAILS MAY BE APPROVED BY THE CITY ENGINEER.
19. DESIGNS MUST BE CONSISTENT WITH THE PROVISIONS OF THESE DETAILS AND TO ADA GUIDELINES TO THE MAXIMUM EXTENT FEASIBLE ON ALTERATION PROJECTS, AND WHEN STRUCTURALLY PRACTICABLE ON NEW CONSTRUCTION PROJECTS AS REQUIRED BY THE ADA ACCESSIBILITY GUIDELINES.
20. MAXIMUMS AND MINIMUMS DO NOT HAVE TOLERANCES AND ARE NOT TO BE EXCEEDED OR UNMET.
21. THE STANDARD TURNING SPACE (LEVEL LANDING) IS 4'-0" X 4'-0" SLOPING NO MORE THAN 2.0%. WHERE THE TURNING SPACE SHALL BE 4'-0" MINIMUM BY 5'-0" MINIMUM. THE 5'-0" DIMENSION SHALL BE PROVIDED IN THE DIRECTION OF THE RAMP RUN.
22. DETECTABLE WARNINGS SHALL BE INSTALLED AT ALL SIGNED OR SIGNALIZED INTERSECTIONS. THEY SHALL HAVE A TRUNCATED DOME SURFACE. THE DOMES SHALL BE IN A SQUARE PATTERN AND ALIGNED WITH PEDESTRIAN TRAFFIC WHERE POSSIBLE.
23. DETECTABLE WARNINGS SHALL SPAN THE WIDTH OF THE PEDESTRIAN RAMP. SEE STANDARD DETAIL FIGURE I-7.
24. ALL DETECTABLE WARNING FIELDS PLACED AT THE SAME INTERSECTION SHALL BE MADE UP OF THE SAME UNIFORM MATERIAL TYPE. DETECTABLE WARNINGS SHALL BE CONTRASTING IN COLOR TO THE ADJACENT WALKWAY.
25. A RAMP WITH A RUNNING SLOPE LESS THAN 5.0% IS DEFINED AS A "BLENDED TRANSITION". BLENDED TRANSITIONS DO NOT REQUIRE A LEVEL LANDING AT THE TOP OF THE RAMP.
26. THE RAMP LENGTH SHALL NOT EXCEED 15 FEET. ADJUST RAMP LENGTH OR SLOPE AS NEEDED TO PROVIDE ACCESS TO THE MAXIMUM EXTENT FEASIBLE.
27. ALL CURB RAMP JOINTS AND GRADE BREAKS SHALL BE FLUSH.
28. RAMP GRADE BREAKS SHALL BE PERPENDICULAR TO THE RUNNING SLOPE.
29. THERE SHALL BE A MINIMUM OF 12" AGGREGATE SUBBASE COURSE - GRAVEL UNDER THE SIDEWALK SURFACE ON PEDESTRIAN RAMPS.
30. DRAINAGE STRUCTURES, UTILITY POLES, TRAFFIC SIGNAL EQUIPMENT OR OTHER OBSTRUCTIONS SHALL NOT BE INSTALLED IN THE CURB RAMP OR TURNING SPACE AREAS.
31. BEFORE RETROFITTING RAMPS, THE CONTRACTOR SHALL VERIFY REMOVAL LIMITS ARE SUFFICIENT TO PROVIDE POSITIVE DRAINAGE, MAINTAIN EXISTING DRAINAGE PATTERNS AND AVOID PONDING IN THE FINAL CONFIGURATION.
32. A TEMPORARY PEDESTRIAN ACCESS ROUTE SHALL BE PROVIDED WHENEVER THE EXISTING PEDESTRIAN ACCESS ROUTE IN THE PUBLIC RIGHT OF WAY IS BLOCKED BY CONSTRUCTION, ALTERATION, MAINTENANCE OR OTHER TEMPORARY CONDITIONS. REFER TO MUTCD FOR GUIDANCE.

DATE:
NOV. 2022

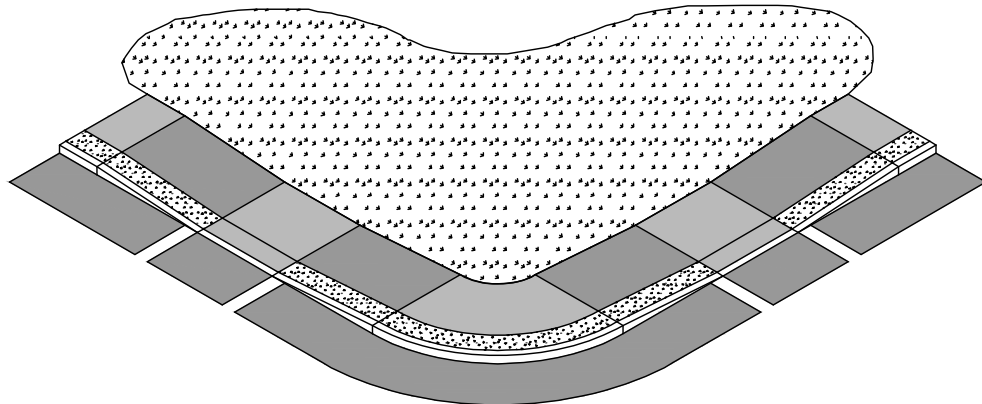
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SECTION I

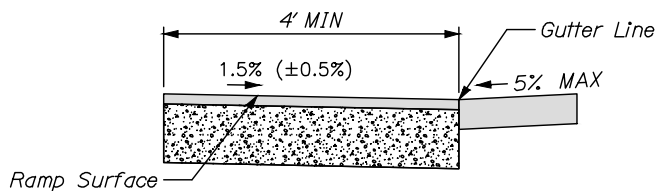
FIGURE:

**ACCESSIBLE RAMP
GENERAL NOTES**

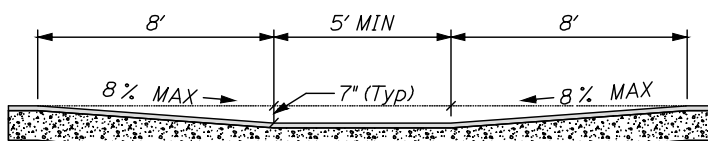
I-6



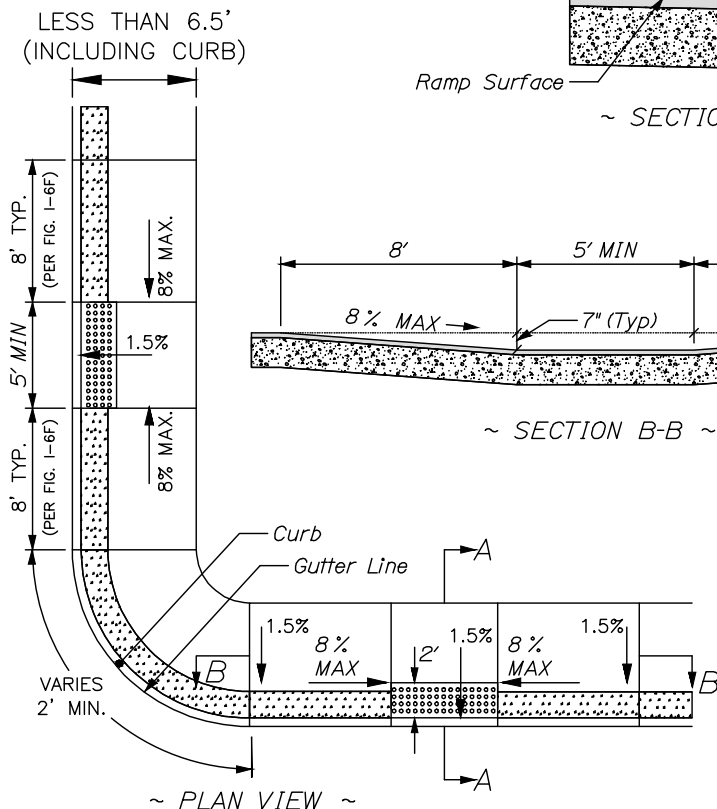
~ ISOMETRIC VIEW ~
(NOT TO SCALE)



~ SECTION A-A ~



~ SECTION B-B ~



~ PLAN VIEW ~

NOTES:

1. THIS DESIGN IS THE PREFERRED OPTION WHEN THE SIDEWALK & ESPLANADE WIDTH IS LESS THAN 6.5'. USE OTHER OPTIONS ONLY WHEN REQUIRED BY DESIGN CONSTRAINTS.
2. A MINIMUM CURB REVEAL OF 4" IS REQUIRED AT THE APEX OF THE CURB RADIUS.
3. MINIMUM TERMINAL CURB LENGTH SHALL BE 4 FEET.
4. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.

**PARALLEL ADA RAMP – SIDEWALK LESS THAN 6.5' WIDE
WITH OR WITHOUT ESPLANADE**

NOT TO SCALE

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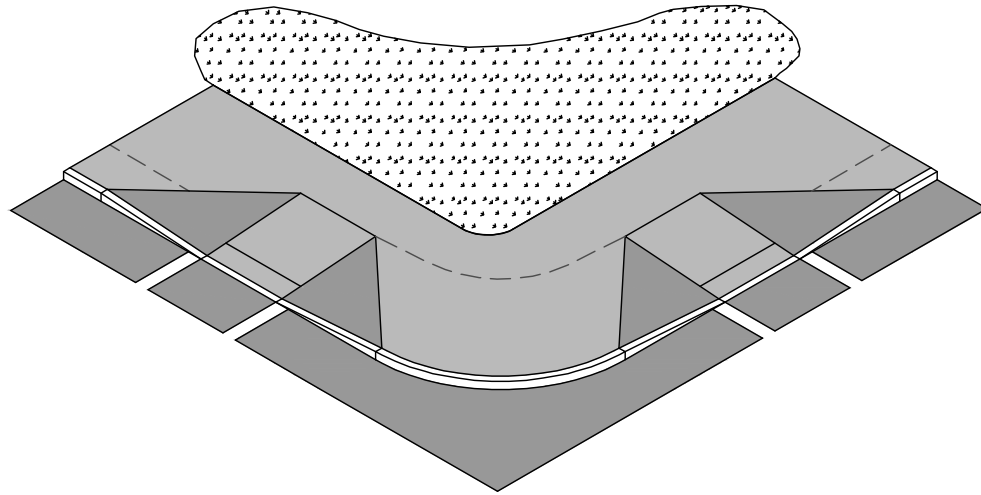
CITY OF PORTLAND, MAINE
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**TRANSPORTATION
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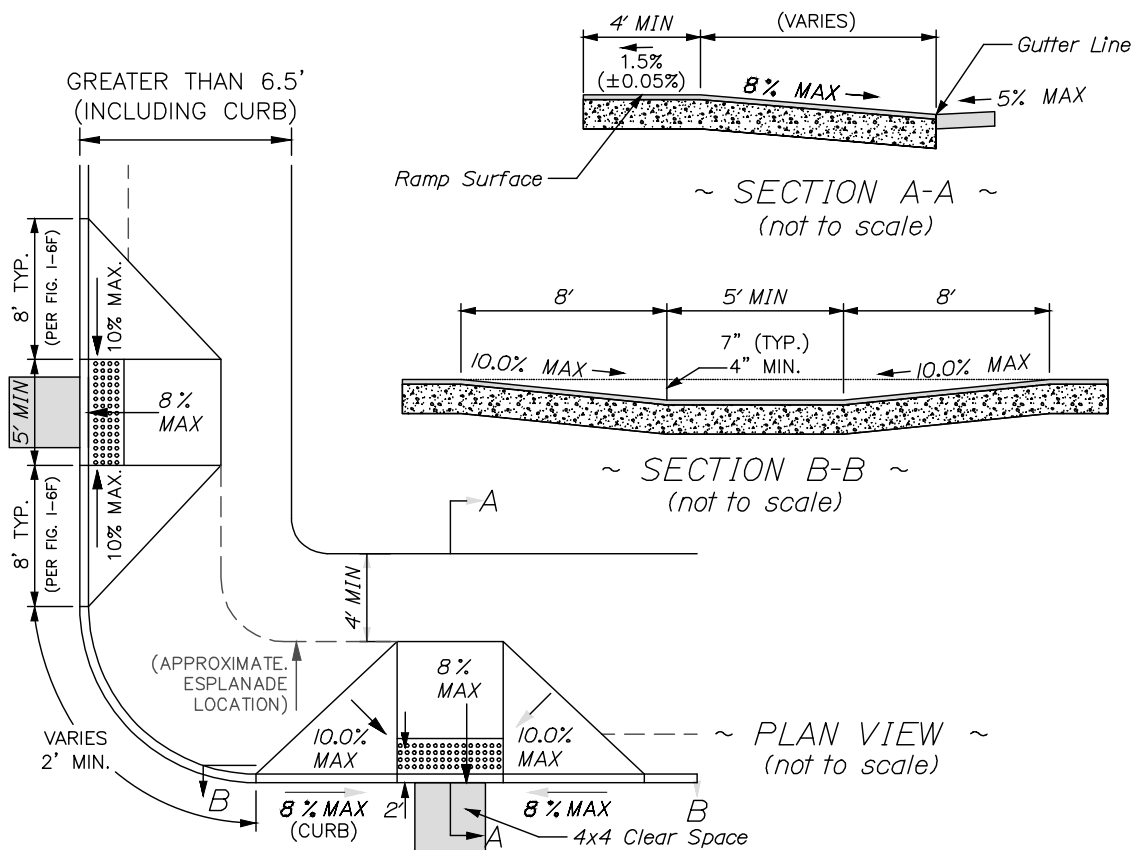
**PARALLEL ADA RAMP FOR SIDEWALK
LESS THAN 6.5' WIDE**

FIGURE:

I-6A



~ ISOMETRIC VIEW ~
(not to scale)



NOTES:

1. THIS DESIGN IS THE PREFERRED OPTION WHEN THE SIDEWALK WIDTH IS GREATER THAN 6.5'. USE OTHER OPTIONS ONLY WHEN REQUIRED BY DESIGN CONSTRAINTS.
2. A MINIMUM CURB REVEAL OF 4" IS REQUIRED AT THE APEX OF THE CURB RADIUS.
3. MINIMUM TERMINAL CURB LENGTH SHALL BE 4 FEET.
4. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.

**PERPENDICULAR ADA RAMP – SIDEWALK WIDTH GREATER THAN 6.5' WIDE
WITH OR WITHOUT ESPLANADE**

NOT TO SCALE

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REVISED:

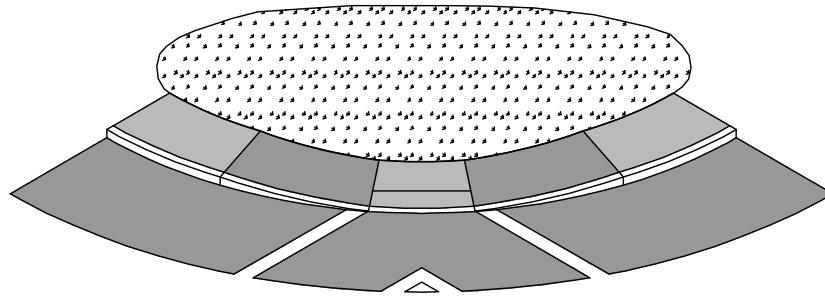
CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

**TRANSPORTATION
DESIGN STANDARDS
SECTION I**

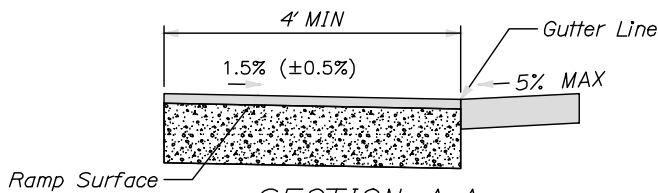
FIGURE:

**PERPENDICULAR ADA RAMP FOR SIDEWALK
GREATER THAN 6.5'**

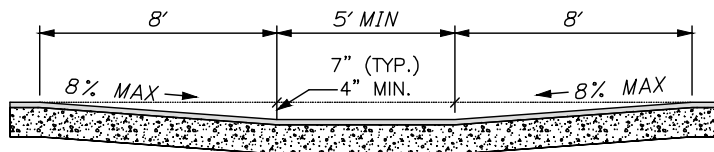
I-6B



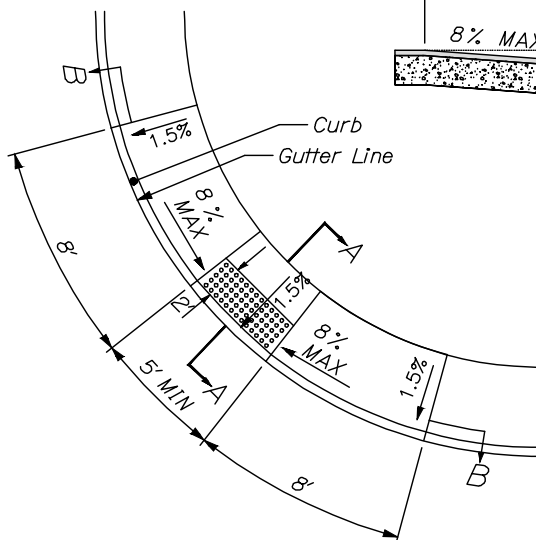
~ ISOMETRIC VIEW ~
(NOT TO SCALE)



~ SECTION A-A ~



~ SECTION B-B ~



~ PLAN VIEW ~

NOTES:

1. THIS LESS DESIRABLE DESIGN SHOULD NOT BE USED UNLESS REQUIRED BY DESIGN CONSTRAINTS. IT DOES NOT PROVIDE DIRECTIONAL CUES.
2. A MINIMUM CURB REVEAL OF 4" IS REQUIRED AT THE APEX OF THE CURB RADIUS.
3. MINIMUM TERMINAL CURB LENGTH SHALL BE 4 FEET.
4. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.

APEX RAMP – SIDEWALKS **LESS THAN 6.5'** WIDE
WITH NO ESPLANADE

NOT TO SCALE

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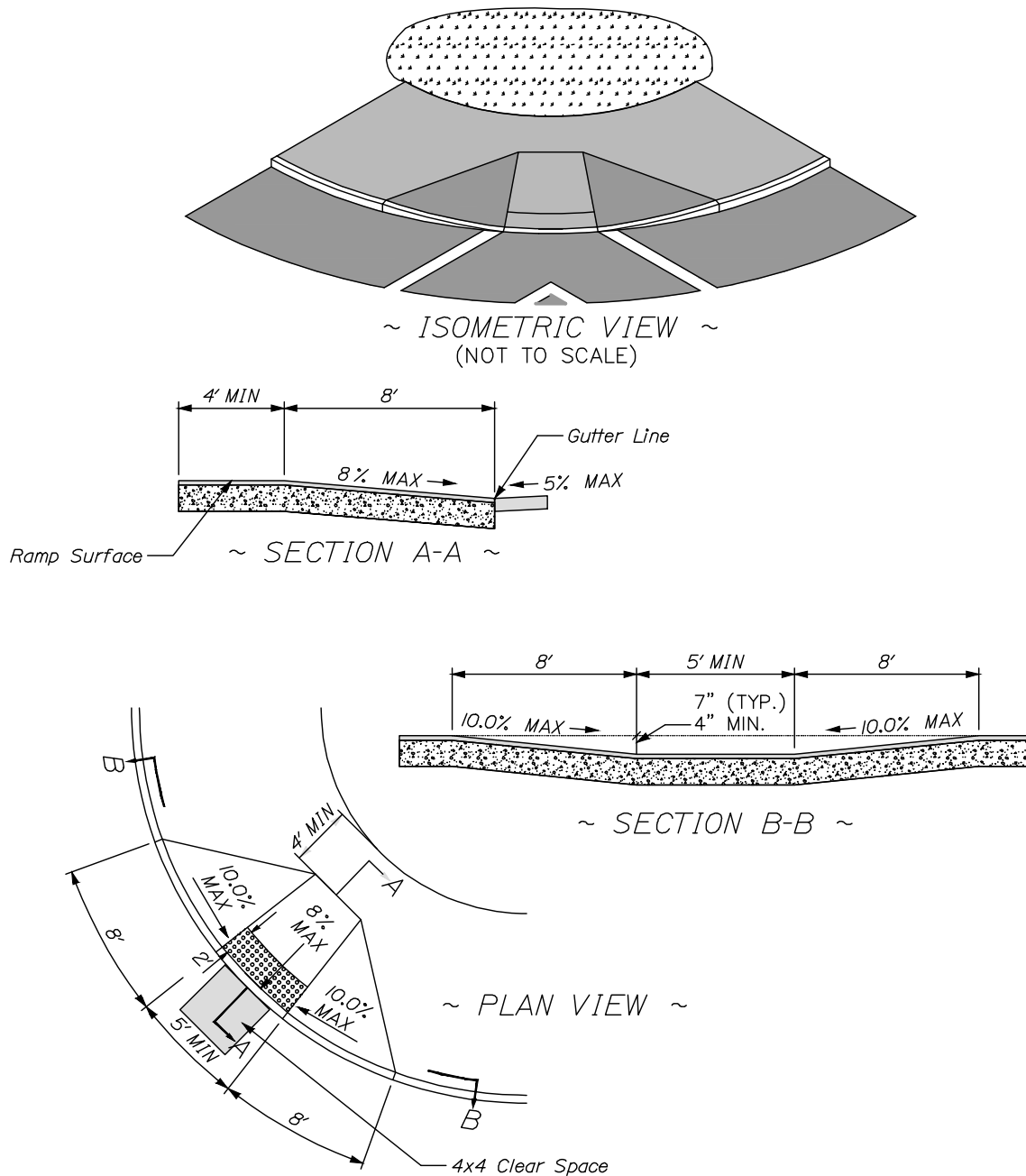
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**APEX RAMP FOR SIDEWALK
LESS THAN 6.5' WIDE**

FIGURE:

I-6C



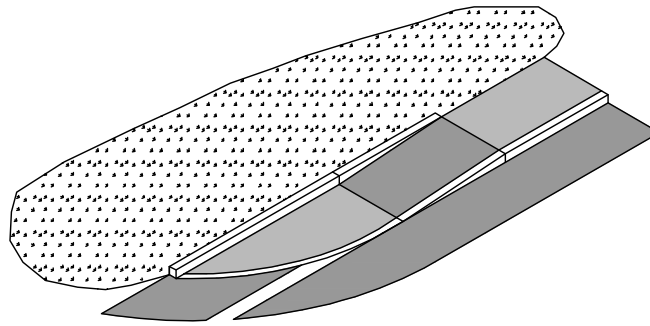
NOTES:

1. THIS LESS DESIRABLE DESIGN SHOULD NOT BE USED UNLESS REQUIRED BY DESIGN CONSTRAINTS. IT DOES NOT PROVIDE DIRECTIONAL CUES.
2. A MINIMUM CURB REVEAL OF 4" IS REQUIRED AT THE APEX OF THE CURB RADIUS.
3. MINIMUM TERMINAL CURB LENGTH SHALL BE 4 FEET.
4. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.

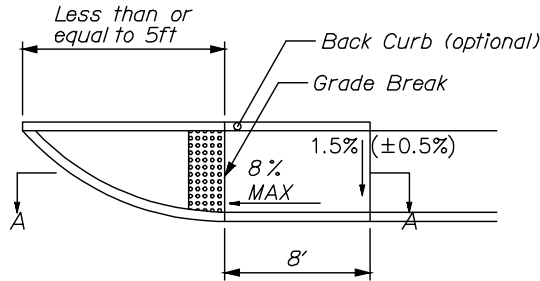
**APEX RAMP — SIDEWALK GREATER THAN 6.5' WIDE
WITH OR WITHOUT ESPLANADE**

NOT TO SCALE

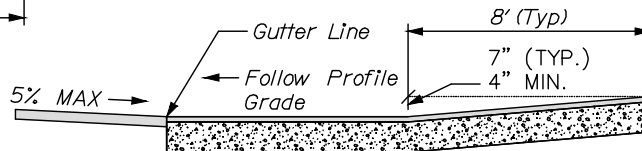
DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION DESIGN STANDARDS SECTION I	FIGURE:
	APEX RAMP FOR SIDEWALK 6.5' WIDE AND GREATER		I-6D



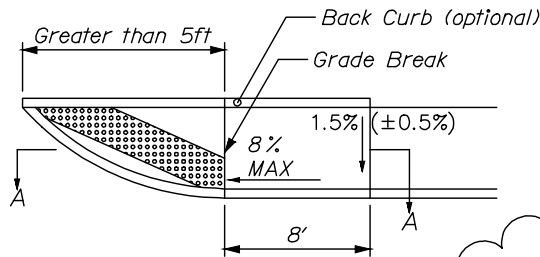
~ PERSPECTIVE VIEW ~
(NOT TO SCALE)



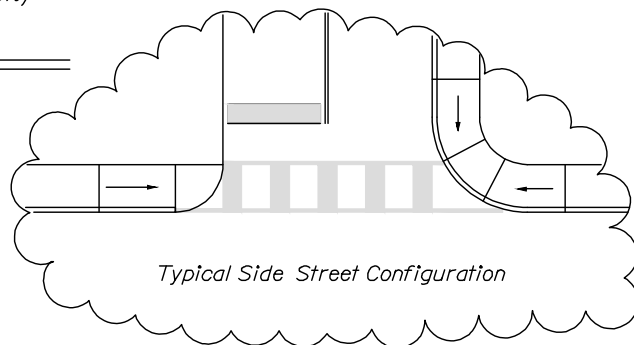
~ *PLAN VIEW* ~



~ SECTION A-A ~



~ **PLAN VIEW** ~



Typical Side Street Configuration

NOTES:

1. FOR USE ONLY WHEN NO SIDEWALK IS PRESENT ON THE SIDE ROAD.
2. USE *THIS* DETECTABLE WARNING PLACEMENT IF THE DISTANCE FROM THE GRADE BREAK TO THE GUTTERLINE IS LESS THAN OR EQUAL TO 5 FEET.
2. USE **THIS** DETECTABLE WARNING PLACEMENT IF THE DISTANCE FROM THE GRADE BREAK TO THE GUTTERLINE IS GREATER THAN 5 FEET.
3. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.

**SIDE STREET RAMP
WITH OR WITHOUT ESPLANADE**

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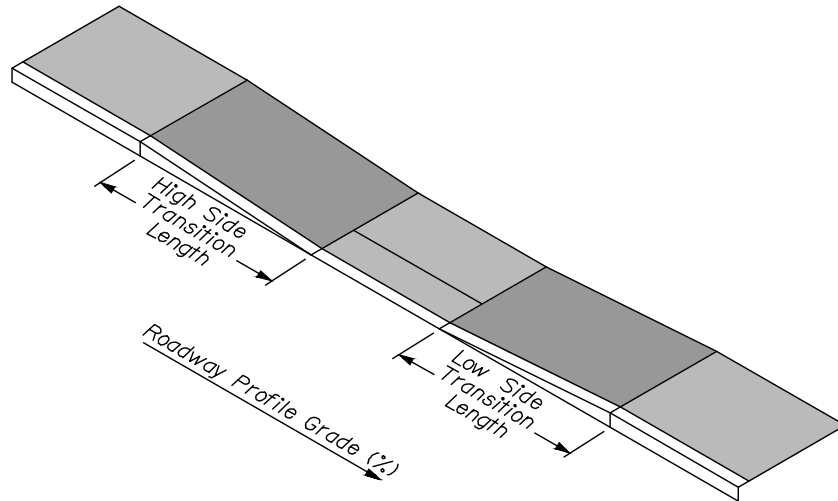
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SECTION I**

FIGURE:

**SIDE STREET RAMP
WHEN NO INTERSECTING SIDEWALK IS PRESENT**

I-6E



Pedestrian Ramp Length Table						
Curb Reveal (Inches)		7	6	5	4	3
	Roadway Profile Grade	Minimum Transition Length Required (Feet)				
Low Side Transition Length	-7% and Lower	4.0	4.0	4.0	4.0	4.0
	-6%	8.0	4.0	4.0	4.0	4.0
	-5%	8.0	4.0	4.0	4.0	4.0
	-4%	8.0	8.0	4.0	4.0	4.0
	-3%	8.0	8.0	4.0	4.0	4.0
	-2%	8.0	8.0	8.0	4.0	4.0
	-1%	8.0	8.0	8.0	4.0	4.0
	0%	8.0	8.0	8.0	8.0	4.0
High Side Transition Length	1%	8.0	8.0	8.0	8.0	4.0
	2%	10.0	8.0	8.0	8.0	4.0
	3%	12.0	10.0	8.0	8.0	8.0
	4%	14.0	12.0	10.0	8.0	8.0
	5%	15.0	15.0	14.0	10.0	8.0
	6%	15.0	15.0	15.0	15.0	12.0
	7% and Higher	15.0	15.0	15.0	15.0	15.0

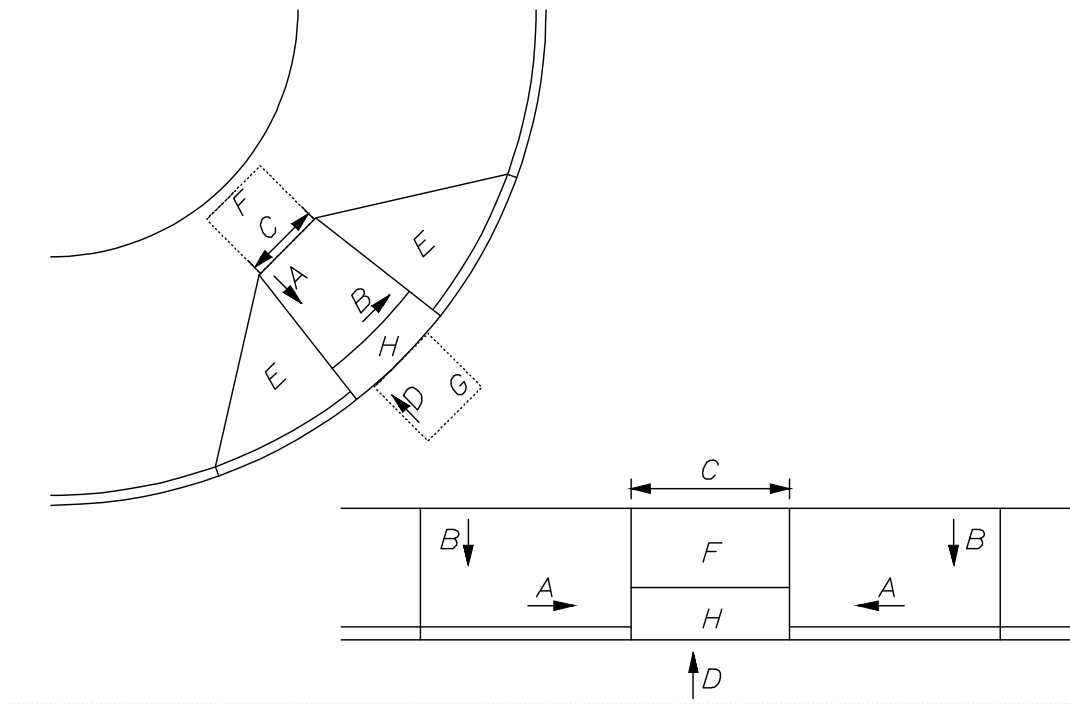
Choose roadway profile grade by rounding up for positive grades and down for negative grades. Round to the nearest whole integer. If constraints prevent placement of the ramp length required by the table, place the maximum length possible and check the slope. If above the maximum allowable slope, consider design modifications before considering technical infeasibility.

RAMP LENGTH TABLE FOR SIDEWALK RAMPS

NOT TO SCALE

DATE: NOV. 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION DESIGN STANDARDS SECTION I	FIGURE: I-6F
REVISED:			
PEDESTRIAN RAMP LENGTH TABLE FOR SIDEWALK RAMPS			

CURB RAMP REQUIREMENTS		
Running Slope	A	Max. 8.33% (1:12)
Cross Slope	B	Max. 2% (1:50) MIN. 1% <i>Ramp cross slope at street crossings without stop or signal control may match roadway profile.</i>
Clear Width	C	Min. 5 feet <i>For existing ramps only, ramp width may remain 4 feet.</i>
Counter Slope	D	Max. 5% (1:20) <i>Adjacent surface must be flush with the ramp.</i>
Flared Sides	E	Max. 10% (1:10)
Turning Space	F	4 feet by 4 feet <i>Maximum slope of 2% in any direction. May include Detectable Warnings</i>
Clear Space	G	4 feet by 4 feet <i>Located at the bottom of the ramp outside active travel lanes.</i>
Detectable Warnings	H	<i>Required at traffic controlled intersections and mid-block crossings, full ramp width.</i>



PEDESTRIAN RAMP REQUIREMENTS FOR SIDEWALK RAMPS

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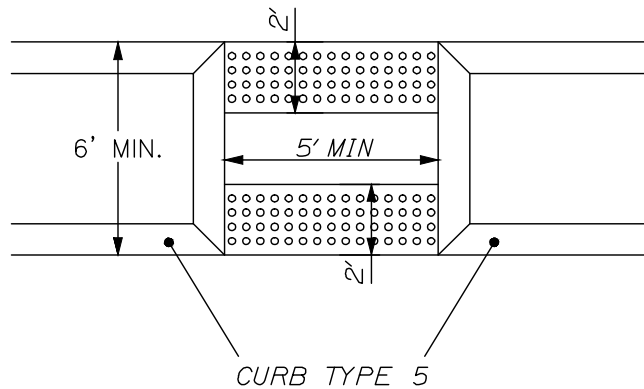
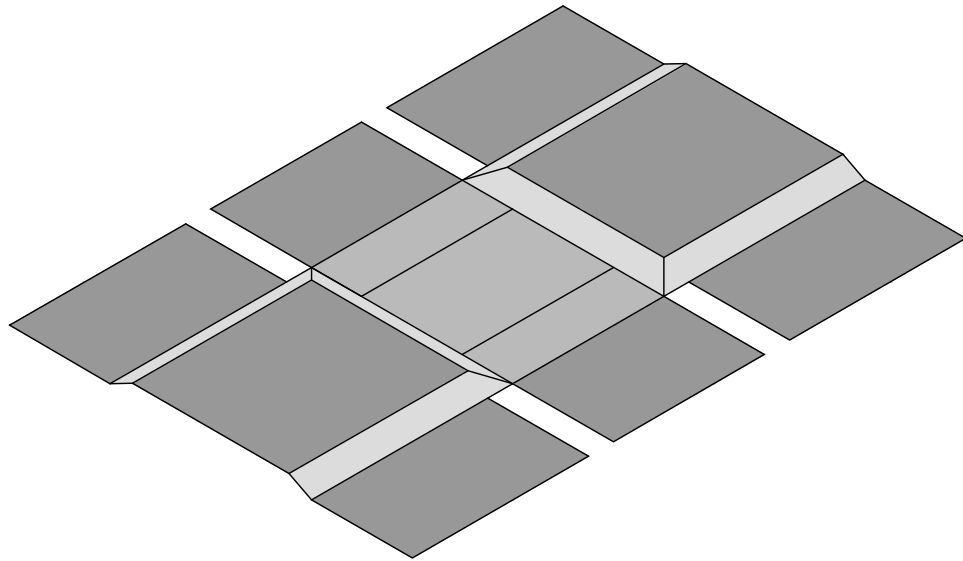
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FIGURE:

**PEDESTRIAN RAMP REQUIREMENTS
FOR SIDEWALK RAMPS**

I-6G



NOTES:

1. INSURE POSITIVE DRAINAGE (2% MAXIMUM CROSS SLOPE).

ISLAND PEDESTRIAN CROSSINGS

NOT TO SCALE

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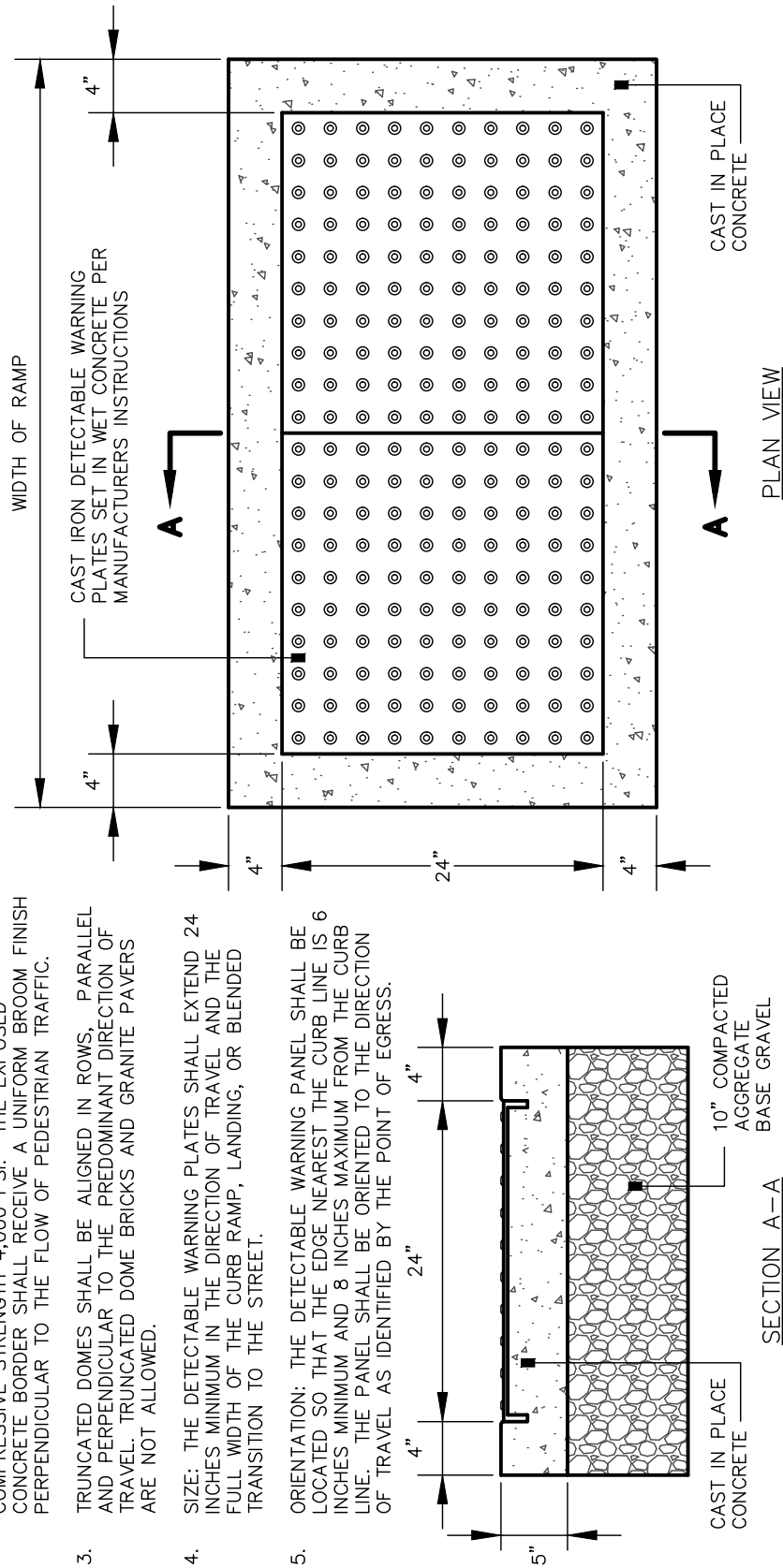
ISLAND PEDESTRIAN CROSSINGS

FIGURE:

I-6H

NOTES:

1. ALL DETECTABLE WARNING PLATES SHALL BE UNCOATED CAST IRON. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
2. CAST IN PLACE CONCRETE SHALL MEET SPECIFICATIONS FOR MDOT CLASS A STRUCTURAL CONCRETE, MINIMUM COMPRESSIVE STRENGTH 4,000 PSI. THE EXPOSED CONCRETE BORDER SHALL RECEIVE A UNIFORM BROOM FINISH PERPENDICULAR TO THE FLOW OF PEDESTRIAN TRAFFIC.
3. TRUNCATED DOMES SHALL BE ALIGNED IN ROWS, PARALLEL AND PERPENDICULAR TO THE PREDOMINANT DIRECTION OF TRAVEL. TRUNCATED DOME BRICKS AND GRANITE PAVERS ARE NOT ALLOWED.
4. SIZE: THE DETECTABLE WARNING PLATES SHALL EXTEND 24 INCHES MINIMUM IN THE DIRECTION OF TRAVEL AND THE FULL WIDTH OF THE CURB RAMP, LANDING, OR BLENDED TRANSITION TO THE STREET.
5. ORIENTATION: THE DETECTABLE WARNING PANEL SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FROM THE CURB LINE. THE PANEL SHALL BE ORIENTED TO THE DIRECTION OF TRAVEL AS IDENTIFIED BY THE POINT OF EGRESS.



NOT TO SCALE

SIDEWALK RAMP DETECTABLE WARNING PANEL

I-7

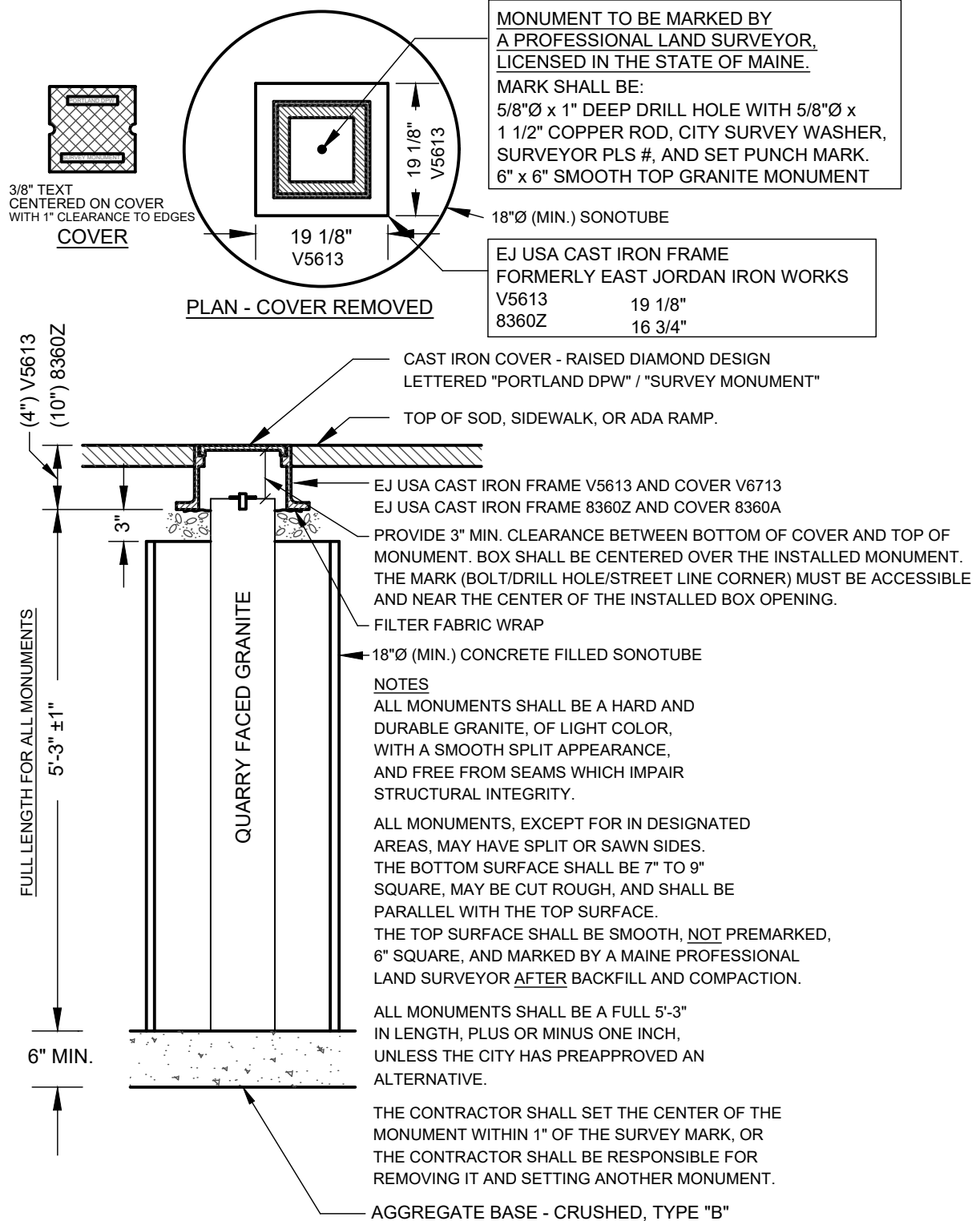
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FIGURE:

SIDEWALK RAMP DETECTABLE WARNING PANEL



GRANITE STREET MONUMENTS - NEW OR REPLACEMENT

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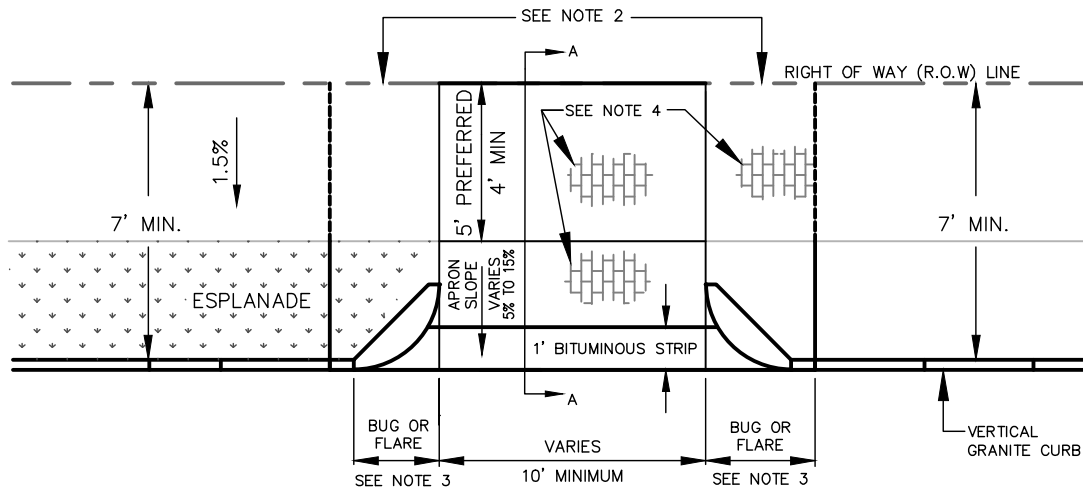
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FIGURE:

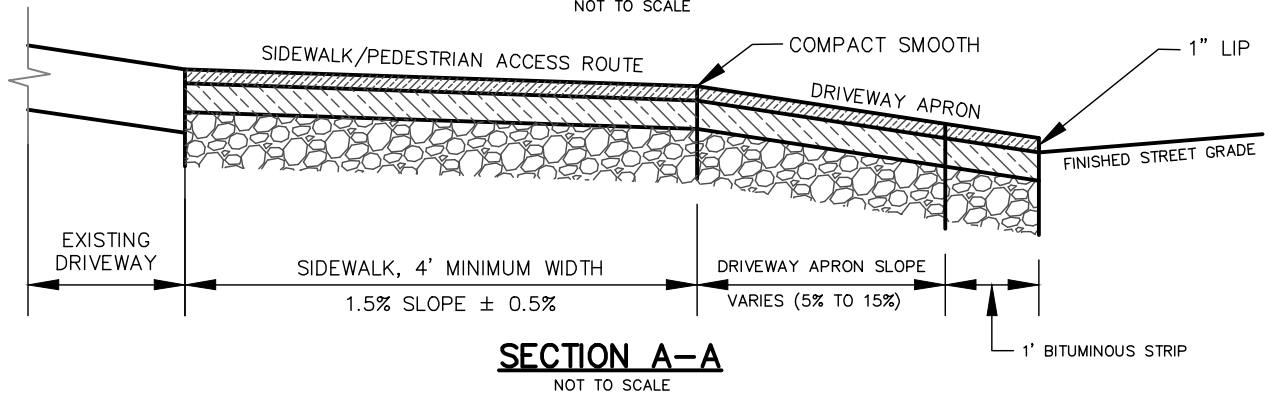
GRANITE STREET MONUMENT - NEW OR REPLACEMENT

I-8



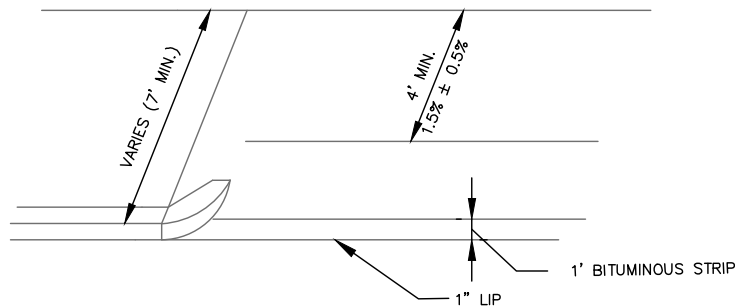
STANDARD RESIDENTIAL DRIVEWAY APRON LAYOUT

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. IF MATCHING THE EXISTING GRADE AT ROW CAUSES APRON SLOPE TO EXCEED RECOMMENDED %, SIDEWALK TRANSITION AREAS MAY BE ADDED, BUT SHALL NOT EXCEED 8.33%.
3. TWO-FOOT RADIUS CORNER GRANITE PIECES ("BUGS") ARE REQUIRED AT LOW-VOLUME DRIVEWAYS UNLESS OTHERWISE DIRECTED BY DPW. AT OTHER DRIVEWAYS, STANDARD FLARE/TIPDOWN TREATMENTS SHALL BE USED.
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.
5. THIS LAYOUT MAY BE REQUIRED AT MINOR DRIVEWAYS SERVING COMMERCIAL OR INDUSTRIAL USES.

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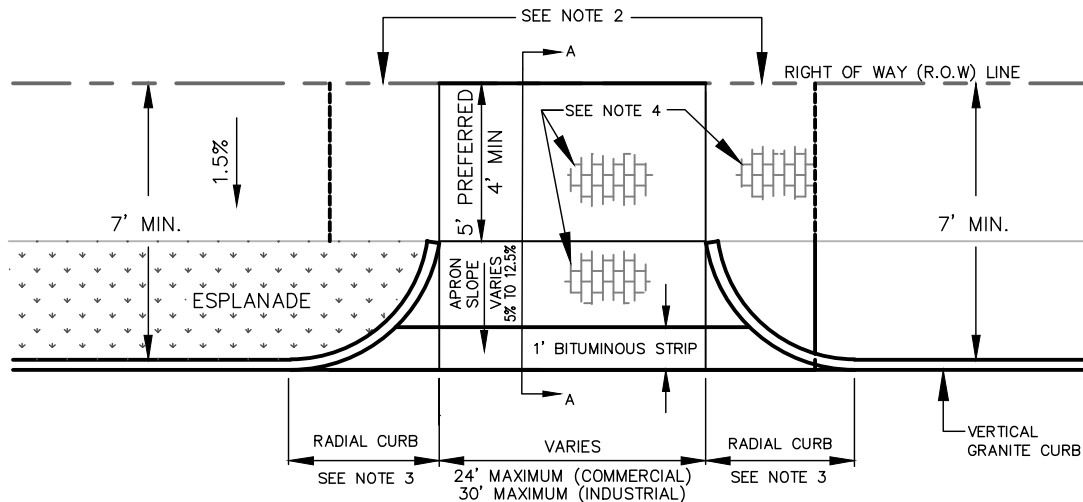
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FIGURE:

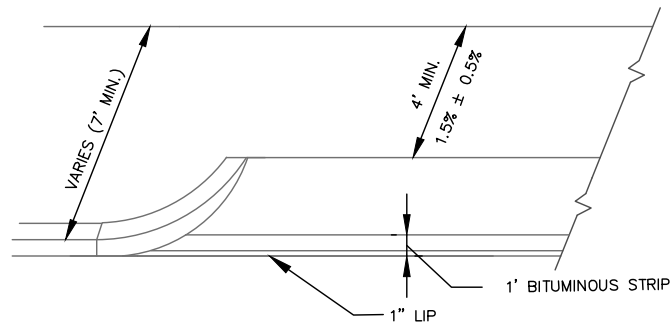
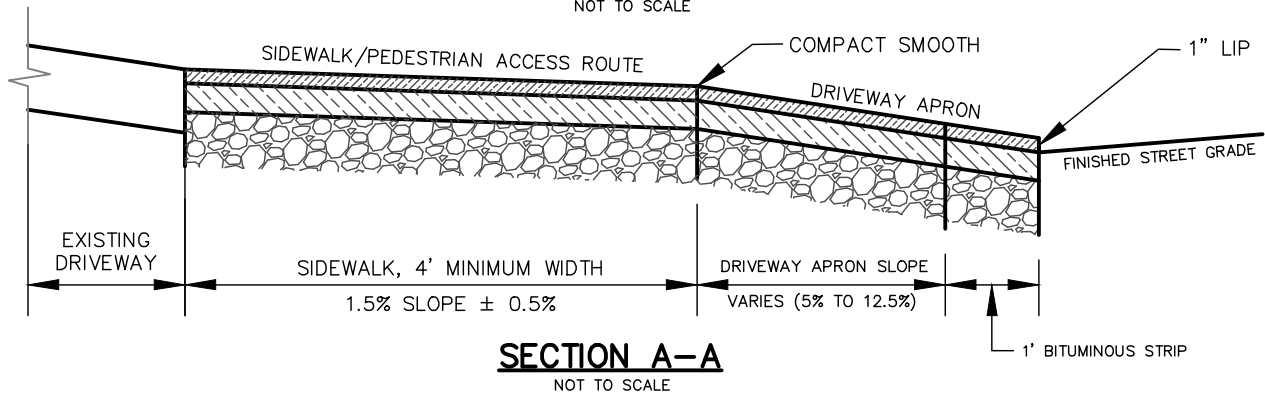
RESIDENTIAL DRIVEWAY APRON

I-9A



STANDARD COMMERCIAL DRIVEWAY APRON LAYOUT

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. IF MATCHING THE EXISTING GRADE AT ROW CAUSES APRON SLOPE TO EXCEED RECOMMENDED %, SIDEWALK TRANSITION AREAS MAY BE ADDED, BUT SHALL NOT EXCEED 8.33%.
3. DRIVEWAY CURB RADIUS SHALL NOT BE LARGER THAN REQUIRED BY THE SITE'S DESIGN VEHICLE.
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..

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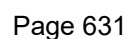
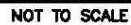
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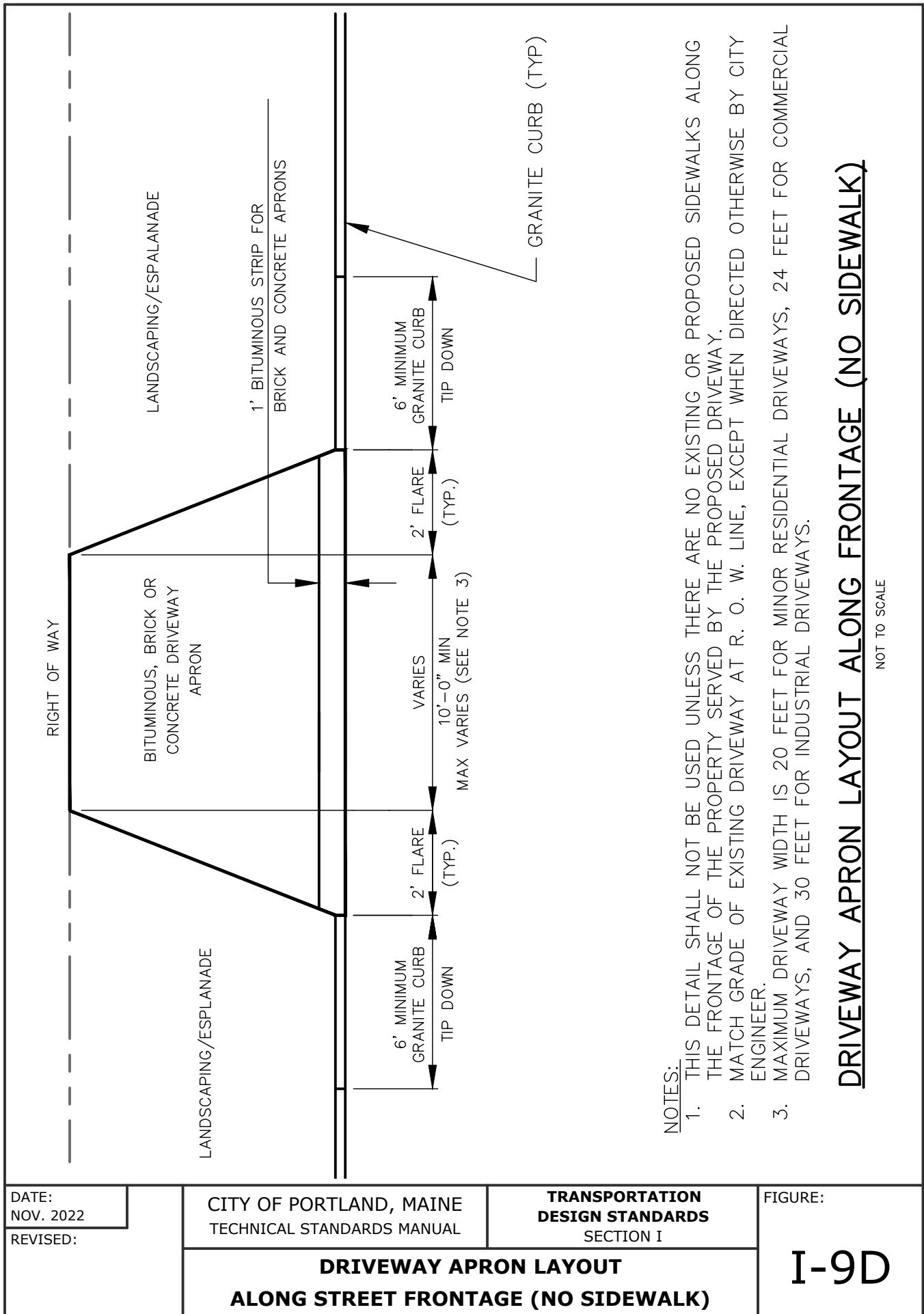
TRANSPORTATION
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COMMERCIAL/INDUSTRIAL DRIVEWAY APRON

FIGURE:

I-9B





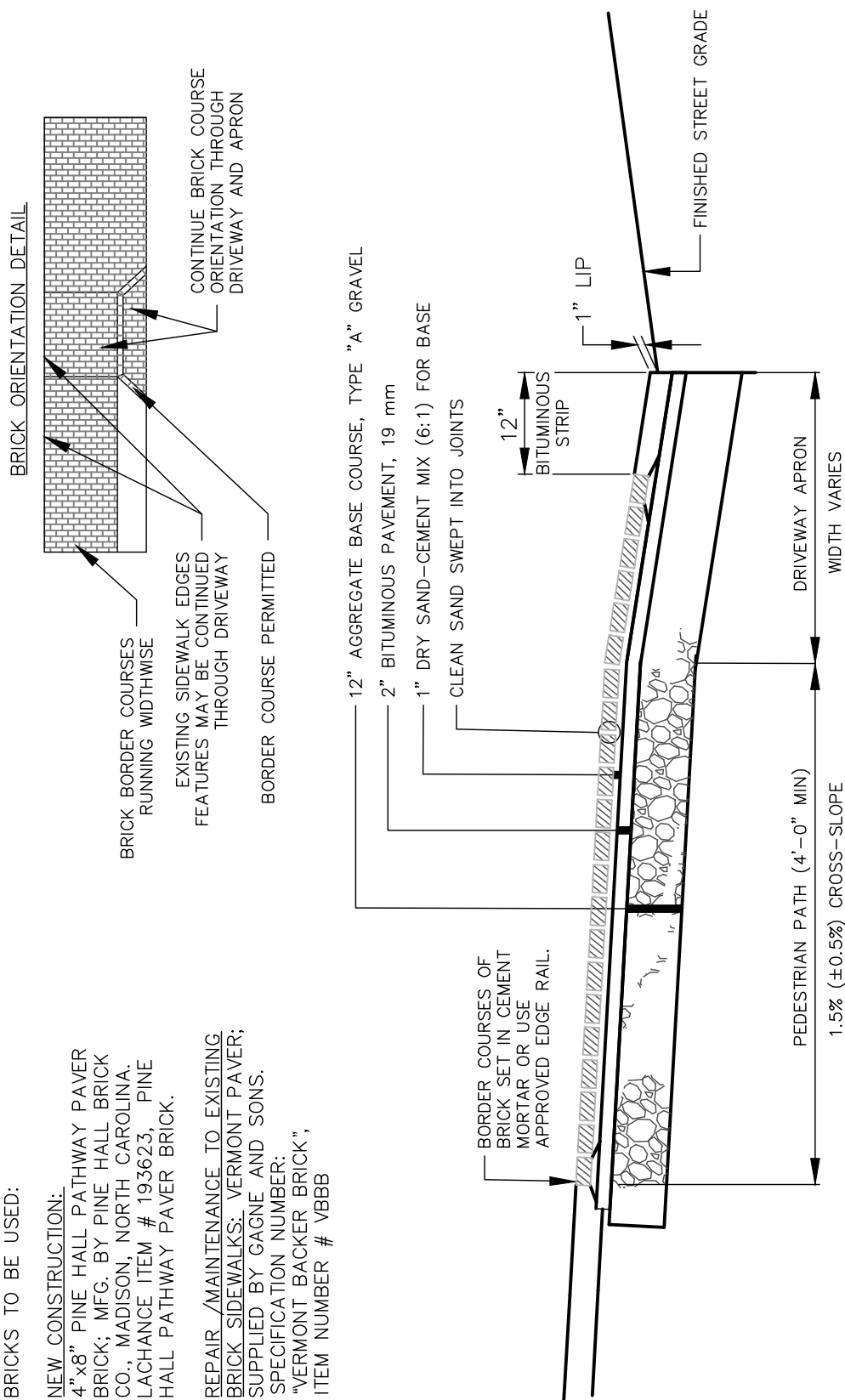
BRICKS TO BE USED:

NEW CONSTRUCTION:

4"x8" PINE HALL PATHWAY PAVEMENT
BRICK; MFG. BY PINE HALL BRICK
CO., MADISON, NORTH CAROLINA.
LACHANCE ITEM # 193623, PINE
HALL PATHWAY PAVEMENT BRICK.

REPAIR / MAINTENANCE TO EXISTING

BRICK SIDEWALKS: VERMONT PAVEMENT;
SUPPLIED BY GAGNE AND SONS.
SPECIFICATION NUMBER:
"VERMONT BACKER BRICK",
ITEM NUMBER # VB88



BRICK DRIVEWAY APRON WITH BITUMINOUS BASE

NOT TO SCALE

DATE:
NOV. 2022
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CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

TRANSPORTATION
DESIGN STANDARDS
SECTION I

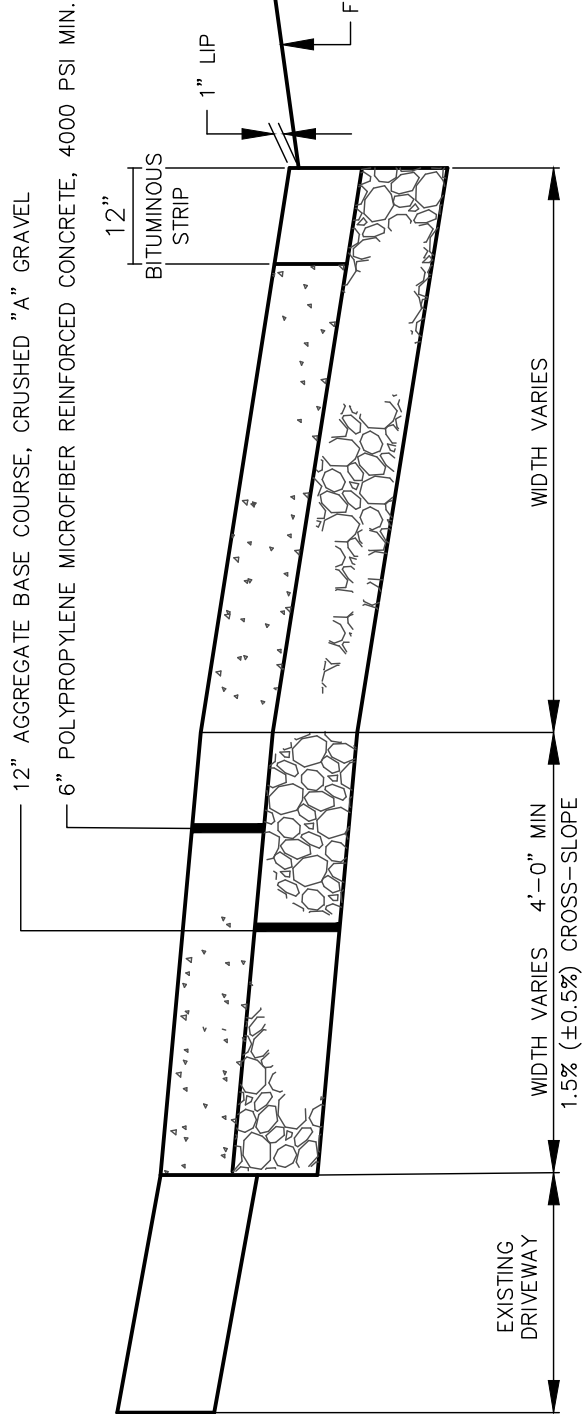
FIGURE:

**BRICK DRIVEWAY APRON
WITH BITUMINOUS BASE**

I-10A

NOTE

CONCRETE SIDEWALKS TO BE TREATED WITH CONSOLIDECK
SALTGUARD WB OR APPROVED EQUAL. FOLLOW MANUFACTURER'S
RECOMMENDATIONS FOR APPLICATION.



REINFORCED CONCRETE DRIVEWAY APRON

NOT TO SCALE

DATE:
NOV. 2022

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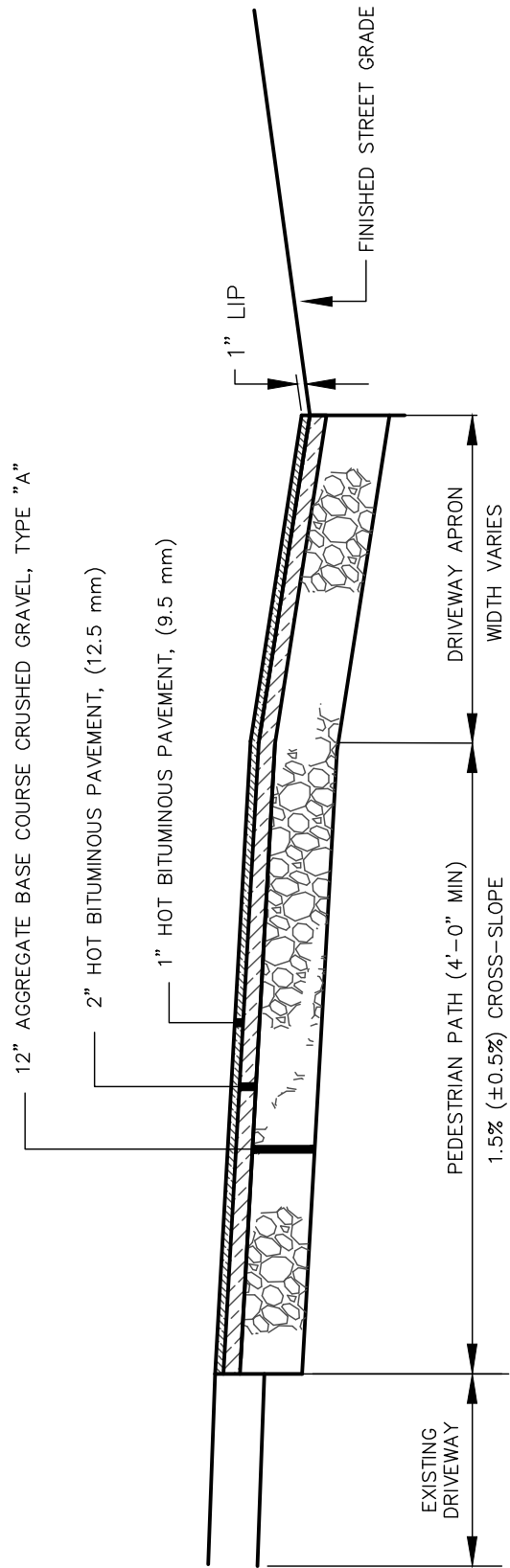
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SECTION I

FIGURE:

REINFORCED CONCRETE DRIVEWAY APRON

I-10B



BITUMINOUS DRIVEWAY APRON

NOT TO SCALE

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FIGURE:

BITUMINOUS DRIVEWAY APRON

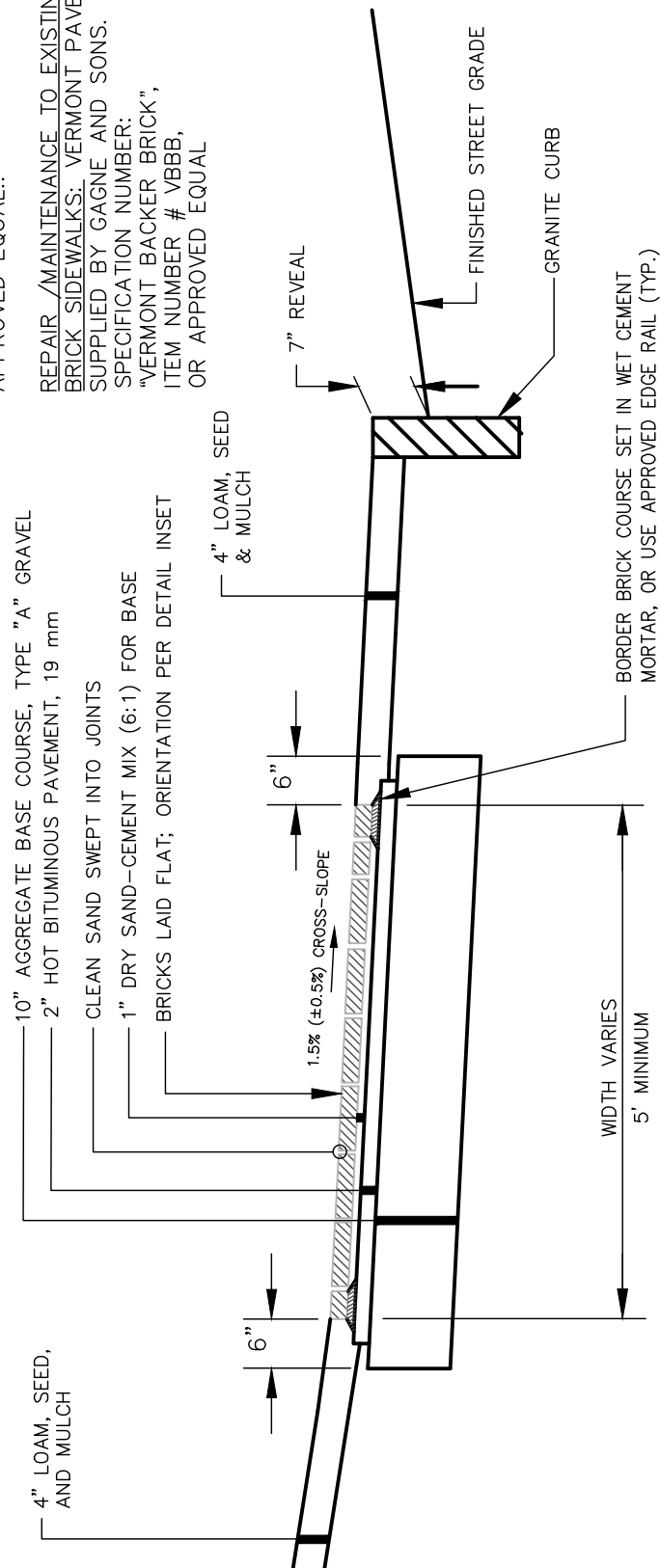
I-10C

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

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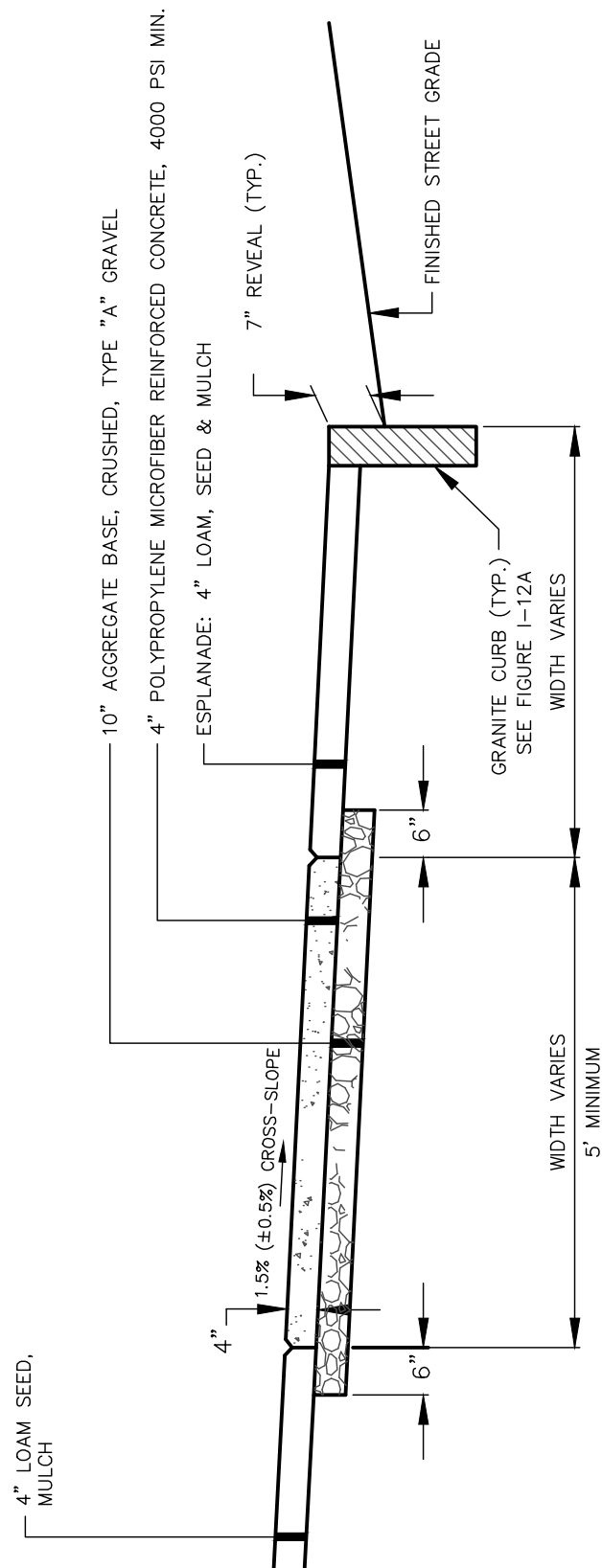
FIGURE:

BRICK SIDEWALK WITH BITUMINOUS BASE

I-11A

NOTE

CONCRETE SIDEWALKS TO BE TREATED WITH CONSOLIDECK SALTGUARD WB OR APPROVED EQUAL. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR APPLICATION.



REINFORCED CONCRETE SIDEWALK

NOT TO SCALE

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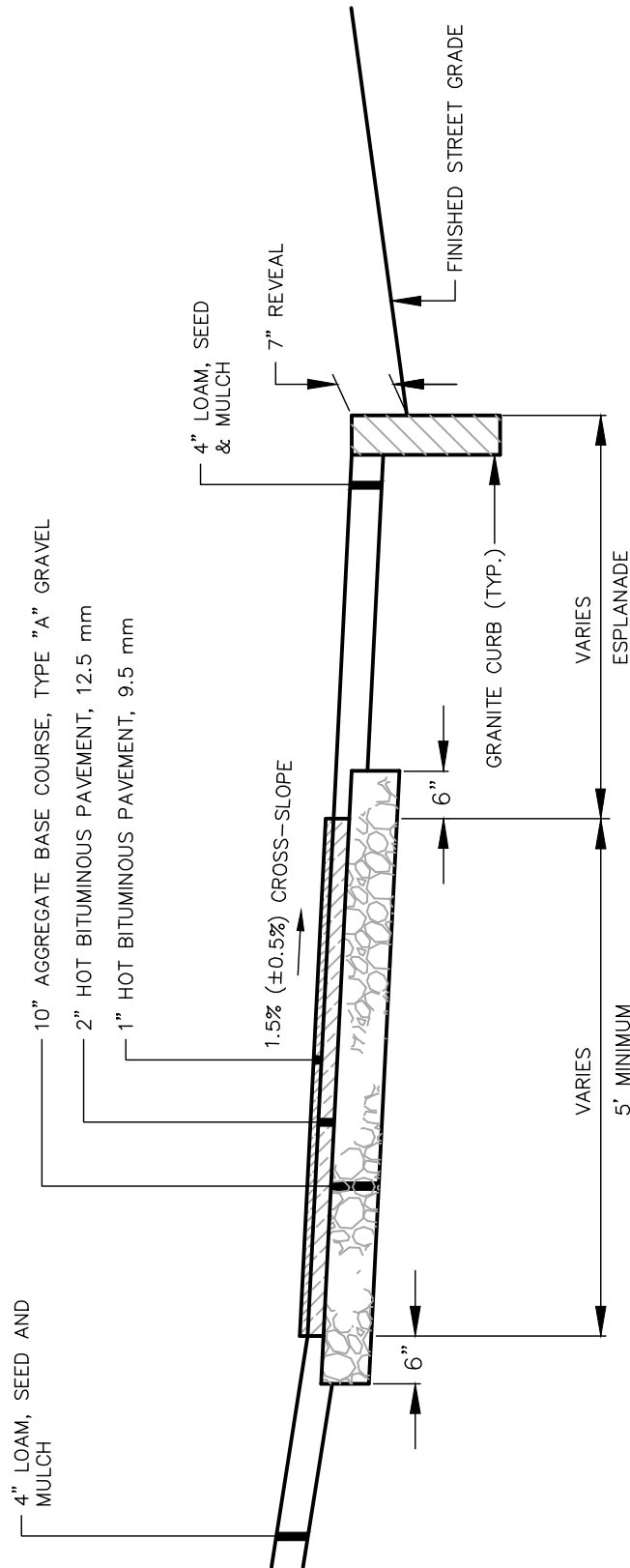
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SECTION I

FIGURE:

REINFORCED CONCRETE SIDEWALK

I-11B



BITUMINOUS SIDEWALK

NOT TO SCALE

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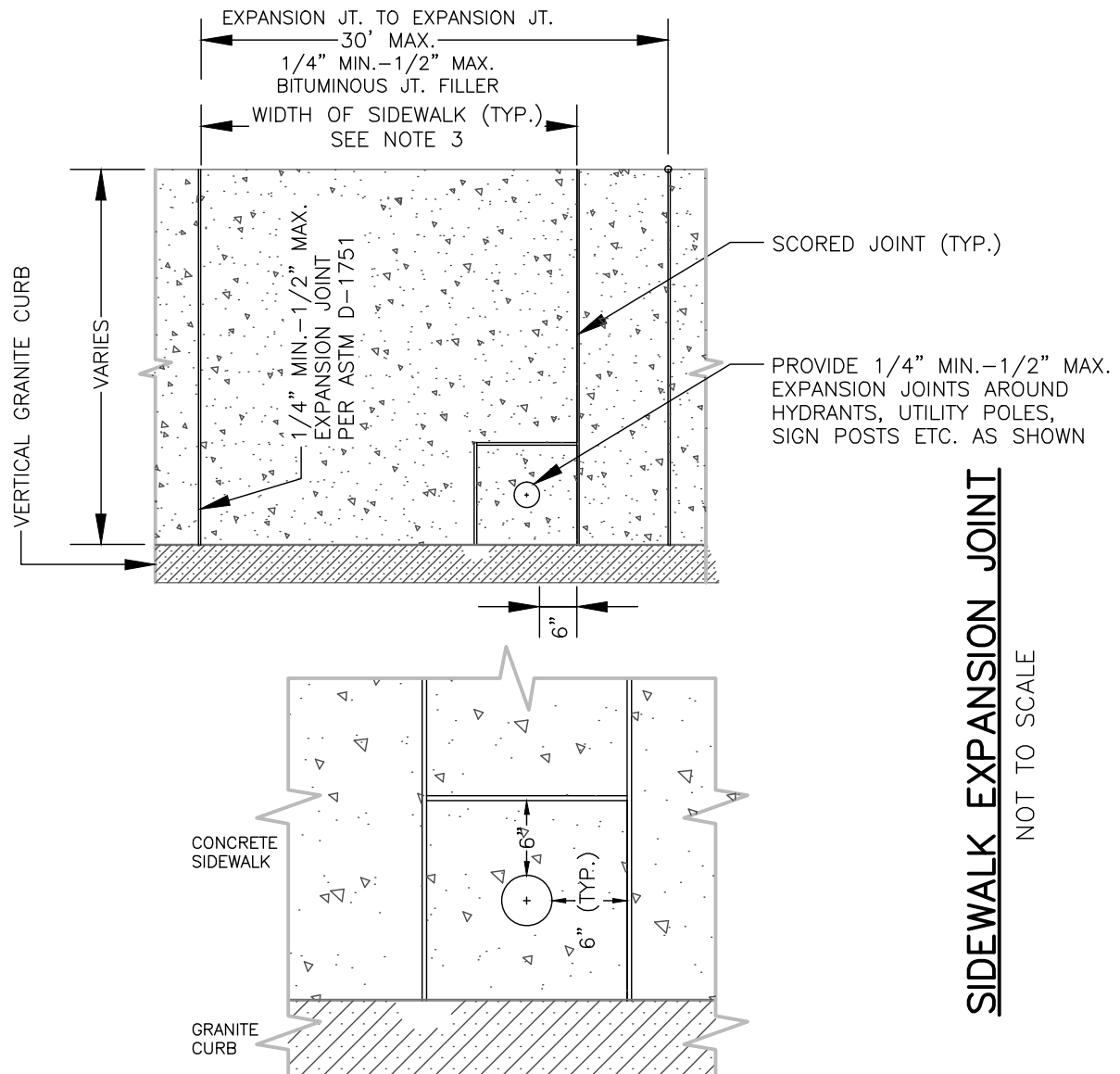
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FIGURE:

BITUMINOUS SIDEWALK

I-11C

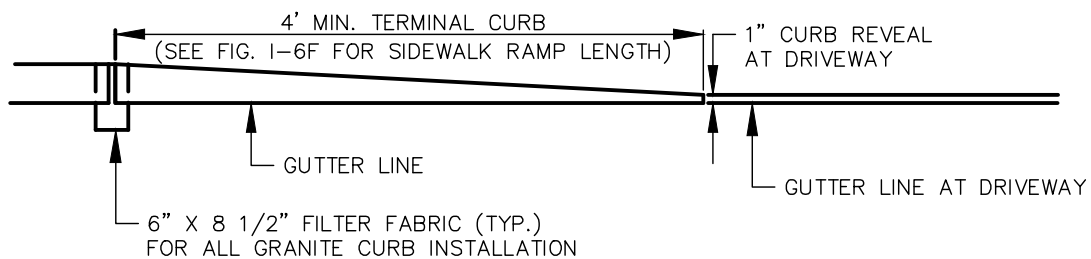


SIDEWALK EXPANSION JOINT
NOT TO SCALE

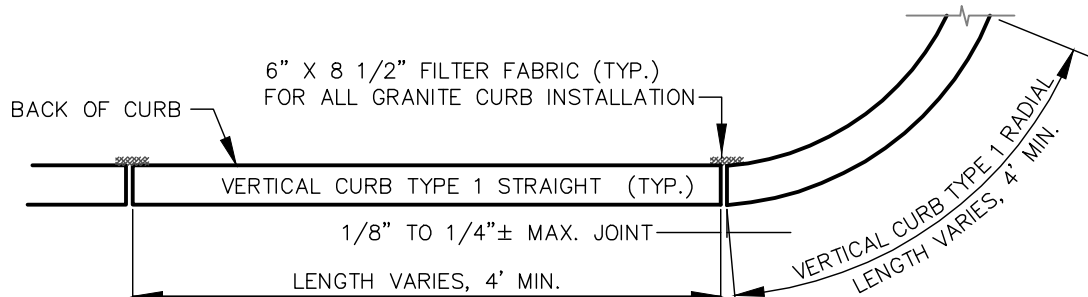
CONCRETE SIDEWALK JOINT NOTES:

- EXPANSION JOINTS SHALL BE LOCATED WHERE SIDEWALK ABUTS DRIVEWAYS, CURB OR OTHER ADJACENT STRUCTURES.
- 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.
- 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:
 - IN LOCATIONS TO ENSURE BLOCK UNITS DO NOT EXCEED 36 SQUARE FEET.
 - AT THE SPACING THAT MATCHES ADJACENT TIP DOWN CURB
 - EXTENSION OF EXPANSION JOINTS LOCATED AT HYDRANTS & UTILITY POLES.
- ALL OUTSIDE EDGES OF THE SLAB AND ALL JOINTS SHALL BE ROUNDED WITH A 1/4" RADIUS EDGING TOOL.
- CONCRETE SHALL BE FINISHED BY MEANS OF A FLOAT, STEEL TROWELED AND BROOMED WITH A FINE BRUSH IN A TRANSVERSE DIRECTION.

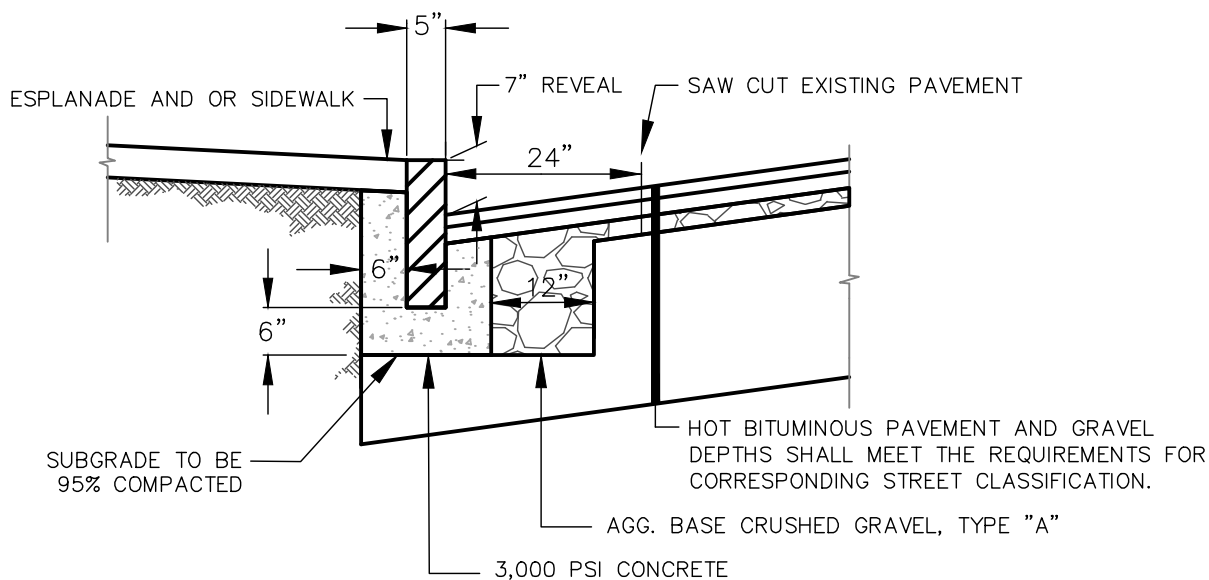
DATE: NOV. 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION DESIGN STANDARDS SECTION I	FIGURE:
REVISED:	SIDEWALK EXPANSION JOINT		I-11D



TERMINAL CURB PROFILE



VERTICAL GRANITE CURB PLAN VIEW



VERTICAL GRANITE CURB CROSS SECTION

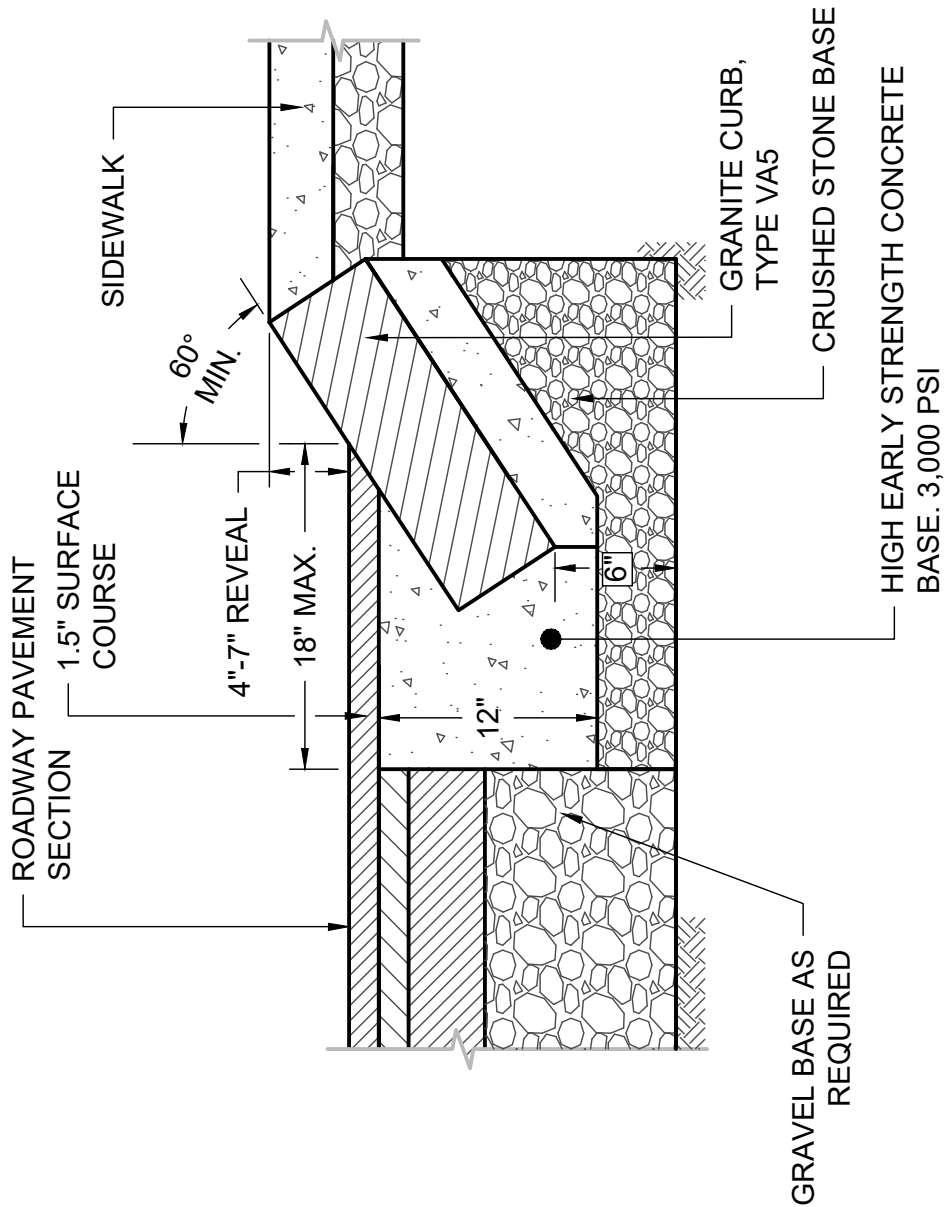
NOTES:

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

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION DESIGN STANDARDS SECTION I	FIGURE:
	VERTICAL GRANITE CURB		I-12



SLOPED GRANITE CURB

NOT TO SCALE

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REVISED:

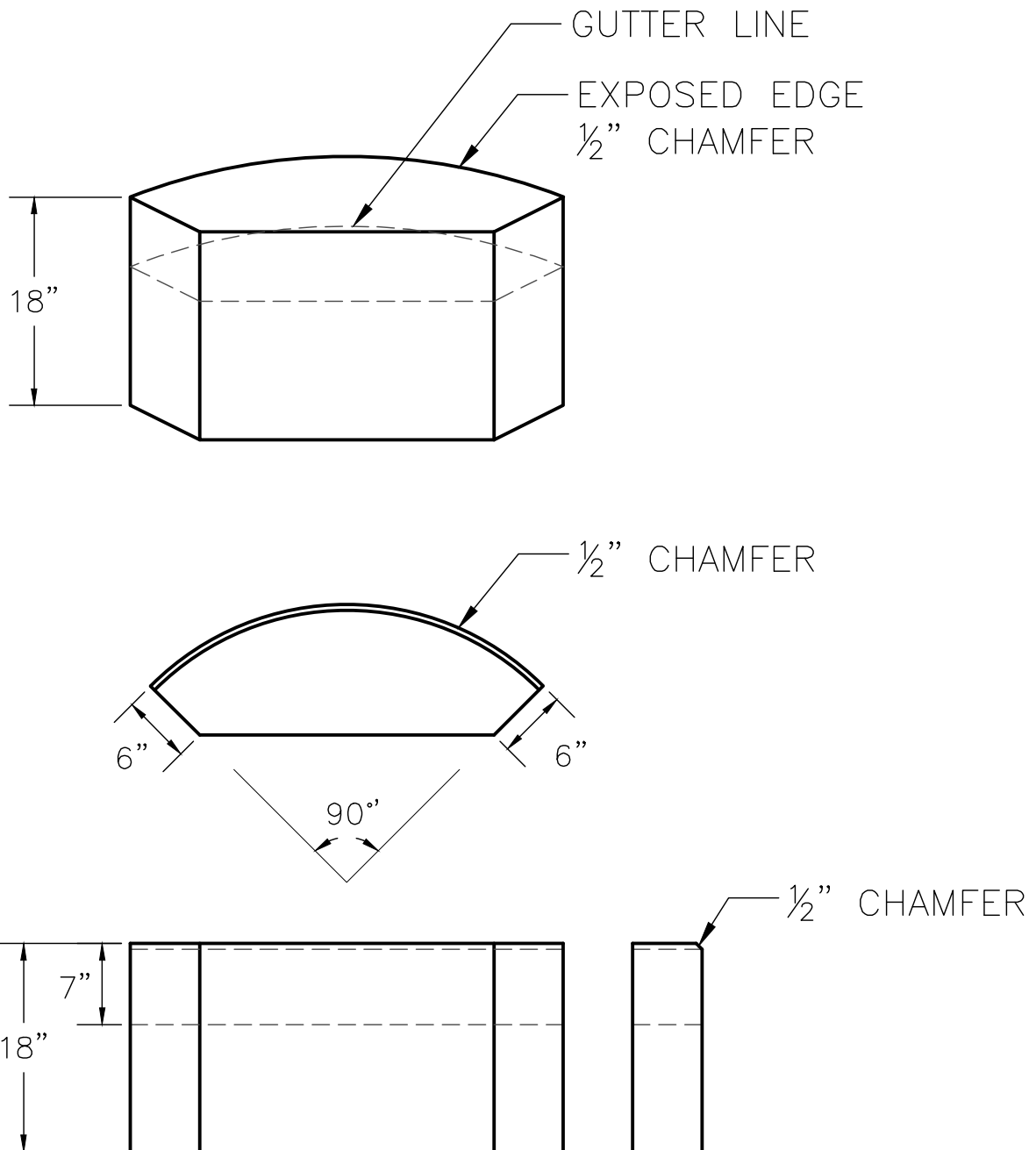
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SECTION I

FIGURE:

SLOPED GRANITE CURB

I-13



GRANITE RADIUS CORNER "BUG"

NOT TO SCALE

DATE:
NOV. 2022

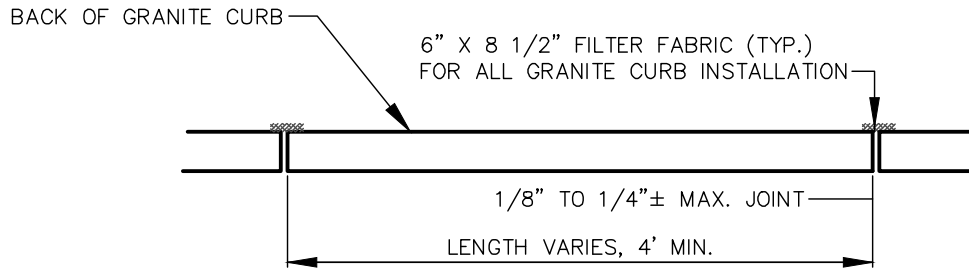
CITY OF PORTLAND, MAINE
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SECTION I

FIGURE:

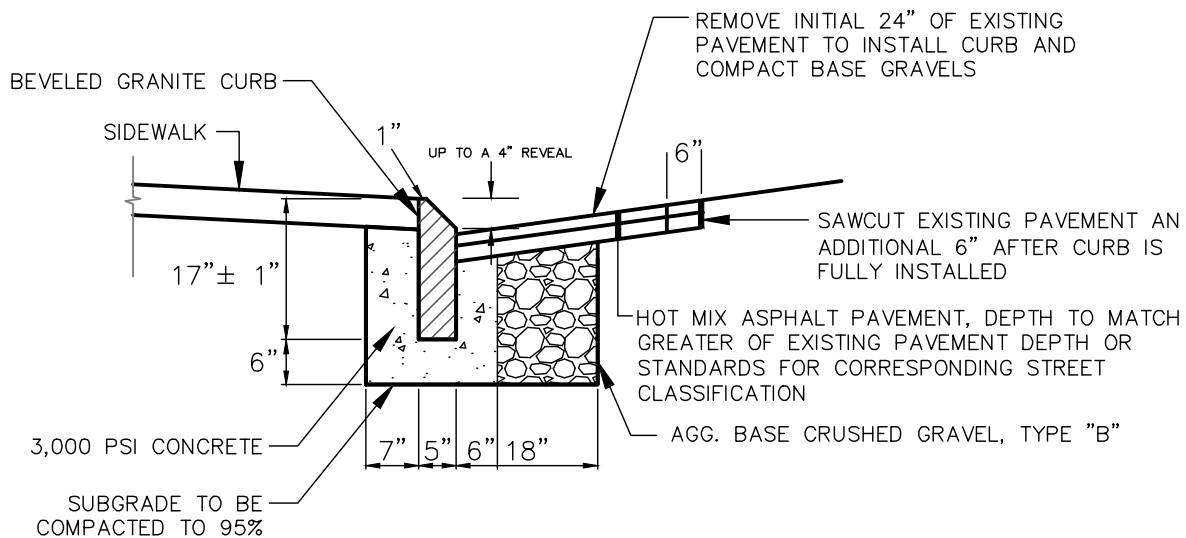
**GRANITE RADIUS CORNER
"BUG"**

I-14



VERTICAL GRANITE CURB PLAN VIEW

NOT TO SCALE



NOTES:

1. INSTALL PER MANUFACTURER'S SPEC'S
2. PROVIDE CUSTOM TRANSITION CURB THAT TIPS DOWN 3" IN BETWEEN MOUNTABLE AND VERTICAL CURBS. SAWCUT TRANSITION STONE IN THE FIELD FOR FLUSH JOINT WITH ADJACENT VERTICAL CURB
3. INDIVIDUAL PIECES OF CURB SHORTER THAN 4 L.F. ARE NOT ALLOWED, WITH THE EXCEPTION OF RADIAL CURB.
4. 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.
5. CURBING SHALL BE SET IN A 6-INCH BED OF POURED IN PLACE 3,000 PSI CONCRETE MIX.
6. WOODEN SHIMS MAY BE USED TO SET CURB.

MOUNTABLE BEVELED GRANITE CURB CROSS SECTION

NOT TO SCALE

DATE:
NOV. 2022

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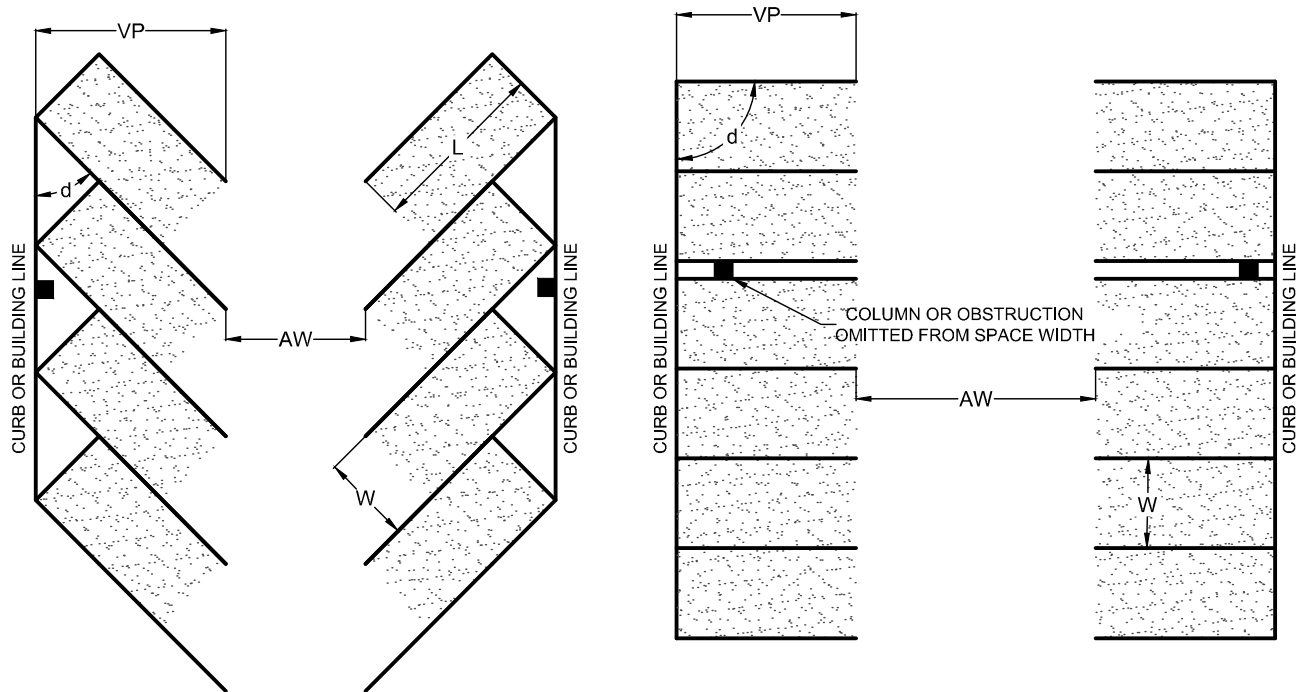
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SECTION I**

MOUNTABLE BEVELED GRANITE CURB

FIGURE:

I-15



Standard Parking Dimensions

Parking Angle (d)	Space Length (L)	Space Width (W)	Aisle Width (AW)	Vehicle Projection (VP)
90°	18	9	24	18.0
75°	18	9	22	19.7
60°	18	9	19	20.1
45°	18	9	14	19.0
30°	18	9	12	16.7
0° (parallel)	20	8	12	8.0

Compact Parking Dimensions

Parking Angle (d)	Space Length (L)	Space Width (W)	Aisle Width (AW)	Vehicle Projection (VP)
90°	15	8	24	15.0
75°	15	8	22	16.8
60°	15	8	19	17.5
45°	15	8	14	16.9
30°	15	8	12	15.2
0° (parallel)	15	7	10	7.0

NOTES:

All dimensions in feet

1. STANDARD SPACE WIDTH MAY BE REDUCED TO 8.5 FEET IN LOW-TURNOVER LOTS.
2. COMPACT SPACES SHOULD BE DESIGNED AS CLOSE TO STANDARD AS POSSIBLE WITHIN SITE CONSTRAINTS.
3. ACCESSIBLE PARKING SPACES SHALL BE PROVIDED IN ACCORDANCE WITH ADA, AND SHALL BE CONSIDERED A STANDARD PARKING SPACE WHEN CALCULATING THE PERMISSIBLE NUMBER OF COMPACT SPACES.
4. DIMENSIONS REPRESENT CLEAR WIDTH AND DO NOT INCLUDE OBSTRUCTIONS SUCH AS STRUCTURAL COLUMNS.

DATE:
NOV. 2022

REVISED:

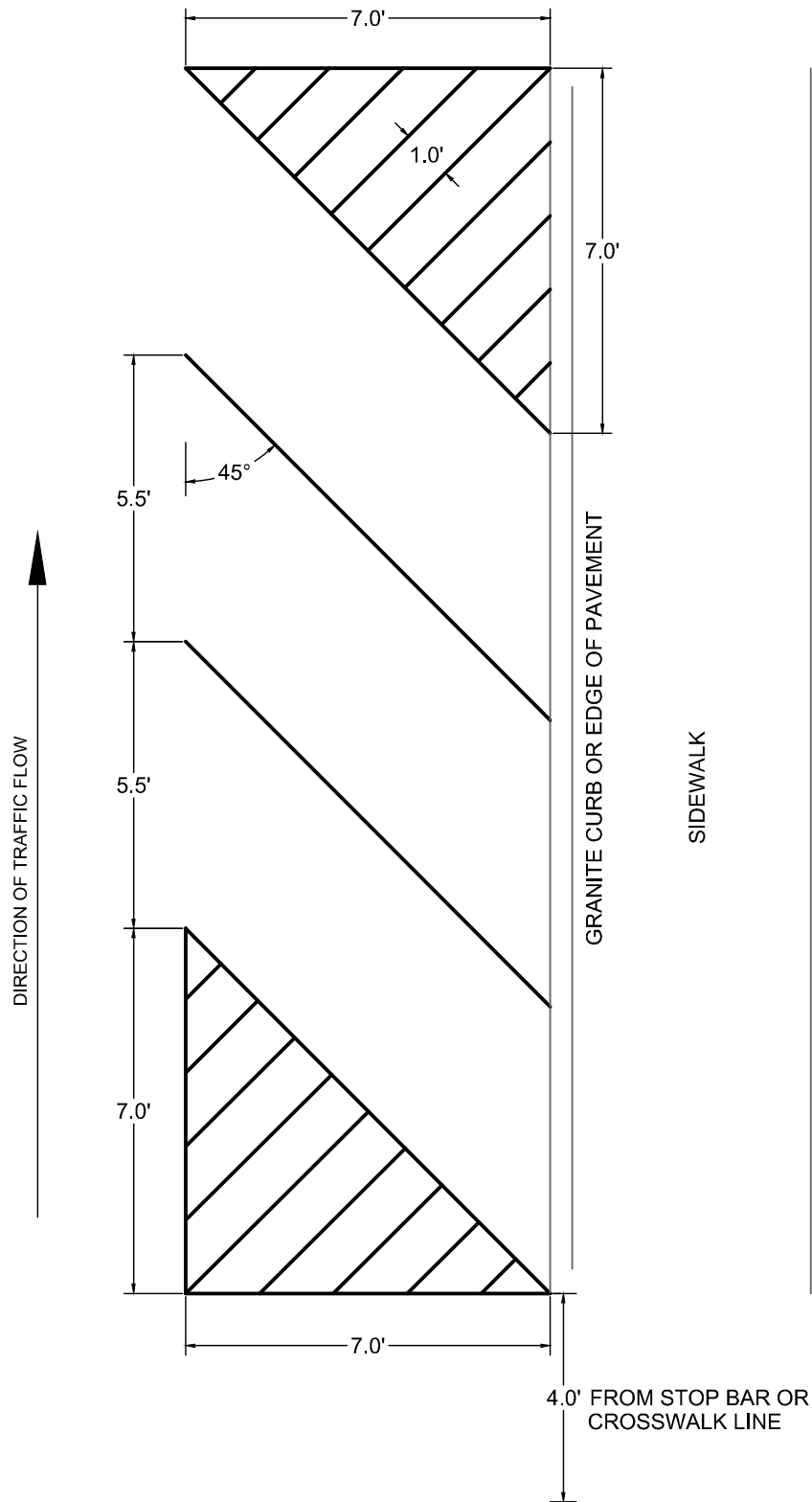
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FIGURE:

VEHICLE PARKING DIMENSIONS

I-16A



MOTORCYCLE PARKING

*ALL PAVEMENT MARKINGS SHALL BE 4 INCH WIDE WHITE LINES.

DATE:
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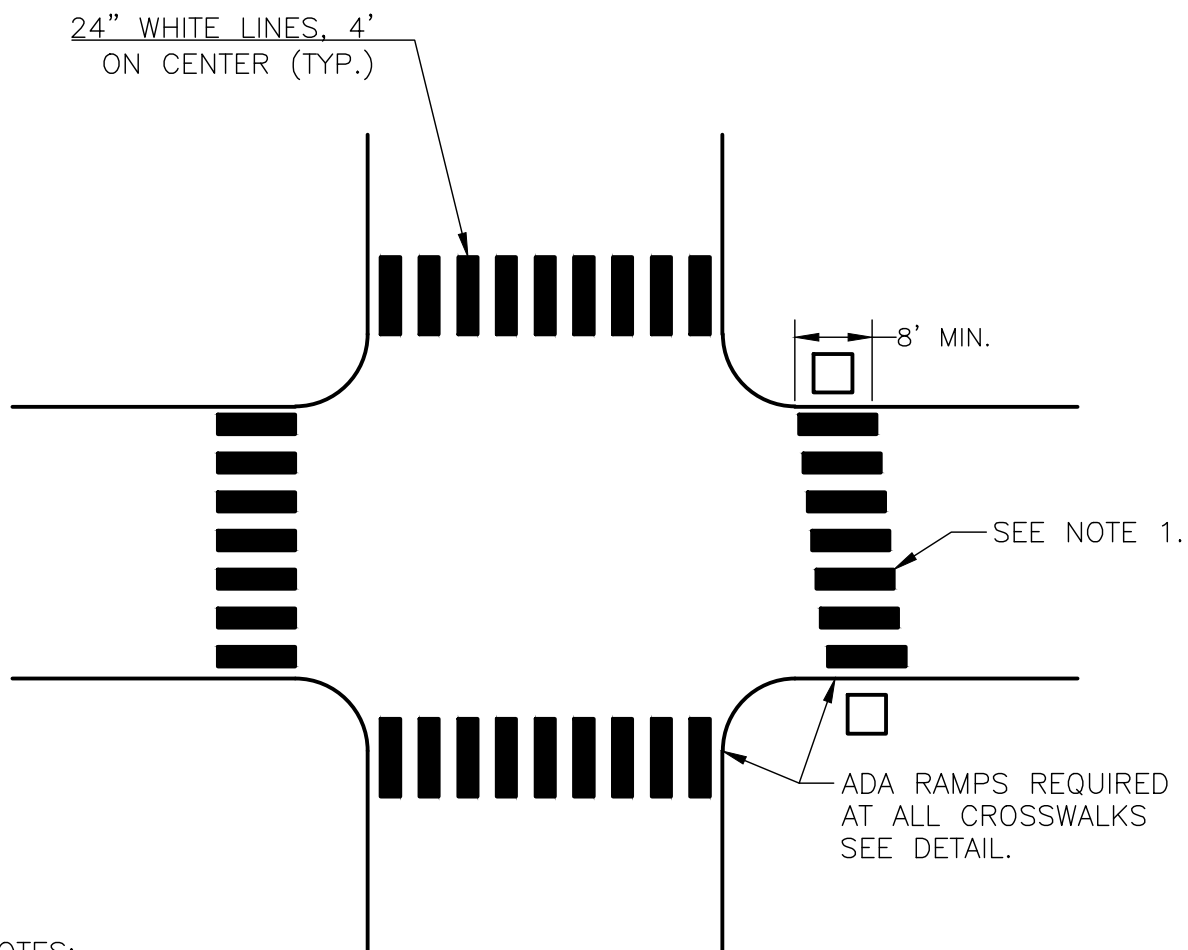
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**TRANSPORTATION
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SECTION I

FIGURE:

MOTORCYCLE PARKING DIMENSIONS

I-16B



NOTES:

- 1.) CROSSWALK BLOCKS SHALL BE STAGGERED AND REMAIN PARALLEL TO THE ROADWAY CENTERLINE AT SKEWED CROSSING LOCATIONS.
- 2.) CROSSWALK MARKINGS LOCATED ON ARTERIAL STREETS SHALL BE APPLIED WITH A THERMOPLASTIC MATERIAL (OR APPROVED EQUAL) MEETING ALL MANUFACTURER AND MUTCD REQUIREMENTS.
- 3.) THE ESTABLISHMENT PERIOD FOR CROSSWALK MARKINGS SHALL BE BASED ON MANUFACTURER'S SPECIFICATIONS AND SHALL AT A MINIMUM MEET MAINE DOT STANDARD SPECIFICATION 627.07 ESTABLISHMENT PERIOD REQUIREMENTS.

CROSSWALK MARKINGS

NOT TO SCALE

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	TYPICAL CROSSWALK MARKINGS		I-17

TYPICAL BIKEWAY PAVEMENT MARKINGS



SHARED USE LANE
SYMBOL



BICYCLE LANE
SYMBOL

TYPICAL BIKEWAY ROUTE SIGNAGE



R3-17
30"x24"



R3-17
30"x24"



R3-17B
30"x12"



DATE:
NOV. 2022
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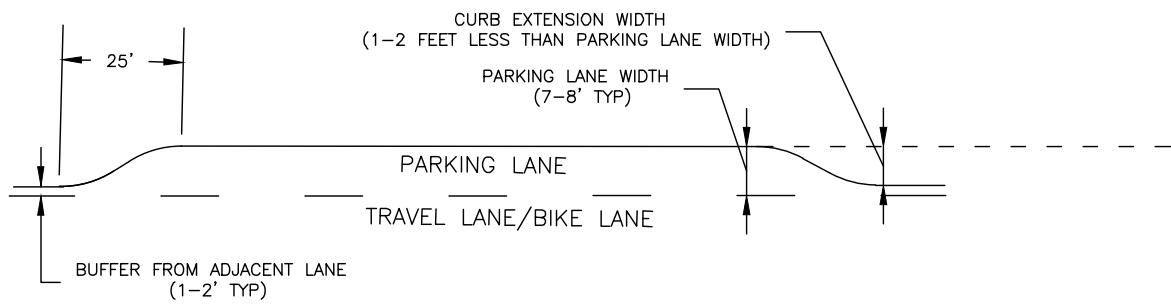
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FIGURE:

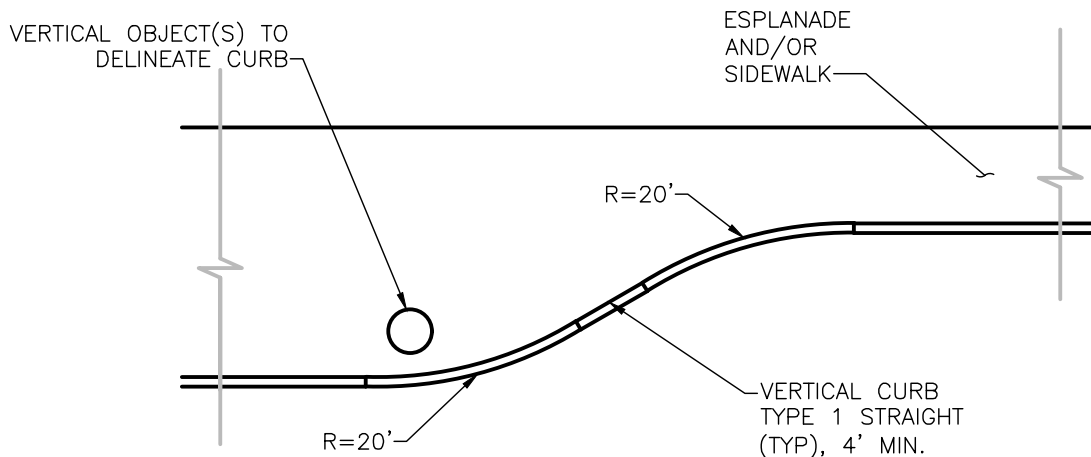
**TYPICAL BIKEWAY PAVEMENT MARKINGS
AND BICYCLE ROUTE SIGNAGE**

I-18



NOTES:

1. CURB EXTENSIONS SHOULD NOT IMPEDE THE WIDTH OF THE ADJACENT VEHICLE TRAVEL LANE OR BICYCLE LANE.
2. PROPOSED MATERIALS SHALL BE CONSISTENT WITH THE CITY SIDEWALK MATERIAL POLICY.
3. DRAINAGE MODIFICATIONS SHALL BE MADE SO THAT CURB EXTENSIONS DO NOT IMPEDE STORMWATER FLOW.
4. CURB EXTENSIONS SHALL BE DESIGNED TO FACILITATE SNOW REMOVAL OPERATIONS WHILE MINIMIZING IMPACTS TO DRAINAGE AND ON-STREET PARKING.
5. ALL CURB EXTENSIONS SHALL BE REVIEWED AND APPROVED BY THE CITY ENGINEER.
6. THE POTENTIAL IMPLEMENTATION OF GREEN INFRASTRUCTURE FOR STORMWATER MANAGEMENT SHALL BE CONSIDERED AT EACH CURB EXTENSION LOCATION AND IMPLEMENTED IF FEASIBLE. THE WATER RESOURCES DIVISION OF PUBLIC WORKS MUST REVIEW AND APPROVE GREEN INFRASTRUCTURE SYSTEMS BEFORE BEING INSTALLED WITHIN CITY STREETS.



TYPICAL CURB EXTENSION

NOT TO SCALE

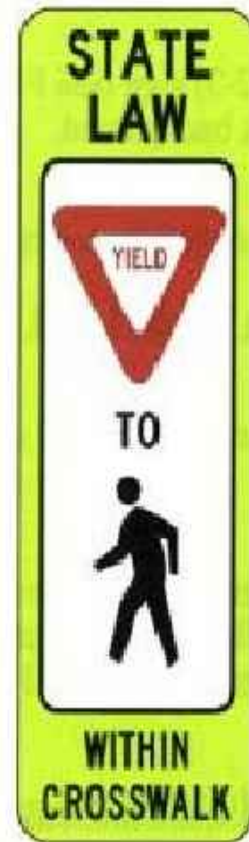
DATE: NOV. 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION DESIGN STANDARDS SECTION I	FIGURE:
REVISED:	TYPICAL CURB EXTENSIONS		I-19



R1-5



R1-5a



R1-6

Unsignalized Pedestrian Crosswalk Signage

DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION SYSTEMS AND STREET DESIGN SECTION I	FIGURE:
	UNSIGNALIZED PEDESTRIAN CROSSWALK SIGNAGE		I-20

School Advance
Warning Assembly



S1-1



W16-9p

OR



W16-2a

OR



W16-2

SCHOOL AREA CROSSING
SIGNS

School Crosswalk
Warning Assembly



S1-1



W16-7p



W11-2

PEDESTRIAN CROSSING
SIGN

Typical Crosswalk Signage

DATE:
AUGUST 2009

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TECHNICAL STANDARDS MANUAL

**TRANSPORTATION SYSTEMS
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SECTION I

FIGURE:

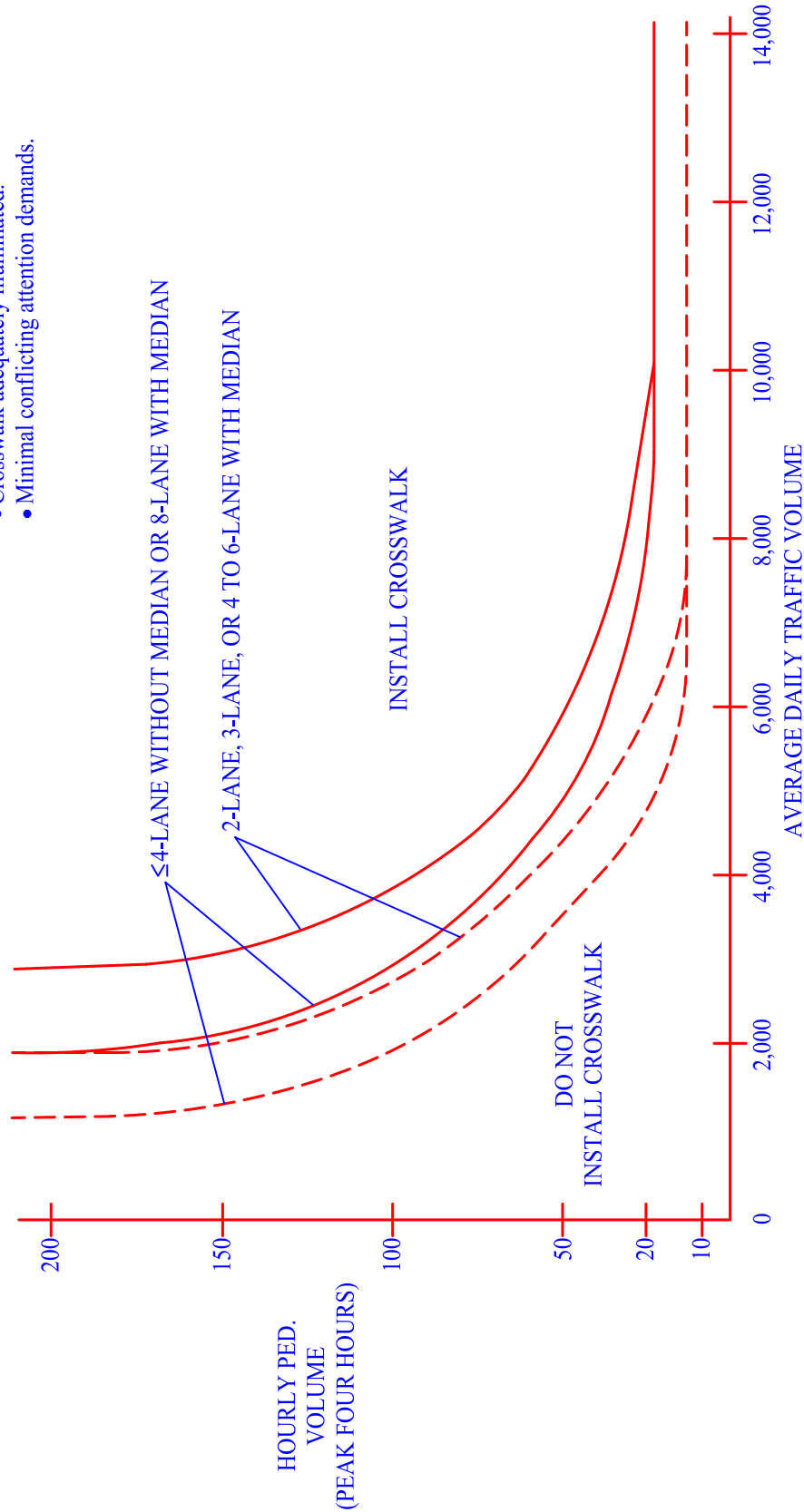
TYPICAL CROSSWALK SIGNAGE

I-21

BASIC CRITERIA

- Speed limit ≤ 45 mi/h.
- Adequate stopping sight distance.
- For midblock, preferred block length $\geq 600'$.
- Crosswalk adequately illuminated.
- Minimal conflicting attention demands.

--- = Locations with predominately young, elderly or handicapped pedestrians.
 --- = Other locations



1. If using only the peak hour, threshold must be increased by 1.5.
2. For streets with median, use one-way (directional) ADT volume.

GUIDELINES FOR CROSSWALK INSTALLATION AT UNCONTROLLED INTERSECTIONS AND MID-BLOCK CROSSINGS.

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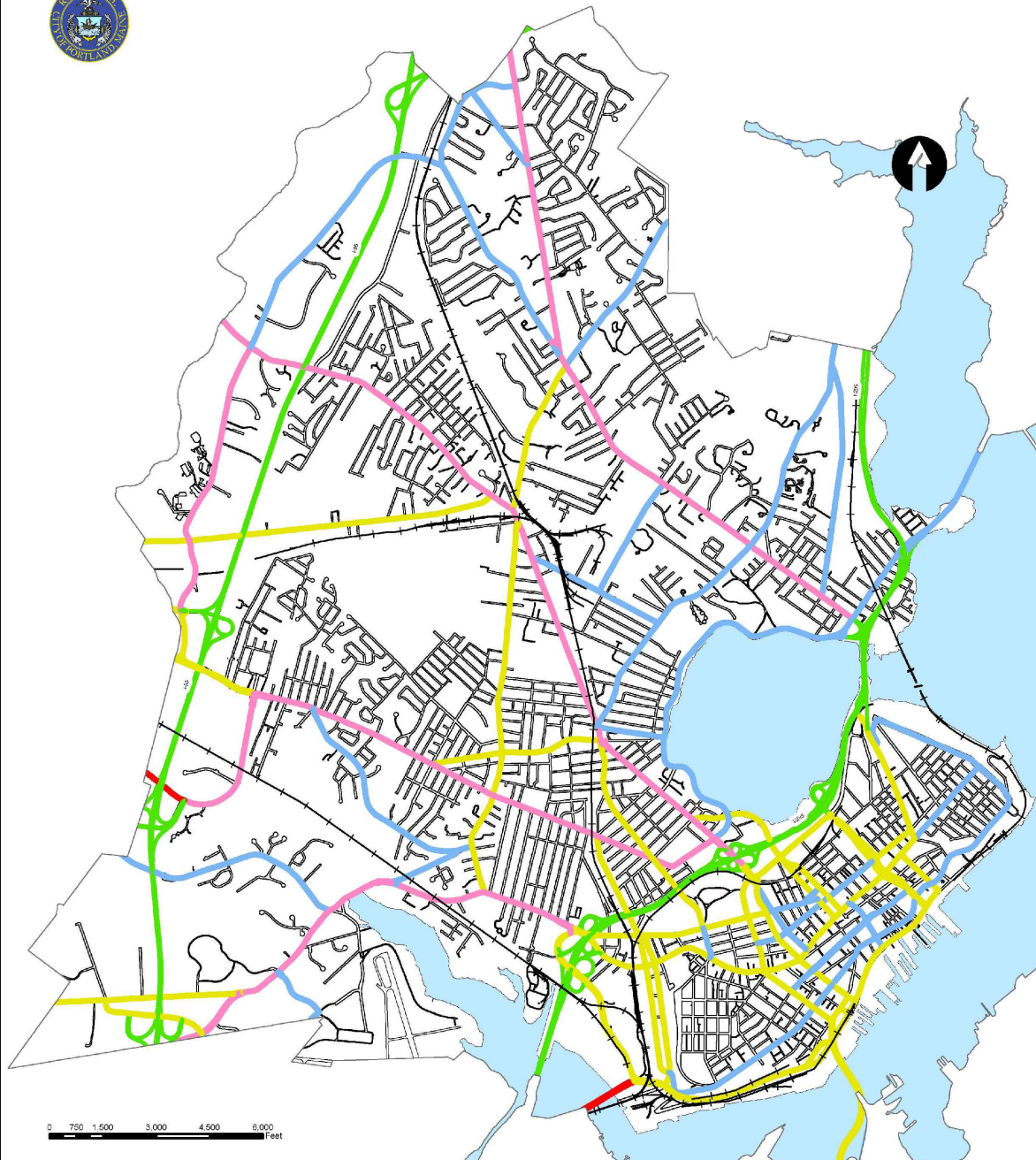
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**GUIDELINES FOR CROSSWALK INSTALLATION AT
UNCONTROLLED INTERSECTIONS AND
MID-BLOCK CROSSINGS**

FIGURE:

I-22



City of Portland, Maine FEDERAL STREET CLASSIFICATION

Map prepared by City of Portland's Department of Public Works
September 2021

Legend

- Other Principal Arterial - Federal & Expressway
- Principal Arterial - Interstate
- Other Principal Arterial
- Minor Arterial
- Major Urban Collector
- Local

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FIGURE:

FEDERAL STREET CLASSIFICATION

I-23

BICYCLE PARKING RACK PLACEMENT

RACK PLACEMENT

RULES:

5' from:
Fire hydrant
Crosswalk

4' from:

Loading zone
Bus stop
Bus shelter
Bus bench

Min. 2', Rec. 3' from:

Curb

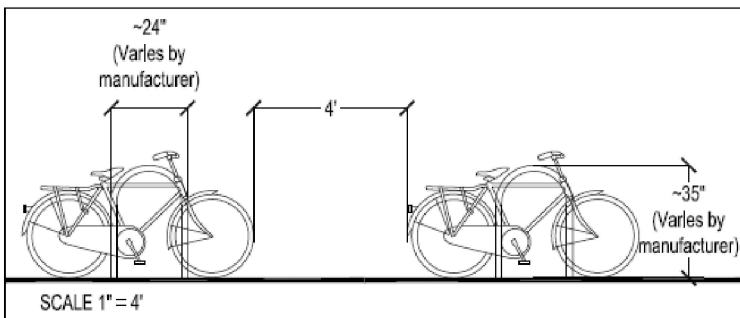
3' from:

Parking meter
Newspaper rack
US mailbox
Light pole
Sign pole
Driveway
Tree space
Trash can
Utility meter
Manhole
Other street furniture
Other sidewalk obstructions

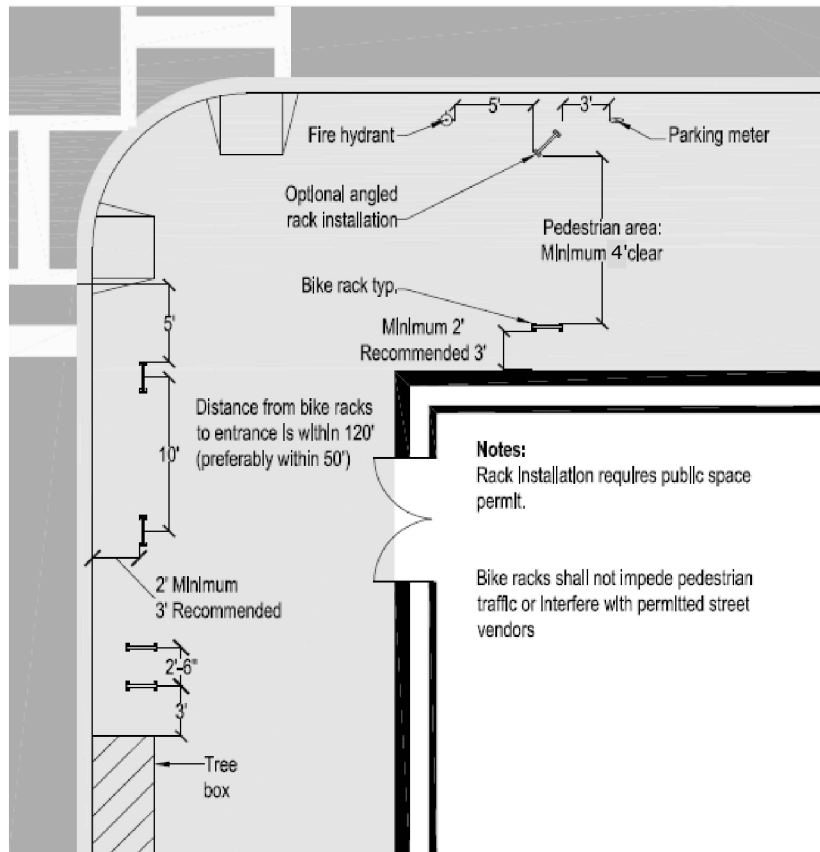
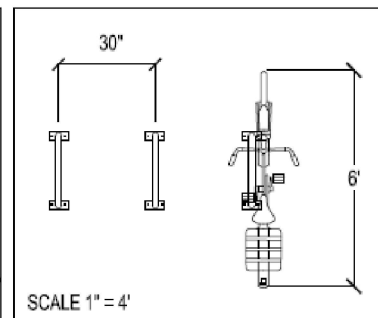
WALL SETBACKS

For racks set parallel to a wall:
Min. 24", Rec. 36"
For racks set perpendicular to a wall:
Min. 28", Rec. 36"

SIDE VIEW



SIDE BY SIDE RACKS:



Notes:

Rack Installation requires public space permit.

Bike racks shall not impede pedestrian traffic or interfere with permitted street vendors

d.
District Department of Transportation

District Department of Transportation
Bicycle Facility Design Guide

REVISED:
Feb. 2006
SCALE:
AS NOTED

27

DATE:
AUGUST 2009
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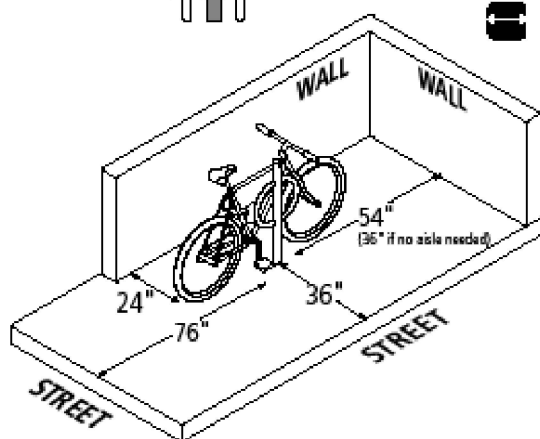
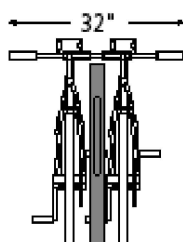
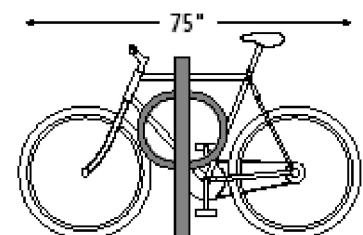
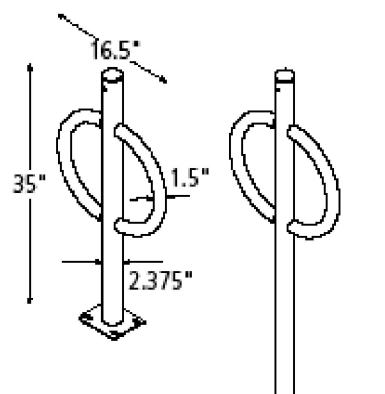
FIGURE:

BICYCLE PARKING RACK PLACEMENT GUIDELINES

I-24



Specifications and Space Use



Product Dero Bike Hitch
As manufactured by Dero Bike Racks

Capacity 2 Bikes

Materials Centerbeam: 2" schedule 40 pipe (2.375" OD)
Ring: 1.5" OD 11 gauge tube

Finishes An after fabrication hot dipped galvanized finish is standard. 250TGIC powder coat colors, a thermoplastic coating and a stainless steel option are also available.

Our powder coat finish assures a high level of adhesion and durability by following these steps:

1. Sandblast
2. Iron phosphate pretreatment
3. Epoxy primer electrostatically applied
4. Final thick TGIC polyester powder coat

Stainless Steel: 304 grade stainless steel material finished in either a high polished shine or a satin finish.

A rubbery PVC Dip is also available

Installation Methods In-ground mount is embedded into concrete base. Surface mount has one 5" x 6" foot which is anchored to the ground with four anchors (included with rack).

Space Use and Setbacks **Wall Setbacks:**
For racks set parallel to a wall:
Minimum: 12"
Recommended: 24"

For racks set perpendicular to a wall:
Minimum: 35" (centerline measurement)
Recommended: 38" (54" if aisle is needed between bike and wall)

Distance Between Racks:
Minimum: 24"
Recommended: 38"

Street Setbacks:
Minimum: 36"



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SECTION I

FIGURE:

BICYCLE RACK SPECIFICATION - BIKE HITCH

I-24A



BIKE HITCH

Installation Instructions - Surface Mount

Tools Needed for Installation

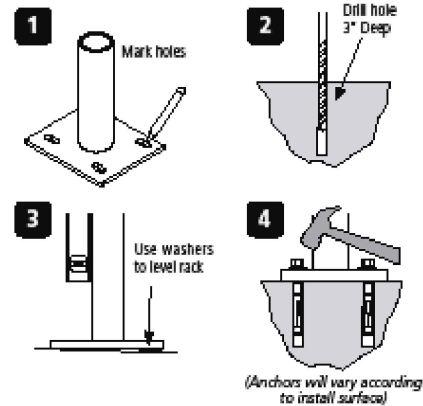
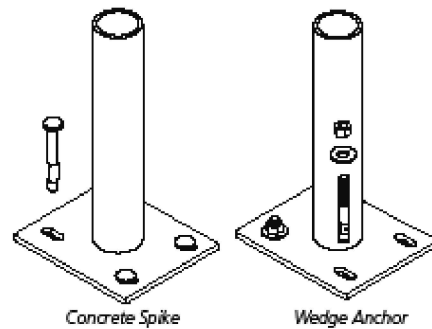
Tape Measure
 Marker or Pencil
 Masonry Drill Bit
 Drill (Hammer drill recommended)
 Hammer
 Wrench 9/16"
 Level
 Washers (for leveling if necessary)

Recommended Base Materials:

Solid concrete is the best base material for installation. Ask your Dero Rack representative which anchor is appropriate for your application to ensure the proper anchors are shipped with your rack. Be sure nothing is underneath the base material that could be damaged by drilling.

Installation:

3/8" anchors are shipped with the rack. Place the rack in the desired location. Use a marker or pencil to outline the holes of the flange onto the base material. Drill the holes in accordance with the specifications shipped with the anchors. Make sure the holes are at least 6" away from any cracks in the base material.



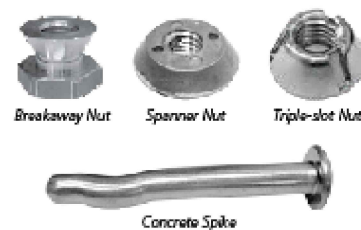
Tamper Resistant Fasteners

The concrete spike is a permanent anchor. The top of the wedge anchor can also be pounded sideways after installation so that it cannot be removed. Other tamper resistant fasteners are also available for purchase.

When using the special tamper resistant nuts, always set and first tighten the anchors. Once the rack is installed, replace two nuts from the bracket (opposite sides from each other) with the tamper resistant fastener. DO NOT OVERTIGHTEN the tamper resistant nut.



If you have any questions about installation or other features of the Bike Rack, please call us toll free at 1-800-298-4915



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FIGURE:

BICYCLE RACK SPECIFICATION - BIKE HITCH

I-24B



BIKE HITCH

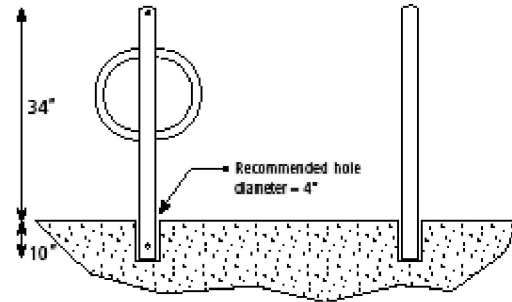
In-ground Installation Instructions

Tools needed for installation

Level	Hole coring machine with 4" bit
Cement mixing tub	Access to water hose
Shovel	Materials to build brace (see "Install Tip" at bottom of page)
Trowel	

Installing into Existing Sidewalk

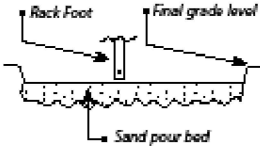
Core holes no less than 3" diameter (4" recommended) and no less than 6" deep into sidewalk. Place Bike Hitch into hole making sure the rack is level. Fill hole with Por-Rok or epoxy grout. 34-36" of the Bike Hitch should remain above the surface. Make sure Hitch is level and held in place until the grout has completely set.



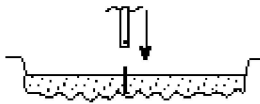
Installing Into a New Sidewalk:

Stake Method:

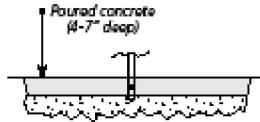
- 1 Use rack to measure exact location in pour bed.



- 2 Pound stake into pour bed where end of rack will sit. Slide rack end onto stake. You may need to dig the end of the rack into the sand to make sure the rack sits at least 35" above final grade level. The stake keeps the rack straight while the concrete is being poured.

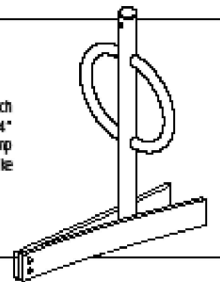


- 3 Make sure the rack is level and true. Pour concrete around the rack. Make sure the rack is not touched until the concrete has completely set.



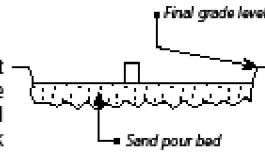
INSTALL TIP

An easy way to brace the Bike Hitch while the grout sets is to bolt two 1x4" boards together at one end and clamp them onto the legs of the Bike Hitch like a clothes pin.

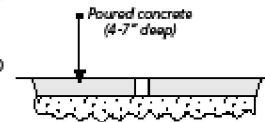


Sleeve Method:

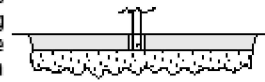
- 1 Place corrosion resistant sleeve (min. 3" inside diameter) in sand pour bed in exact location where rack will be installed. Make sure top of sleeve is at same level as desired finished concrete surface. Fill sleeve with sand to keep it in place and prevent it from filling with concrete.



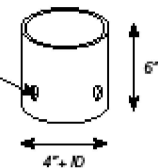
- 2 Pour concrete and allow to cure.



- 3 After appropriate cure time, dig out sand from sleeves and insert racks, making sure they are level and at the appropriate height. Pour in Por-Rok or epoxy grout and allow to set.



Note: Sleeve should have profile to keep it from coming loose from hardened concrete.



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FIGURE:

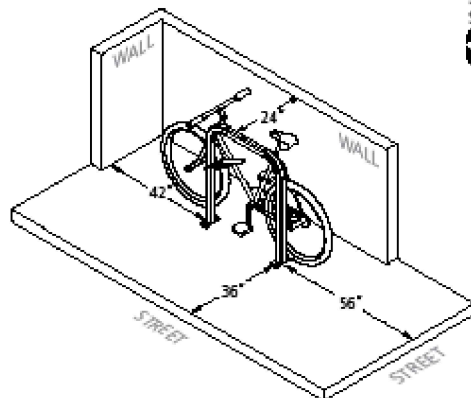
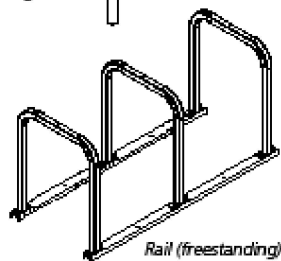
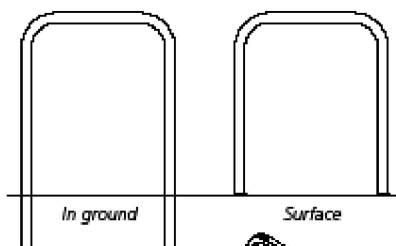
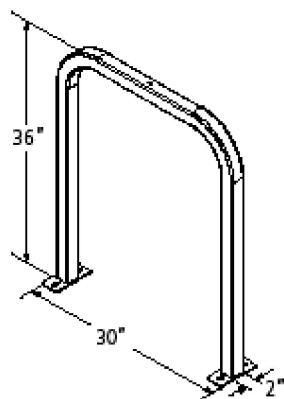
BICYCLE RACK SPECIFICATION - BIKE HITCH

I-24C



DOWNTOWN RACK

Specifications and Space Use



DERO



BIKE RACKS

Product
Dero Downtown Rack
As manufactured by Dero Bike Racks

Capacity
2 Bikes

Materials
2" x 2" x 3/16" tube



Finishes
An after fabrication hot dipped galvanized finish is standard. 250TGIC powder coat colors, a thermoplastic coating and a stainless steel option are also available.



Our powder coat finish assures a high level of adhesion and durability by following these steps:

1. Sandblast
2. Iron phosphate pretreatment
3. Epoxy primer electrostatically applied
4. Final thick TGIC polyester powder coat

Stainless Steel: 304 grade stainless steel material finished in either a high polished shine or a satin finish.

A rubbery PVC Dip is also available

Installation Methods



In ground mount is embedded into concrete base. Specify in ground mount for this option.

Foot Mount has two 2.5"x6"x.25" feet with two anchors per foot. Specify foot mount for this option.

Rail Mounted Downtown Racks are bolted to two parallel rails which can be left freestanding or anchored to the ground. Rails are heavy duty 3"x1.4"x3/16" thick galvanized mounting rails. Specify rail mount for this option.

Space Use and Setbacks



Wall Setbacks:
For racks set parallel to a wall:
Minimum: 24"
Recommended: 36"

For racks set perpendicular to a wall:
Minimum: 28"
Recommended: 42"

Distance Between Racks:
Minimum: 24"
Recommended: 36"

Street Setbacks:
Minimum: 24"
Recommended: 36"

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FIGURE:

BICYCLE RACK SPECIFICATION - DOWNTOWN RACK

I-25A



DOWNTOWN RACK

Installation Instructions - Surface Mount

Tools Needed for Installation

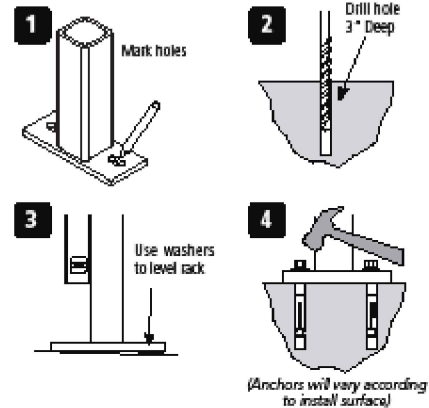
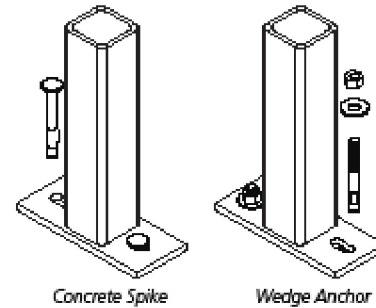
Tape Measure
 Marker or Pencil
 Masonry Drill Bit
 Drill (Hammer drill recommended)
 Hammer
 Wrench 9/16"
 Level

Recommended Base Materials:

Solid concrete is the best base material for installation. To ensure the proper anchors are shipped with your rack, ask your Dero Rack representative which anchor is appropriate for your application. Be sure nothing is underneath the base material that could be damaged by drilling.

Installation:

3/8" anchors are shipped with the rack. Place the rack in the desired location. Use a marker or pencil to outline the holes of the flange onto the base material. Drill the holes in accordance with the specifications shipped with the anchors. Make sure the holes are at least 3" away from any cracks in the base material. Use washers to level rack if necessary. Tap in anchors and follow your specific anchor instructions provided with the rack.



Tamper Resistant Fasteners

The concrete spike is a permanent anchor. The top of the wedge anchor can also be pounded sideways after installation so that it cannot be removed. Other tamper resistant fasteners are also available for purchase.

When using the special tamper resistant nuts, always set and first tighten the anchors. Once the rack is installed, replace two nuts from the bracket (opposite sides from each other) with the tamper resistant fastener. DO NOT OVERTIGHTEN the tamper resistant nut.



If you have any questions about installation or other features of the Downtown Rack, please call us toll free at 1-800-298-4915



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FIGURE:

BICYCLE RACK SPECIFICATION - DOWNTOWN RACK

I-25B



DOWNTOWN RACK

Installation Instructions - In Ground Mount

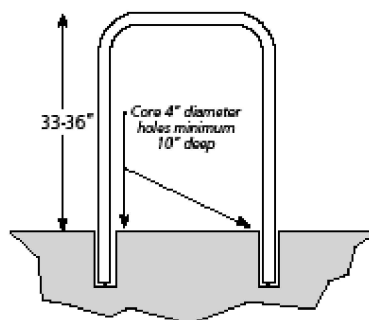
Tools Needed for Installation

Level
Cement mixing tub
Shovel
Trowel

Hole coring machine with 4" bit
Access to water hose
Materials to build brace (see "Install Tip" at bottom of page)

Installing into Existing Sidewalk

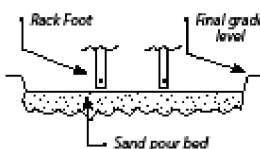
Core holes no less than 3" diameter (4" recommended) and no less than 6" deep into sidewalk. Fill holes with Por-Rok or epoxy grout. Place Downtown Rack into holes, making sure the rack is level. 33"-36" of the Downtown Rack should remain above the surface. If the Downtown Rack is less than 33" high, it will not support the bike adequately. Make sure the rack is level and held in place until the grout has set.



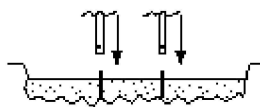
Installing Into a New Sidewalk:

Stake Method:

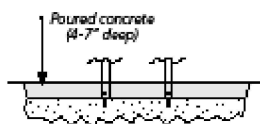
- 1 Use rack to measure exact location in pour bed.



- 2 Pound stake into pour bed where end of rack will sit. Slide rack end onto stake. You may need to dig the end of the rack into the sand to make sure the rack sits at least 35" above final grade level. The stake keeps the rack straight while the concrete is being poured.

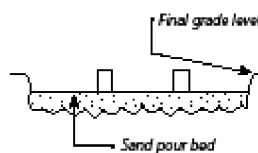


- 3 Make sure the rack is level and true. Pour concrete around the rack. Make sure the rack is not touched until the concrete has completely set.

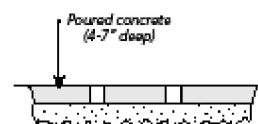


Sleeve Method:

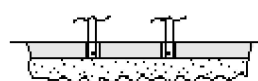
- 1 Place corrosion resistant sleeve (min. 4" inside diameter) in sand pour bed in exact location where rack will be installed. Make sure top of sleeve is at same level as desired finished concrete surface. Fill sleeve with sand to keep it in place and prevent it from filling with concrete.



- 2 Pour concrete and allow to cure.

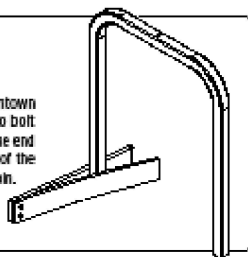


- 3 After appropriate cure time, dig out sand from sleeves and insert racks, making sure they are level and at the appropriate height. Pour in Por-Rok or epoxy grout and allow to set.

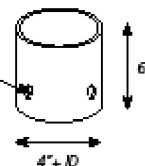


INSTALL TIP

An easy way to brace the Downtown Rack while the grout sets is to bolt two 1x4" boards together at one end and clamp them onto the legs of the Downtown Rack like a clothes pin.



Note: Sleeve should have profile to keep it from coming loose from hardened concrete.



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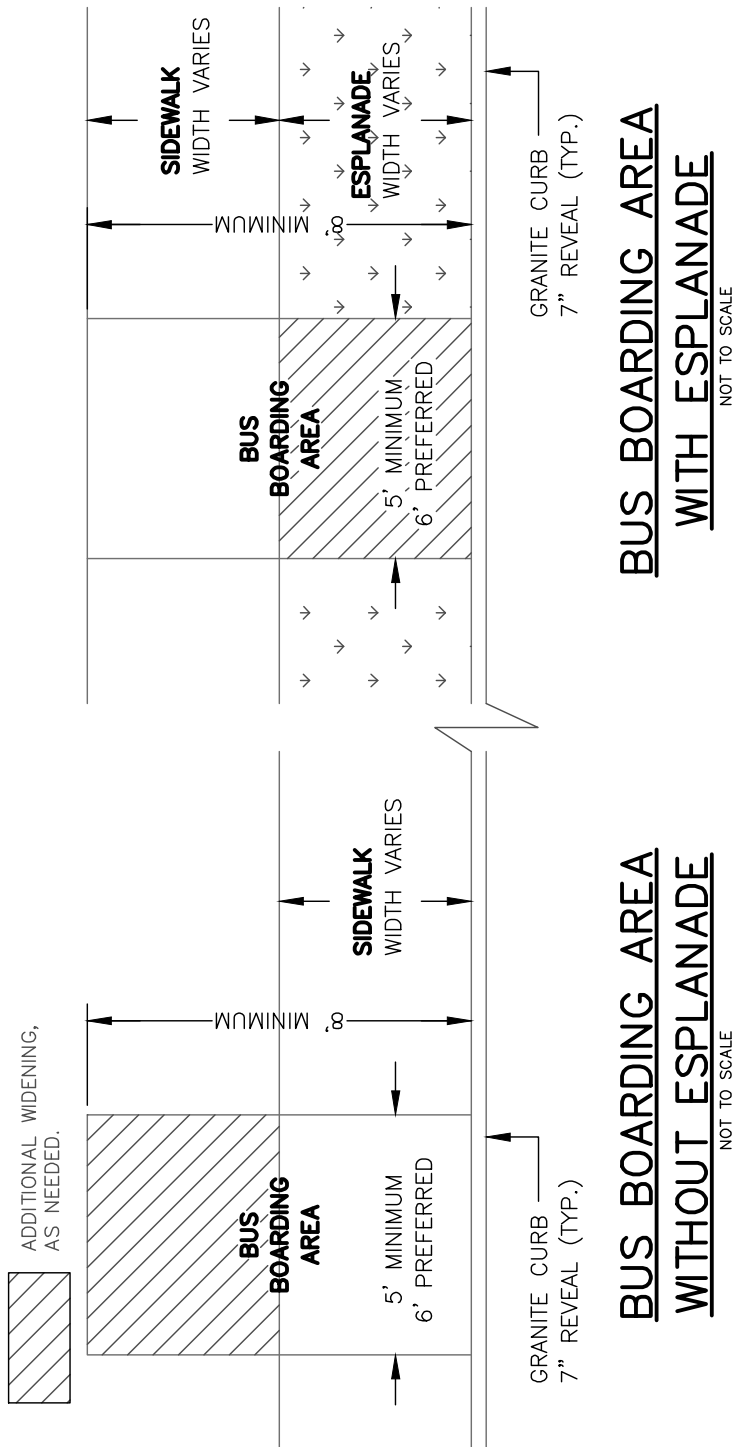
FIGURE:

BICYCLE RACK SPECIFICATION - DOWNTOWN RACK

I-25C

NOTES:

1. **SURFACE.** BUS STOP BOARDING AREAS SHALL HAVE A FIRM, STABLE SURFACE.
2. **DIMENSIONS.** BUS STOP BOARDING AREAS SHALL PROVIDE A CLEAR LENGTH OF 8' MINIMUM, MEASURED PERPENDICULAR TO THE CURB OR VEHICLE ROADWAY EDGE, AND A CLEAR WIDTH OF 5' MINIMUM, MEASURED PARALLEL TO THE VEHICLE ROADWAY. THIS AREA SHALL BE CLEAR OF ANY OBSTRUCTIONS, INCLUDING BUT NOT LIMITED TO: BICYCLE RACKS, LIGHT POLES, UTILITY POLES, FIRE HYDRANTS, STREET SIGNS, STREET FURNITURE, NEWSPAPER BOXES OR SIMILAR OBSTACLES.
3. **CONNECTION.** BUS STOP BOARDING AREAS SHALL BE CONNECTED TO STREETS, SIDEWALKS OR PEDESTRIAN PATHS BY AN ADA ACCESSIBLE ROUTE.
4. **SLOPE.** PARALLEL TO THE ROADWAY, THE SLOPE OF THE BUS STOP BOARDING AREA SHALL BE THE SAME AS THE ROADWAY, TO THE MAXIMUM EXTENT PRACTICABLE. PERPENDICULAR TO THE ROADWAY, THE SLOPE OF THE BUS STOP BOARDING AREA SHALL NOT EXCEED 2%.



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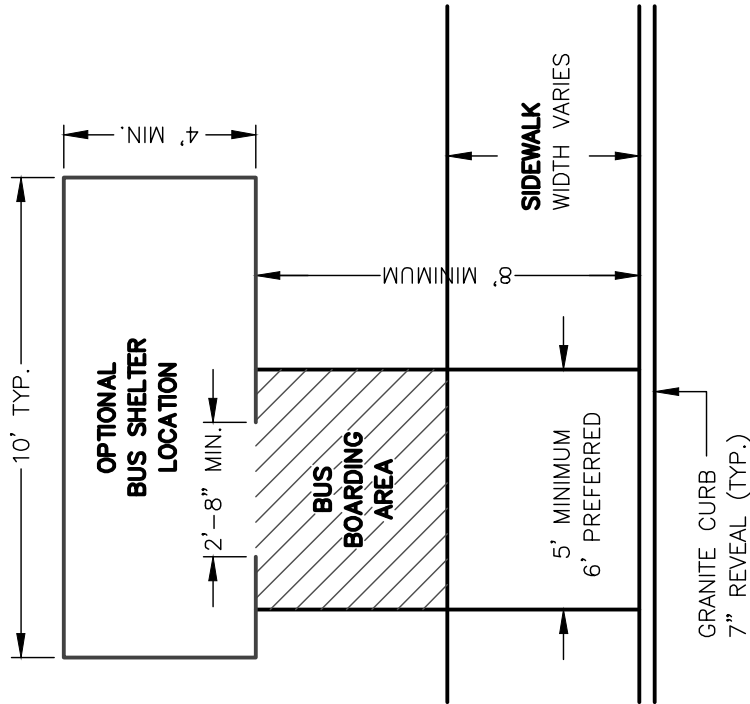
FIGURE:

**BUS STOP BOARDING AREA LAYOUT FOR
SIDEWALK WITH OR WITHOUT ESPLANADE**

I-26

NOTES:

1. DIMENSIONS. MINIMUM CLEAR FLOOR INTERIOR AREA ENTIRELY WITHIN THE PERIMETER OF THE SHELTER IS 2'-6" WIDE BY 4' DEEP TO PERMIT WHEELCHAIR OR MOBILITY AID USER ACCESS. THE MINIMUM SHELTER OPENING FOR WHEELCHAIR ACCESS IS 2'-8".
2. CONNECTION. BUS SHELTER OPENINGS WILL BE CONNECTED TO THE BUS BOARDING AREA BY AN ADA ACCESSIBLE ROUTE.
3. SLOPE. PARALLEL TO THE ROADWAY, THE SLOPE OF THE BUS BOARDING AREA SHALL BE THE SAME AS THE ROADWAY, TO THE MAXIMUM EXTENT PRACTICABLE. PERPENDICULAR TO THE ROADWAY, THE SLOPE OF THE BUS BOARDING AREA SHALL NOT EXCEED 2%.



BUS SHELTER AND SHELTER SITING WITHOUT ESPLANADE

NOT TO SCALE

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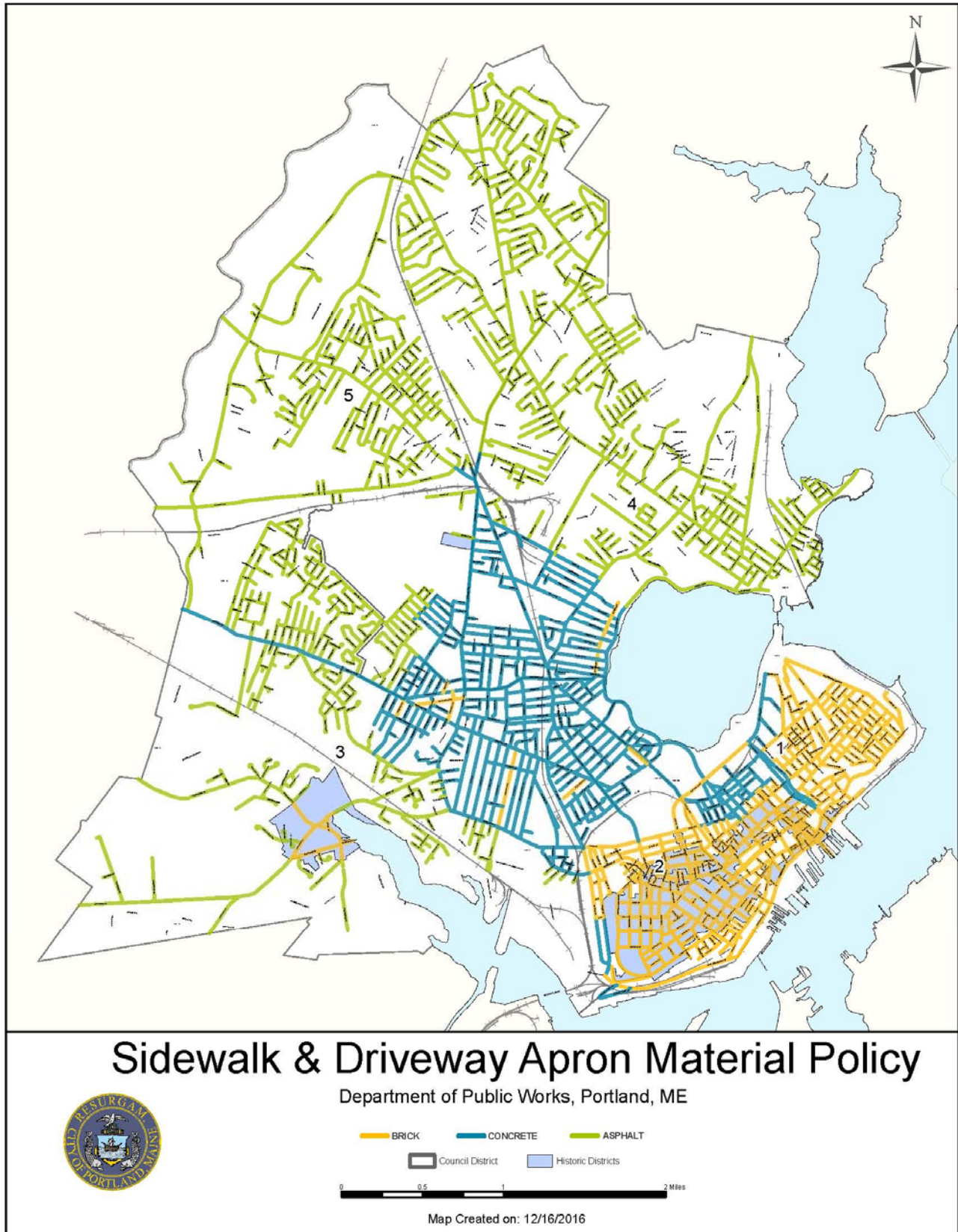
FIGURE:

BUS SHELTER AND SHELTER SITING LAYOUT FOR SIDEWALK WITHOUT ESPLANADE

I-27

APPENDICES

A. CITY SIDEWALK & DRIVEWAY APRON MATERIALS POLICY



The following policy is intended to be used as a standard for all sidewalk construction in the City of Portland, Maine. This policy will be employed when reviewing development proposals involving public infrastructure within the City of Portland.

Sidewalk Material

The Sidewalk Material map identifies three sidewalk materials, brick, concrete, and asphalt, specific to each city street. Within the City's historic districts, only brick shall be used.

Note that the following exceptions may apply:

- *Exception to brick sidewalks:* On sidewalks, or sections of sidewalks, where the slope exceeds 10% percent, the Department of Public Works may approve the use of alternative material in lieu of brick if such alternative material would provide a more slip resistant surface to improve pedestrian safety. The alternative material includes concrete for sidewalks outside of the designated historic districts, and Pinehall/Pathway Lachance item #193623 Brick Pavers, for sidewalks within all designated historic districts.
- *Partial replacement:* The Department of Public Works may approve a deviation from the sidewalk material policy to match existing sidewalks in cases where:
 1. A substantial portion of sidewalks adjacent to and in the area surround the portion to be constructed or disturbed are of a material other than that designated on the Sidewalk Material map, and:
 - a. Existing sidewalks on the affected street frontage, other than those in the area to be disturbed, are in sound conditions, and
 - b. Less than 50% of the existing sidewalk on the affected block is to be disturbed; or
 2. Other unusual circumstances exist, subject to the approval of the City Manager.

Driveway Aprons

- All driveway aprons shall be constructed of the designated sidewalk material within the pedestrian zone.
- Driveway apron material replacement shall not occur if it can be identified that the homeowner has installed the existing apron at their expense and the driveway is in good condition. Otherwise, driveway replacement shall conform to the accepted policy.

Curbing

All curb material shall be granite curb. The recycling of existing curb shall be employed in historic districts as a priority and in other districts where appropriate.

ADA Handicap Accessible Sidewalk Ramps

Ramps shall be constructed of the same sidewalk material as designated for that respective street, with the exception of the required detectable surface within the ramp.

Upgrades

The Department of Public Works may approve a change in sidewalk or apron material to an alternative, higher grade material, so long as such sidewalks and aprons are built to applicable City standards and adequate protections are made on behalf of the City with respect to the terms of repair and replacement.

B. CONSISTENCY WITH RELATED MASTER PLANS

In accordance with Section 14-526(a) of the City Code, all developments shall be designed so as to be consistent with related City master plans and facilities plans and with off-premises infrastructure existing or proposed, supported or endorsed by the City, including but not limited to the following:

- a. [Deering Oaks Master Plan](#). May, 1994
- b. [Brighton Avenue Plan](#). December, 1999
- c. A New Vision for Bayside: [Book 1](#) and [Book 2](#). April, 2000
- d. [The Eastern Waterfront Master Plan](#). December, 2004
- e. [Arts District Plan](#). November, 1995
- f. [Shoreway Access Plan](#). November, 1987
- g. Combined Sewer Overflow (CSO) Abatement Study
- h. [Peninsula Transit Plan](#). June, 2009
- i. Capisic Brook Stormwater Abatement Plan. September, 1999
- j. City of Portland Island Groundwater Management Study. August, 1986
- k. Saint John and Valley Streets Streetscape Plan. September, 2010

Applicable plans are available through the City of Portland website and/or through the City of Portland Planning Division.



2. TRANSPORTATION STUDIES AND PLANS

2.1. TRANSPORTATION STUDIES

2.1.1. Passenger car equivalent (PCE). Defined as the number of passenger cars, or, in the case of non-passenger vehicles, the number of passenger cars that would be displaced by non-passenger vehicles. One tractor trailer combination is the equivalent of two passenger cars.

2.1.2 Applicability. Developments that generate 100 PCE or more during a peak hour period, thus requiring a Traffic Movement Permit (TMP), shall meet the requirements of TMP regulations of State Law, in addition to all applicable transportation site plan standards of the City Code. The calculation of the PCE trip level for determination of TMP thresholds shall be made prior to trip reductions for other modes or shared trips.

For more information concerning state TMP requirements, please refer to <https://www.maine.gov/mdot/traffic/docs/229c305.pdf> or contact the Maine Department of Transportation (MaineDOT). The City of Portland is the delegated reviewing authority for TMP applications.

Developments generating at least 25 PCE and less than 100 PCE during a peak hour period may be required to complete a transportation study. The determination shall be made by the City Traffic Engineer, based upon the proximity of the development site to identified issues related to safety, congestion, and/or multi-modal accessibility.

2.1.3. Preparation. Transportation studies shall be prepared, stamped, and signed by a Professional Engineer licensed in the State of Maine.

2.1.4. Scope of study. The City Traffic Engineer, in consultation with the applicant's engineer, shall determine the scope of the transportation study. The scope of the study may include, but is not limited to the following elements:

- A. A description of the development proposal;
- B. A description of the existing multi-modal transportation conditions and context;
- C. Estimated trip generation by the development and design hour volume for site driveway(s) and study intersections by mode. Trip generation will be based upon current Institute of Transportation Engineers data, or approved alternate methodology, by mode;
- D. Trip distribution;
- E. Multi-modal level of service analysis pre- and post-development at study area intersections and roadway segments;
- F. Capacity analysis at study area intersections, including level of service (LOS), delay, volume-to-capacity ratios, and queue analysis;
- G. Crash analysis within the study area, or expanded study area if deemed appropriate;
- H. Key findings regarding multi-modal traffic and safety issues in the existing condition or as result of project-generated trips;
- I. Analysis of impacts to pedestrians, bicyclists, and transit service and users; and
- J. Summary of findings and recommendations for transportation improvements and other impact mitigation measures.

2.1.5. Mitigation. Mitigation of development project impacts may be required under MaineDOT TMP regulations and/or by the City of Portland through a transportation study. In some cases, where safety or capacity improvements to vehicle operations are not feasible due to constraints, mitigation may consist of in-kind multi-modal improvements to pedestrian, bicycle, and/or transit facilities and service. Where required, mitigation measures shall be included in the applicant's transportation study, and shall be approved by the Department of Public Works prior to site plan approval.

2.2. PARKING STUDY

2.2.1. Parking studies shall be produced by a licensed transportation engineer

2.2.2. Where a parking study is required, data shall be determined by values contained in the current version of the Institute of Transportation Engineers (ITE) publication *Parking Generation*, or through local, regional or other pertinent national data. If local or regional data is to be used, the scope and methodology of the parking study shall be coordinated with the City Traffic Engineer.

2.2.3. Parking studies for mixed-use developments shall reference best practices for shared parking, both in terms of calculations and studies, such as the Urban Land Institute's *Shared Parking*.

2.2.4. Where a parking study is required, the scope of study shall be determined in coordination with the City Traffic Engineer. The requirements for the study shall be based on standard transportation engineering practices.

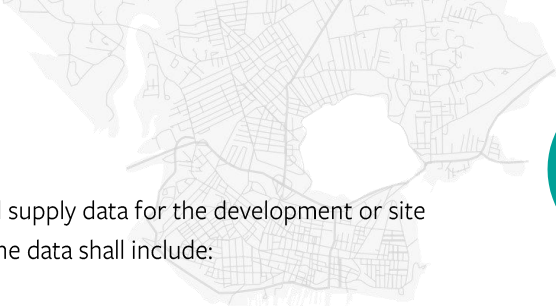
2.3. TRANSPORTATION DEMAND MANAGEMENT (TDM)

All TDM plans shall include the following items:

2.3.1. TDM narrative. Include a transportation narrative that:

- A. Describes how the project fits within the multi-modal transportation system serving the district in which the development or site is located;
- B. Addresses the specifics of the land uses, occupants, visitors, and location of the development and how it is anticipated to relate to its transportation context; and
- C. Address applicable existing conditions and TDM challenges and opportunities for the site related to:
 - 1. Vehicular access and circulation;
 - 2. The quality of the bicycling and pedestrian environment and facilities;
 - 3. Transit service levels and the transit-supportive environment;
 - 4. Current levels of parking and parking policies; and
 - 5. For existing developed sites, the current state of any TDM-related efforts should be described.

2.3.2. TDM coordinator. Identify a TDM coordinator(s) and establish the roles and responsibilities of the coordinator(s). The plan should demonstrate how the administration of the TDM plan and role of the TDM coordinator(s) will reflect the scale of the site/development, proposed uses, parking and vehicle trip reduction targets, as well as the ownership and property management framework.



2.3.3. Document baseline TDM data. Document baseline travel demand and supply data for the development or site in tabular format, against which future performance can be measured. Baseline data shall include:

- A. Future trip generation estimates (where applicable);
- B. Proposed parking supply and future demand estimates (where applicable); and
- C. Estimated modal split, recognizing modal split as the uniform metric to be used in TDM reporting in subsequent years.

Baseline data shall correspond to the transportation analysis required for the project, and shall represent best estimates of transportation demand and modal split at time of occupancy, given the transportation context.

2.3.4. Set TDM targets. The TDM plan shall establish short-term (3-5 year) and long-term modal split targets, based on documented baseline transportation demand data, the combination of land uses, location, transportation context, and other data for the site. Modal split targets shall relate directly to the transportation infrastructure provided, TDM strategies to be employed, site context, and shall consider city-wide TDM goals as represented in plans such as *One Climate Future*. The metrics for TDM modal split targets shall be measurable, and shall include goals for reductions in single-occupancy vehicle trips and increases in non-single-occupancy trips, broken down by mode. The targets shall be described in both absolute values and percentage terms. The targets will be reviewed and updated based upon the annual TDM reporting.

2.3.5. Set customized modal split strategies. Every TDM plan shall include a set of strategies designed to achieve the TDM target. The strategies should be customized to reflect the specific mix of uses, the population that will access the site, the scale of development, the location, the modal split targets, and the transportation opportunities available to the site. The strategies should also reflect a broad mix of TDM approaches, including approaches that:

- A. Provide TDM infrastructure and operations to the site (e.g., on-site lockers and shower facilities, transit capital or operation funding, programming that supports TDM, such as guaranteed ride home or ride-matching programs);
- B. Incentivize TDM options (e.g., through parking cash-out, preferential carpool parking, subsidized transit passes, subsidized bicycle maintenance, or bikeshare memberships); and
- C. Educate users of the site about TDM options (e.g., through site-level information-sharing mechanisms, provision of transit maps and schedules, etc.).

For additional information on TDM strategies, see <https://www.portlandmaine.gov/721/TDM-Parking>.

2.3.6. Establish a monitoring and reporting plan.

- A. All TDM plans must include provisions for monitoring program effectiveness over time to establish whether progress toward TDM targets is being met.
- B. **Responsibility.** The TDM Coordinator(s) and/or plan administrator(s) are responsible for monitoring the efficacy of the TDM plan and making adjustments to the plan as needed to achieve modal split targets.
- C. **Methods.** The methods of monitoring shall be outlined in the TDM plan. Monitoring methods will typically involve use of an annual survey combined with other data collection, such as parking utilization counts where needed.
- D. **Reporting.** The results of TDM plan monitoring shall be reported to the City of Portland on an annual basis using reporting tools provided by the City.

2.4. CONSTRUCTION PERMITTING AND TRAFFIC CONTROL PLANS

2.4.1. 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 & charges are all outlined in that Chapter. Rules and Regulations for Excavation Activity are available through the Street Opening Clerk at the Department of Public Works.

2.4.2. Sewer and stormwater system connections are controlled by Chapters 24 and 32 of the City Code of Ordinance. Required permits for new connections and/or abandonment of existing connections are available through the Street Opening Clerk at the Department of Public Works. Rules and Regulations for these utility systems are available through the City Engineer's office of the Department of Public Works. See also Section # of the Technical Manual for lateral abandonment requirements associated with demolition permits.

2.4.3. 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 travelling public. Projects that will occur along accepted city streets are required to submit a satisfactory 'maintenance of traffic' (MOT) plan prior to any site plan, subdivision, or street opening permit approval.

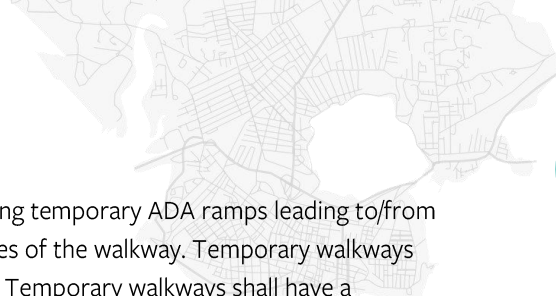
Maintenance of Traffic (MOT) plans shall provide for the safe passage of the public by all modes of transportation through or along the construction work zone. On a case-by-case basis, applicants may be allowed to close a street and/or detour a mode of traffic when absolutely necessary for safety. These closures are to be limited to the shortest duration possible with durations specifically noted in the traffic control plan documentation. MOT plans shall employ the appropriate techniques and devices as called for in the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). In addition:

- A. Construction speed signing may be used as needed to slow traffic;
- B. Traffic control signs shall not be placed where they are an obstruction to bicycles or pedestrians. ADA-compliant access shall be maintained at all times and documented within traffic control plans; and
- C. In some situations, flaggers may be required to allow for safe pedestrian and bicycle movement.

Additional information for temporary traffic control plans is provided in Chapter 6 of the MUTCD (https://mutcd.fhwa.dot.gov/htm/2009/part6/part6_toc.htm).

2.4.4. All existing modes of travel in the work zone area shall be accommodated if impacted by the activity. The safe passage of pedestrians, bicyclists, transit providers, and motorists are of equal importance when planning out the work zone; no pre-existing travel mode may be eliminated without the express approval of the Department of Public Works. Projects shall meet the following standards for the safe passage of cyclists and pedestrians:

- A. Traffic control for 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 bicycles and pedestrians;
- B. Where pedestrian traffic is significant, and/or where a detour would present a significant delay and/or safety issues to pedestrians, a temporary walkway in the shoulder/parking lane/outside travel lane may be required



where possible. Any temporary walkway shall be ADA-accessible, including temporary ADA ramps leading to/from the walkway where needed, and solid, detectable barriers along the edges of the walkway. Temporary walkways shall be kept clear of snow, ice and debris by the contractor at all times. Temporary walkways shall have a minimum clear width of five (5) feet;

- C. Pedestrian detours shall be considered as a last resort where no other practical option is available. Where pedestrian detours are allowed, pedestrians shall be directed to cross at existing crosswalk locations where practical. Temporary crosswalks and curb ramps may be required to shorten the overall detour. Any temporary crosswalk shall be ADA-compliant and shall be located where sight distance is adequate. All temporary crosswalks shall be approved by the Department of Public Works;
- D. Where construction requires the closure of a bicycle lane or shared use pathway alongside a high-volume and/or high-speed roadway, bicycle traffic shall be managed by the contractor in coordination with the Department of Public Works. Treatments may include a barrier-protected bicycle lane or shared use path, or bicycle detours as a last resort; and
- E. 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.

For reference, see also *How to Plan, Document, and Implement Pedestrian Mobility in and around Work Zones* (<https://portlandmaine.gov/DocumentCenter/View/30884/Work-Zones-ADA>).

2.4.5. 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.



3. LOW IMPACT DEVELOPMENT STANDARDS

3.1. LOW-IMPACT DEVELOPMENT (LID) EVALUATION

3.1.1. Approach.

Section 3.1. provides guidance on how new development and redevelopment are required to prioritize the protection of - natural resources.

If the preservation of natural resources is unavoidable, the applicant shall design the development to minimize impacts to the extent practicable. Minimization efforts shall be demonstrated through strategies including, but not limited to, the pursuit of waivers, reductions in off-street parking and other impervious surfaces, and the siting of building components to reduce disturbed area.

When preservation and minimization efforts cannot or can only be partially implemented, Applicants shall implement listed treatment strategies to achieve mitigation prioritizing natural solutions, then structural solutions, and finally compensatory fees.

3.1.2. Low Impact Development Scoring Tool.

All development subject to site plan or subdivision review, shall be evaluated using the low impact development scoring tool, included as Appendix A within this section of the technical manual. The scoring tool establishes a points-based system that is intended to quantify a development's impact across five impact categories, with a bonus category to account for other development characteristics that reduce a development's overall impact. Impact categories are listed below:

- A. Wetlands, Streams and Drainage.
- B. Natural Areas and Habitat.
- C. Soils and Slopes.
- D. Vegetation and Landscaping.
- E. Impervious Area and Stormwater Management.
- F. Bonus Points.

All development subject to evaluation using the low impact development scoring tool, is required to achieve a minimum score of 80 points, out of a total possible score of 178 points. The minimum required score may be achieved through any combination of strategies employed across each of the impact categories. The City of Portland offers bonus points for innovative site and/or stormwater design as detailed in the scoring tool.

3.1.3. Relationship to Other Regulations and Technical Requirements.

The City of Portland LID regulation works in concert with other municipally adopted land-use regulations, and is primarily intended as a tool to reinforce City requirements around stormwater management, landscape and habitat preservation, erosion and sedimentation control, wetland and waterbody impact, and soil usage. Additional state and/or federal regulations may apply. In the event of conflict among standards, the more stringent shall apply.

3.2. IMPACT CATEGORIES

3.2.1. Wetlands, Streams and Drainage

A. Preservation.

1. No wetland alteration is permitted in the Coastal Flood Resilience Overlay Zone, except to support climate adaptation projects that meet or exceed the efficacy of an existing wetland and do not have significant negative impacts on existing habitats identified on the [Beginning with Habitat Map Viewer](#) or a boundary survey;
- ~~1.2. Projects shall be designed to avoid wetland alterations and disturbances and shall maintain and/or establish undisturbed buffer strips of no less than 50 feet around the wetland boundary.~~
- ~~2.3. Projects shall be designed to avoid stream avoid crossings or disturbance of waterbodies or wetlands and shall maintain and/or establish undisturbed buffer strips of no less than 100 feet, around the waterbody or wetland boundary.~~
- ~~3. No wetland alteration is permitted in the Coastal Flood Resilience Overlay Zone, except to support climate adaptation projects that meet or exceed the efficacy of an existing wetland and do not have significant negative impacts on existing habitats identified on the Beginning with Habitat Map Viewer or a boundary survey.~~
4. Development located adjacent to a perennial or intermittent stream shall maintain a stream buffer of no less than 100 feet and shall place a deed restriction on the property, maintaining the buffer area in perpetuity. Construction activity, clearing, grading, and other site disturbance shall be prohibited within the buffer area.

B. Mitigation.

1. Where an applicant can demonstrate that preservation or minimization of impacts to [waterbodies](#) [wetlands](#) would significantly compromise the development of the site, applicants proposing the alteration of:
 - a. 500 square feet of wetland or greater shall mitigate the impacts such that there is no net loss of ecological function and value. Subdivision impacts shall be assessed for the development as a whole and shall account for any impacts associated with future development. Acceptable forms of mitigation include the following:
 - i. Restoration of previously degraded wetlands;
 - ii. Enhancement of existing wetlands;
 - iii. Preservation of existing wetlands or adjacent uplands elsewhere where the site to be

- 
- preserved provides significant wetland functions;
 - iv. Creation of new wetland; or
 - v. Payment into the City of Portland Compensation Fee Program.
2. Where an applicant can demonstrate that avoidance of stream crossings would significantly compromise the development of the site, applicants proposing to cross any stream shall:
 - a. Use a bridge or open bottom culvert structure sized at 1.2 times the bank full width of the stream; or
 - b. Incorporate Maine Stream Smart Principles into the crossing design.
 3. Where an applicant can demonstrate that maintaining a 100-foot perennial or intermittent stream buffer area would significantly compromise the development of the site, applicants proposing to reduce this buffer shall:
 - a. Provide a brief narrative explaining why there is no practicable alternative to the location of activity within the 100-foot buffer area, and detail how impact to the resource will be minimized.
 - b. Provide a minimum 50-foot buffer area between the normal high-water line of perennial streams and areas of proposed disturbance.
 - c. Provide a minimum 25-foot buffer area between the normal high-water line of intermittent streams and areas of proposed disturbance.

3.2.2. Natural Areas and Habitats.

A. Preservation.

1. Development activity shall not disturb significant and essential wildlife habitats identified on the State of Maine [Beginning with Habitat Map Viewer](#), or as identified by a Maine licensed surveyor on a boundary survey for the site. Projects shall not disturb, remove, fill, dredge, clear, destroy, or alter any area within a buffer zone of 100 feet of a wetland associated with habitats listed above.
2. Applications shall not disconnect undeveloped habitat blocks, undeveloped block connectors, and riparian connectors that are listed on the State of Maine [Beginning with Habitat Map Viewer](#).

B. Mitigation.

Where the applicant can demonstrate that the preservation of or minimization of impacts to existing habitats would significantly compromise the development of the site, the applicant shall implement one or more of the following mitigation strategies determined to be acceptable by the Planning Authority:

1. Mitigation for undeveloped habitat blocks, undeveloped block connectors, and riparian connectors shall:
 - a. Enhance existing undeveloped blocks and connectors on or adjacent to the site;
 - b. Establish new undeveloped blocks and connectors on or adjacent to the site; or
 - c. Submit payment into the City of Portland Compensation Fee Program.

3.2.3. Soils and Slopes.

A. Preservation.

1. Soil surveys and mapping. The level at which various types of projects must be mapped and guidelines for each intensity level of soil mapping are included in Section 7 of the Technical Manual. Projects shall avoid paving and construction of buildings on site areas with high permeability soils.
2. Projects shall avoid construction on and maintain 20-foot undisturbed vegetated buffers on portions of sites with slopes $\geq 15\%$.

B. Mitigation.

1. Where the applicant can demonstrate that preserving or minimizing paving and construction of buildings on high permeability soils would significantly compromise the development of the site, projects shall consider the use of stormwater best management practices that incorporate stormwater infiltration within areas of high permeability soil.
2. Where the applicant can demonstrate that preserving or minimizing paving and construction of buildings on high permeability soils would significantly compromise the development of the site, projects shall consider tilling less permeable soils in areas of proposed revegetation to a depth of at least 10 inches prior to revegetation, and the use of organic matter amendments as needed based upon the soil tests complete.
3. Where the applicant can demonstrate that avoiding or minimizing construction on slopes $\geq 15\%$ would compromise the development of the site, projects shall implement the following stabilization strategies:
 - a. Stabilization of slopes greater than 8% shall use erosion control netting or blanket to stabilize the soils and shall establish coverage with vegetation and/or organic mulch.
 - b. Slopes greater than 33% which utilize vegetation for permanent stabilization shall not be mowed.
 - c. Stabilization of slopes greater than 50% should prioritize biotechnical methods over structural methods when feasible. If biotechnical methods alone are determined not to be feasible by a licensed engineer, the applicant must incorporate a combination of biotechnical and structural methods, including, but not limited to, terracing rip rap or retaining walls in addition to vegetation.

3.2.4. Vegetation and Landscaping.

A. Preservation.

1. Development shall be designed to protect and incorporate natural features, on-site & street trees $\geq 10"$ DBH, and all other existing stands of vegetation and trees in accordance with Section 4 of the Technical Manual, except in cases where the City Arborist or their designee deems such vegetation to be:
 - a. Diseased;
 - b. In poor condition;
 - c. A non-native invasive species, or
 - d. Unsalvageable.
2. Heritage trees shall be protected in accordance with Chapter 29 of the City of Portland Code of



Ordinances.

3. Trees or groups of trees to be preserved shall be inspected and approved by the City Arborist or their designee and shall be clearly identified on the Site Plan, Subdivision Plat, Landscape Plan, and Grading Plan. Where required by the reviewing authority, property deeds shall include language and plans to help ensure that current and future landowners are aware of all preservation requirements tied to the property.

B. Mitigation.

1. Where the applicant can demonstrate that the preservation of trees required to be preserved would significantly compromise the development of the site, an applicant shall be responsible for planting replacement trees in accordance with Section 4 of the Technical Manual, or if this is not feasible, shall contribute to the City of Portland Tree Fund in the amount of \$100/inch at DBH.
2. Upon completion of the project, preserved vegetation that show signs of construction damage within a one-year period following construction, including but not limited to bark damage or excessive root damage, grade changes other than those originally indicated in the approved grading plan, soil compaction due to heavy equipment traversing closely, or general decline due to mechanical or natural conditions shall be rejected and must be replaced prior to the release of any defect guarantee.
 - a. For every existing tree rejected that is between 10 and 16 inches in caliper DBH, one replacement tree listed on the City of Portland approved tree list (Section 4 of the Technical Manual, Figure IV-1) shall be planted on the site.
 - b. For every existing tree rejected that is 16 inches or more in caliper DBH, two replacement trees listed on the City of Portland approved tree list (Section 4 of the Technical Manual, Figure IV-1) shall be planted on the site.
3. Where an applicant is providing new site landscaping, the applicant is encouraged to reduce or limit grassed lawn area in favor of more intensive site landscaping, utilizing native vegetation that is locally sourced wherever possible.

3.2.5. Impervious Area and Stormwater Management.

A. Preservation.

1. Development shall be designed to reduce impervious area to the extent practicable, and where possible, employ permeable hardscape materials, such as porous pavers, permeable concrete, and porous asphalt.
2. Development shall prioritize the use of green infrastructure and or other natural stormwater treatment systems.
3. The use of salt or chloride is discouraged, and applicants that are required to develop a stormwater maintenance agreement, shall be required to detail strategies for reducing salt or chloride use during the winter season, and shall document the use of salts or chlorides as part of the annual monitoring requirement.

B. Mitigation.

1. Development shall be designed in accordance with the City's stormwater standards detailed in Section 5 of the Technical Manual and all applicable state standards, including but not limited to Maine DEP Ch. 500.

3.2.6. Other Measures.

Bonus points are offered for strategies that may go above and beyond typical approaches; may offer particularly innovative site design or engineering; or may help achieve the larger goal of low-impact development on a regional scale.

City of Portland ME . Low-Impact Design Requirements				
Owner / applicant name:				
Representative name:				
Project address:				
Project CBL:				
Application ID (if known):				
	Maximum Points	How to Apply	Points Awarded	LID Standard / Approach
CORE METHODS: Wetlands, Streams, & Drainage				
Protect natural drainage paths	Required			
Shoreland Zoning	Required			
Meeting DEP and ACOE standards for stream crossings	Required			
Protect wetlands	12	Select one option		Select a site that does not have wetlands or vernal pools = 12pts
				Project maintains a 50' set-back / no-disturb buffer to all wetlands = 10pts
				Project maintains a 25' set-back / no-disturb buffer to all wetlands = 7pts
				Project does not place structures in wetlands and avoids wetlands impacts from construction and stormwater discharges = 5pts
				Project replicates impacted wetlands elsewhere on site or within watershed = 3pt
				Project pays wetlands impact fee = 0pts
Permanently protect stream (intermittent and perennial) and riparian buffers (<i>exclusive of approved stream crossings; must include a no-disturb zone with markers installed and deed restriction recorded at registry of deeds</i>)	12	Select one option		Select a site with no streams = 12pts
				Permanently protect all 100ft shoreline buffers = 10pts
				Permanently protect all 75ft shoreline buffers = 7pts
				Permanently protect all 50ft shoreline buffers = 5pt
Stream crossings	12	Select one option		Select a site with no streams = 12pts
				Avoid any stream crossings = 10pts
				All stream crossings use a bridge or arch span = 10pts
				All stream crossings use Maine Stream Smart Principles to preserve natural pre-development drainage pathways = 6pts
CORE METHODS: Natural Areas & Habitat				
Preserve threatened or endangered species habitat	Required (Beginning with Habitat Maps at a minimum)			
Protect 30% of trees over 10" DBH	Required (Tree survey required)			
Protect intact, contiguous forests and native trees over 10" DBH	8	Select one option		All development and land disturbance outside of existing wooded/forested areas (no site clearing in prior 10 years) = 8pts
				Protect 50% of trees over 10" DBH = 6pts
				Protect 40% of trees over 10" DBH = 4pt
CORE METHODS: Soils & Slopes				
USDA Web Soil Survey	Required (provide details how soil limitations will be mitigated)			
Avoid steep slope disturbance	5	Select one option		Selecting a site without slopes 15% or greater = 5pts
				Maintain >20' undisturbed vegetated buffer to all slopes 15% or greater = 3pts
				Maintain 10-20' undisturbed vegetated buffer to all slopes 15% or greater = 2pts
				Maintain 1-10' undisturbed vegetated buffer to all slopes 15% or greater = 1pt
				Disturbance of any slope 15% or greater = 0pts
Protect soils	5	Select one option		Redevelopment sites = 5pts
				Detailed, site-specific soil survey; preparation of a Soil Management and Protection Plan; protect highly permeable soils = 5pts
Limit site disturbance and earthwork	8	Select one option		Redevelopment limits disturbance to existing footprint = 8pts
				New development disturbs less than 50% of the site = 8pts
				New development disturbs less than 75% of the site = 6pts

Soil preparation & minimizing compaction	6	Select all options that apply		Till soils to a depth of at least 10" prior to revegetation = 3pts
				Organic matter amendments as needed based on soil tests = 3pts
CORE METHODS: Landscaping				
Low-Impact Landscaping	6	Select all options that apply		Redevelopment sites reduce lawn area by 50%, provided no increase in impervious area (lawn becomes landscaping) = 2pt
				New development results in >50% non-impervious developed area is landscaping = 2pt
				Use only native vegetation for landscaped areas = 2pts
				Using only locally-sourced landscape materials = 2pt
CORE METHODS: Impervious Area & SW Management				
Meeting City's stormwater management standards	Required			
Reduce impervious and increase permeable surfaces	10	Select all options that apply, up to a maximum of 10 points		50% or more of proposed hard surfaces are permeable (porous pavers, permeable concrete, porous asphalt) = 6pts
				Minimize parking impervious area by using only the minimum required number of parking spaces, the minimum required parking lot dimensions, maximizing compact spaces and utilizing low-turnover standard parking space width reductions = 4pt
				25% or more of proposed hard surfaces are permeable (porous pavers, permeable concrete, porous asphalt) = 3pts
				Minimize roadway impervious area by developing roadways and driveways at the minimum width and using minimum number of curb cuts = 2pt
				Reducing the number of driveways by using a shared driveway design = 2pt
				Providing transportation alternatives (such as bike share, car share, or similar) = 2pt
Use GI / natural stormwater treatment systems	12	Select all options that apply		Treatment requirements and conveyance achieved through vegetated systems = 6pts
				No more than 1-acre of drainage per treatment system = 3pts
				Increase time of concentration on site (need to ID the storm) = 3pts
Limit / eliminate salt use	4	Select one option		Detailed winter maintenance agreement, with annual reporting requirement, limiting chloride use (required in UIS watersheds) = 4pts
Bonus Points				
Bonus points are offered for strategies that may go above and beyond typical approaches; may offer particularly innovative site design or engineering ; or may help achieve the larger goal of low-impact development on a regional scale.	10			Utilizing structured parking = 10pts
	10			Utilizing a green roof (need a size minimum - follow India St. guidelines) = 10pts
	10			Restoration of previously-disturbed natural resources (minimum criteria needed) = 10pts
	10			BMPs designed for known water quality impairment within watershed = 10pts
	10			Connecting to City sewer from a site >200 ft from existing City infrastructure = 10pts
	6			Detention of 1.5 times the required volume = 6pts
	6			Treatment for 1.5 times the required water quality volume = 6pts
	6			Innovative LID site design and/or stormwater improvement - 6pts
	10			Establishing a Traffic Demand Management plan for projects under 50,000ft = 10pts
	Total Possible Points 178		Total Points Awarded 0	Minimum points required for approval of LID strategies and techniques 80



4. LANDSCAPING STANDARDS

~~4.1. PURPOSE~~

~~The Landscaping Standards Section provides guidance on how new development should ensure that site landscaping establishes attractive, low-maintenance outdoor spaces that incorporate site definition and screening to achieve one or more of the following outcomes; promote a healthy and biodiverse urban ecosystem, further City goals around climate resiliency and mitigation, create or enhance areas of native habitat, improve stormwater treatment, and/or increase local food production.~~

4.21. GENERAL LANDSCAPING STANDARDS

~~4.2.1. Applicability.~~ The following types of development are subject to the standards of ~~§4.2.~~ of the Technical Manual:

- ~~A. Minor and Major Site Plans;~~
- ~~B. Minor Residential; and~~
- ~~C. Subdivisions.~~

4.21.21. ~~Plant m~~Materiality.

A. Plants.

1. Selection.
 - a. All trees and shrubs shall comply with the standards set forth by the American Standard for Nursery Stock (ANSI Z60.1 - 2004). These standards are available through the Department of Public Works.
 - b. All trees and shrubs shall be nursery grown, healthy, free of disease, and insect pests, and shall have a well-developed and compact root system. Plant material showing signs of a lack of proper nursery care or a lack of pruning or cultivation, or which is not true to name will be classified as collected stock regardless of its source and shall be rejected.
 - c. Proposed trees and shrubs installed as part of the landscape plan shall be comprised of at least 50% native species.
 - d. The developer shall be responsible for preventing the spread of existing or the introduction of new invasive species on the site, as identified below. If, within one (1) year following construction, invasive species are identified on the site or if such species are pre-existing on the site but are determined to have spread by the City Arborist, the applicant shall be required to implement appropriate control measures prior to the release of the defect guarantee. Accepted mechanical and chemical control methods are provided by the Maine Natural Areas Program (MNAP) of the Maine Department of Conservation in their Invasive Plant Fact Sheets (available through the Department of Public Services and through the MNAP

program website: <http://www.maine.gov/doc/nrimc/mnap/features/invasives.htm>. The following plant species are recognized as invasive species that are characteristically adaptable, aggressive, and have a high reproductive capacity:

- i. Asiatic Bittersweet (*Celastrus orbiculata*);
 - ii. Autumn and Russian Olive (*Elaeagnus umbellata* & *angustifolia*);
 - iii. Black Swallowwort (*Cynanchum louiseae*);
 - iv. Brazilian Waterweed (*Egeria densa*);
 - v. Common and Glossy Buckthorn (*Rhamnus cathartica* and *Frangula alnus*);
 - vi. Common Reed (*Phragmites australis*);
 - vii. Eurasian Milfoil (*Myriophyllum spicatum*);
 - viii. Fanwort (*Cabomba caroliniana*);
 - ix. Garlic Mustard (*Alliaria petiolata*);
 - x. Hydrilla (*Hydrilla verticillata*);
 - xi. Japanese Barberry (*Berberis thunbergii*);
 - xii. Japanese Honeysuckle (*Lonicera japonica*);
 - xiii. Japanese Knotweed (*Fallopia japonica*);
 - xiv. Japanese Stilt Grass (*Microstegium vimineum*);
 - xv. Lesser Celandine (*Ranunculus ficaria*);
 - xvi. Mile-a-Minute Weed (*Polygonum perfoliatum*);
 - xvii. Morrow and Tartarian Honeysuckle (*Lonicera morrowii* & *tartarica*);
 - xviii. Multiflora/Rambler Rose (*Rosa multiflora*);
 - xix. Porcelainberry (*Ampelopsis*);
 - xx. Milfoil (*Myriophyllum heterophyllum*);
 - xxi. Water Chestnut (*Trapa natans*);
 - xxii. Norway Maple (*Acer platanoides*); and
 - xxiii. Yellow-flag Iris (*Iris pseudacorus*).
- e. Trees selected from the Recommended Tree List (Figure IV-1) shall conform, at a minimum, to the sizes specified on the list.
- f. All upright deciduous and evergreen shrubs shall be a minimum of 3 feet tall at mature height. All spreading evergreen and deciduous shrubs shall be a minimum of 2-2.5 feet in width at maturity.
- g. Ground covers planted in lieu of grass shall be planted at a level of coverage equivalent to one complete growing season. Grass areas shall be planted with Kentucky Bluegrass (*Poa pratensis*), Red Fescue (*Festuca rubra*), Tall Fescue (*Festuca arundinacea*) or Perennial Ryegrass (*Lolium perenne* L.). Rolled turf, erosion reducing net or suitable vegetation along with landscaping shall be used in swales or other areas subject to erosion.
- h. Mulching material shall be a minimum of three (3) inch deep wood chip or bark mulch. Inorganic mulches are not permitted.
- i. No plantings used to satisfy City landscaping requirements shall be comprised of inorganic materials.

4.13.32. Street tTrees.

- A. Selection, arrangement and spacing of trees proposed in the City right of way and/or private roadway, and/or within 20 feet of the edge of the public or private right-of-way and visible to members of the public, shall be coordinated with the Portland City Arborist or their designee. Tree species shall be selected according to the City of Portland recommended tree list (Figure IV-1).
- B. Trees proposed in the sidewalk shall be planted in tree wells, as shown in Figures IV-4a, 4b, and 4c and as required by the City Arborist based upon site context and prospects for tree survival.
- C. Adequate soil volume, as determined by the City Arborist, shall be required to ensure tree survival. ~~shall also be required, as determined by the City Arborist.~~
- D. ~~Table 3-3.3.A. identifies the required number of street trees by development type and Table 3-3.3.B. lists eligible reductions and alternatives to the required number of street trees.~~

TABLE 4-3.3.A. STREET TREE REDUCTIONS AND ALTERNATIVES

Reduction or Alternative	Description of Reduction or Alternative
Retention of Existing Healthy Street Tree not identified by the City of Portland or State or Maine as an Invasive Species	The following reductions can be made based on the caliper in inches at Diameter Breast Height (DBH) of the proposed tree: Over 12 inches DBH: Reduction of 3 trees >8-12 inches DBH: — Reduction of 2 trees 6-8 inches DBH: — Reduction of 1 tree
Retention of On-Site Existing Healthy Trees within 20 feet of the property line and visible from the public right-of-way	
Installation of other planted features in the public right-of-way or within 10 feet of the public right-of-way	Planted features must be visible from the public right-of-way and be documented to the satisfaction of the City Arborist and Planning Authority to meet the objectives of the street tree requirement.
Off-Site Planting Within Same Neighborhood or Area of City with Minimal Tree Coverage	Locations may include esplanades, sidewalks and existing empty street tree wells or planting strips, and also places such as parks, playgrounds, and other areas where public benefit would be derived from the addition of new trees. Evidence that the planting site was unlikely to be redeveloped in the near future and that the trees would be protected and maintained are required.
Waiver: Contribution to the Tree Fund	When it is demonstrated that meet the street tree requirements as stated or through the reductions listed above in Table 4.6.2., contributions to the City of Portland Tree Fund shall be made as stated below: Contribution for new street tree: \$400 Contribution for tree to replace feature mature tree: \$100/inch diameter of the feature mature tree (\$400 shall be subtracted from total if the Applicant plants a replacement tree for the feature mature tree)

4.1.3. Street tree alternatives

A. Retention of existing trees.

1. Where an applicant is able to retain existing healthy and non-invasive trees within the public right-of-way, or within 20 feet of the edge of the right-of-way, such trees shall count towards a project's street tree requirement as described below, based upon the tree's diameter at breast height (DBH).

Over 12 inches DBH	3 Street Trees
8 – 12 inches DBH	2 Street Trees
6 – 8 inches DBH	1 Street Tree

4.1.4. Contribution to the tree fund.

Where the planting of required street trees is demonstrated to be infeasible, the applicant shall contribute to the City of Portland Tree Fund at a ratio of \$400 per required street tree.

4.31.45. On-site landscaping, screening and buffers.

A. Required on-site trees & plantings.

- ~~In all zoning districts with minimum required front setbacks, one new shade tree is required every 30 linear feet of street frontage as measured along the property line. Alternatives to meeting this requirement are included below in Table 4.3-4.~~
- Required on-site plantings may be installed anywhere on the site (including a green roof) and may be planted in any arrangement.
- ~~The retention of existing and healthy shade trees or plantings, not identified by the City of Portland or State of Maine as an invasive species, shall be permitted to count toward this requirement.~~

4.13.56. Buffers & sScreening.

A. Parking Lot Screening along Public Right-of-Way. Where all or a portion of a surface parking area is located within 30 feet of a public right-of-way, and is not separated from the public right-of-way by a structure, the parking area shall include a buffer area five feet in width and utilize one of the following screening methods within five feet of the street line:

- A masonry wall (excluding concrete masonry unit blocks) 30-36" in height with one planting per 10 feet of street frontage; or
- A decorative wrought-iron-style fence 30-42" in height, with masonry piers that can extend to 48" in height but do not exceed 18" in width, and do not occupy more than 20% of the length of the fence with one planting per 10 feet of street frontage, or
- A continuous line of shrubs that achieves 80% opaque screening 30-48" in height during summer months.



B. Walls & fences.

1. Fences and walls visible from the public right-of-way must be of high architectural quality.
2. Chain link and wire mesh fences shall not be directly visible from the public right-of-way and shall be vinyl coated and dark in color. Chain link fences shall meet the following design standards:
 - a. **Residential Development:** Be a minimum of 6-gauge fence fabric for
 - b. **Commercial/Industrial Development:** Be a minimum of 9-gauge fence fabric and mounted on schedule 40 pipe posts
3. Masonry walls shall be constructed of stone, brick or other durable and attractive materials. Concrete block walls are not permitted except where variety in color, design and detailing of the materials are of high architectural quality.
4. Electrified or barbed fencing is not permitted.

~~CB. Side and Rear Lot Line Buffers & Screening.~~

~~Applicability.~~ Landscaped buffering and screening shall be provided in accordance with Table 4.4.5. ~~along each side or rear lot line where any of the following conditions occur:~~

2. Buffer standards.

- a. **General.** Where required, buffer areas shall be comprised of existing trees and vegetation, new landscaping or a combination thereof to create a dense, mixed buffer incorporating both understory and tree canopy layers. ~~While primarily of benefit from a ground level pedestrian viewpoint, Such~~ screening should also effectively provide screening when viewed from upper floors of surrounding properties, where applicable. ~~Breaks in required buffers are permitted to maintain or create sufficient access for existing and/or proposed bicycle, pedestrian, and/or shared use facilities.~~
- b. **Vegetative ~~b~~Buffers.** New shrubs shall be spaced six (6) to eight (8) feet apart. Buffers between contrasting land uses may incorporate earthen berms not exceeding 4:1 slope, opaque fencing of high architectural quality, masonry wall or a combination thereof, in addition to landscape plantings. Where fencing or masonry wall is proposed as part of a buffer, less landscaping density is acceptable; however, buffers shall still include trees, shrubs and other vegetation.
- c. **Parking areas.** Landscaping shall be incorporated into the development of surface parking ~~to reduce~~ adverse environmental and aesthetic impacts, to shade pavement to reduce heat island effect and to screen parking areas from public view. Plant materials shall be selected for appearance, durability, and tolerance to salt. Figures IV-6a and IV-6b provide examples of parking lot screening.

Landscaping that abuts areas of vehicular use shall be adequately protected and separated from vehicles. Protection should take the form of physical or visual separation, such as curb stops, bollards, or continuous curbing. Protection shall be designed with adequate visibility and durability in order to withstand normal snow plowing operations.

Landscaped islands shall be curbed and a minimum of eight (8) feet in width, not including curbing. The incorporation of bioretention into landscaped islands is strongly encouraged.

- d. **Snow storage.** Snow storage areas may be located in landscaped areas provided that appropriate landscape materials are selected which can withstand such snow storage. Snow storage shall not be located in a stormwater treatment measure, shoreland zoning setback buffers, or where it would adversely impact the functionality of bioretention or other stormwater management measures.

3. **Installation and ~~m~~Maintenance of ~~p~~Plantings.**

~~a. Landscaping, earth moving and grading activities shall be performed according to standards accepted good planting and grading procedures and in accordance with the approved Site Plan, Subdivision Plat, Grading Plan and Landscape Plan.~~

~~b.a.~~ No plant shall be moved after the bud break unless so authorized by the City Arborist or their designee. Planting periods are between April 1st and ~~to~~ July 1st and/or September 1st and November 1st.

~~c.b.~~ Tree planting and other landscaping for subdivisions that cannot be installed prior to ~~the~~ release of the performance guarantee must be insured by a defect bond as described in ~~Section~~ Article 135 of the City Land Use Code.

~~d.c.~~ All bare soil areas shall be vegetated and/or mulched prior to the issuance of a Certificate of Occupancy.

~~d.~~ New vegetation that shows signs of construction damage within a one-year period following construction, including but not limited to bark damage or excessive root damage, grade changes other than those originally indicated in the approved grading plan, soil compaction due to heavy equipment traversing closely, or general decline due to mechanical or natural conditions shall be rejected and must be replaced prior to the release of any defect guarantee.

~~e. Slopes with between a 5% and 50% grade change shall incorporate installation of a mixture of vegetation, organic mulch and/or erosion control seed mix.~~

~~Stabilization of slopes greater than 50% must incorporate biotechnical and/or structural methods including but not limited to terracing rip rap or retaining walls in addition to vegetation. Retaining walls, if four (4) feet in height or greater from the bottom of the footing to the top of the wall and/or if supporting a surcharge, must be designed by a licensed engineer and require a City of Portland Building Permit.~~

Figure IV-1: City of Portland Recommended Tree List

Small Trees - (Mature Height < 25')					
Common Name	Botanical Name	Cultivars	Uses	Native	Notes
Amelanchier or Shadbush	<i>Amelanchier</i>	"Autumn Brilliance", "Cumulus", "Robin Hill Pink"	Street tree/ Naturalize	X	Single stem tree forms
European Hornbeam	<i>Carpinus betulus</i>	Upright forms available	Street tree		
American Hornbeam	<i>Carpinus caroliniana</i>		Lawn/Landscape	X	
Hawthorn	<i>Crataegus crusgalli</i>	"Cusgali", "Winter King"	Street tree		Thornless
Flowering Crabapple	<i>Malus x</i>	"Adirondack", "Spiringsnow"	Street tree		
Sargent Cherry	<i>Prunus sargentii</i>	"Accolade", "Pink Flair"	Street tree & Ornamental		
Striped Maple	<i>Acer pennsylvanicum</i>		Naturalize	X	Naturalizing in shaded areas
Magnolia	<i>Magnolia spp.</i>	Many cultivars	Ornamental		
Hop-Hornbeam	<i>Ostrya virginiana</i>		Naturalize	X	Tolerates shade / understory
Sourwood	<i>Oxydendrum</i>		Ornamental	X	Interesting lat summer flower
"Arnold's Promise" Witchhaz <i>Hamamelis</i>					
Medium Trees to Large trees 25' > 45'					
Common Name	Botanical Name	Cultivars	Uses	Native	Notes
Red Maple	<i>Acer rubrum</i>	"Armstrong", "Bowhall", "Karpick", "Red Pointe"	Street tree/ Landscape	X	Cultivars from upright to oval shape
Sugar Maple	<i>Acer saccharum</i>	"Green Mountain"	Naturalize Landscape use	X	
White Birch	<i>Betula papyrifera</i>	"Renaissance Reflection"	Naturalize	X	
River Birch	<i>Betula nigra</i>	"Heritage"	Naturalize	X	
Yellow Birch	<i>Betula lenta</i>		Naturalize	X	
Hackberry	<i>Celtis laevigata</i>		Street tree		
Ginkgo	<i>Ginkgo biloba</i>	"Mygar", "Autumn Gold"	Street tree		
Thornless Honeylocust	<i>Gleditsia inermis</i>	"Streetkeeper" (Upright form)	Street tree		
Tuliptree	<i>Liriodendron</i>		Street tree		
Tupelo	<i>Nyssa sylvatica</i>		Naturalize		
Swamp White Oak	<i>Quercus bicolor</i>		Street tree/Naturalize		
Red Oak	<i>Quercus rubra</i>		Street tree/Naturalize		
Upright-Growing Oaks	"Beacon" Oak "Urban Pinnacle" Oak "Kindred Spirit" Oak "Regal Prince"		Street tree/Naturalize Street tree/Naturalize Street tree/Naturalize Street tree/Naturalize		
American Elm	<i>Ulmus americana</i>	"Accolade", "Princeton"	Street tree	X	
Lacebark Elm	<i>Ulmus parvifolia</i>		Street tree		Interesting bark
Zelkova	<i>Zelkova serrata</i>	Musashino Zelkova	Street tree		
Conifers					
Common Name	Botanical Name	Cultivars	Uses	Native	Notes
Alaska Cedar	<i>Callitropsis nootkatensis</i>	Alaska Weeping Cedar	Buffer planting		Fast growing
Red Cedar	<i>Juniperus virginiana</i>		Naturalize/ Ornamental	X	
Eastern Larch or Tamarack	<i>Larix laricina</i>		Naturalize/ Ornamental	X	Deciduous
Dawn Redwood	<i>Metasequoia</i>		Ornamental		Deciduous
White Spruce	<i>Picea glauca</i>		Naturalize	X	
Serbian Spruce	<i>Picea omorika</i>		Ornamental		Upright / good for narrow locations
Pitch Pine	<i>Pinus rigida</i>	Small sizes available	Naturalize	X	Full sun, sandy soils
White Cedar	<i>Tuja occidentalis</i>	"Dark American", "Techny"	Naturalize	X	Can be pruned into hedge
Notes: In the case of street trees, small trees (<25') are preferred in locations with overhead utilities, and fruiting varieties should generally be avoided.					

DATE:
NOV. 2022

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CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

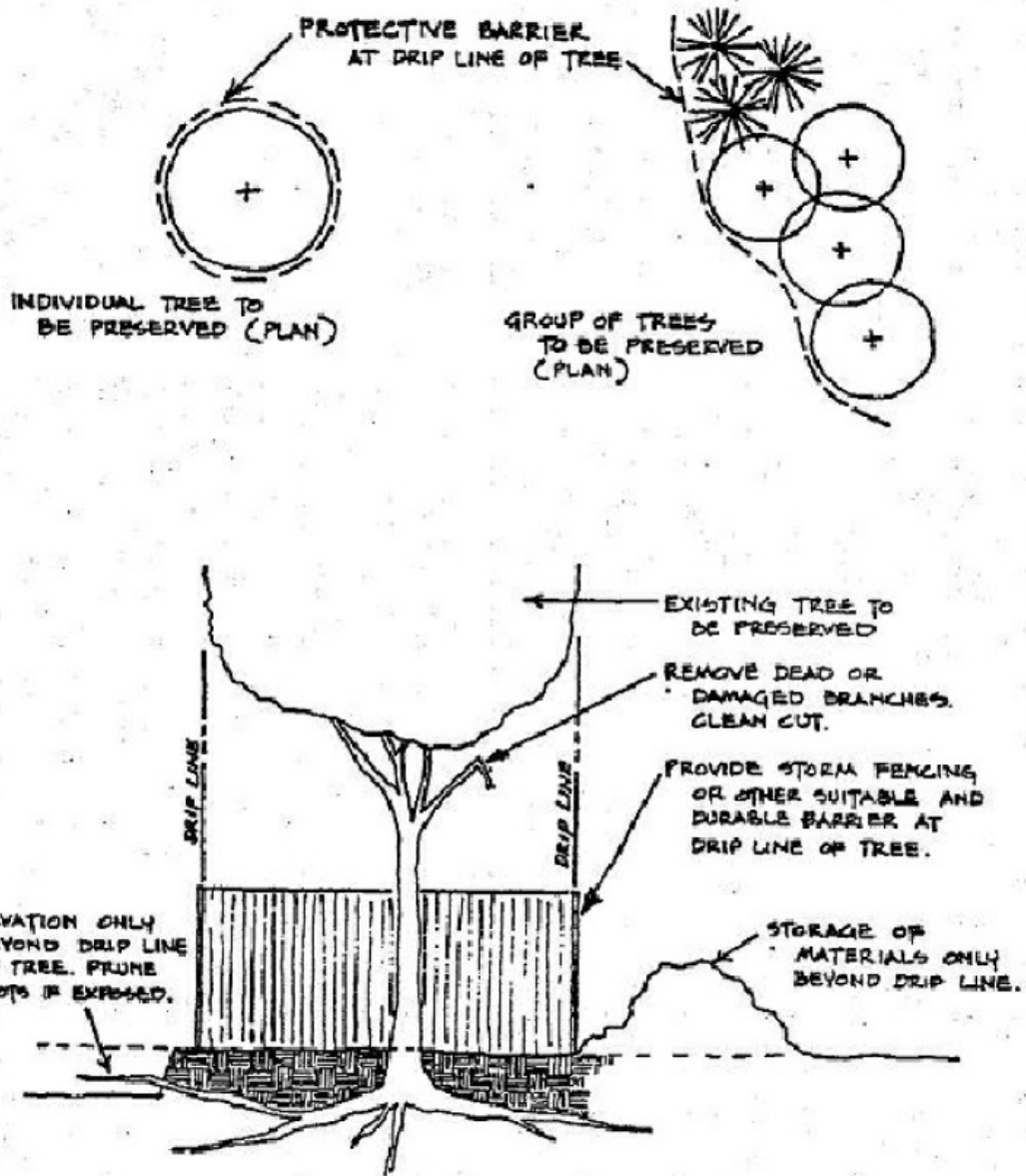
STANDARDS FOR LANDSCAPING
AND PRESERVATION OF
EXISTING VEGETATION
SECTION IV

FIGURE:

RECOMMENDED TREE LIST - PAGE 1

Page 684

IV-1



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DATE:
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CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

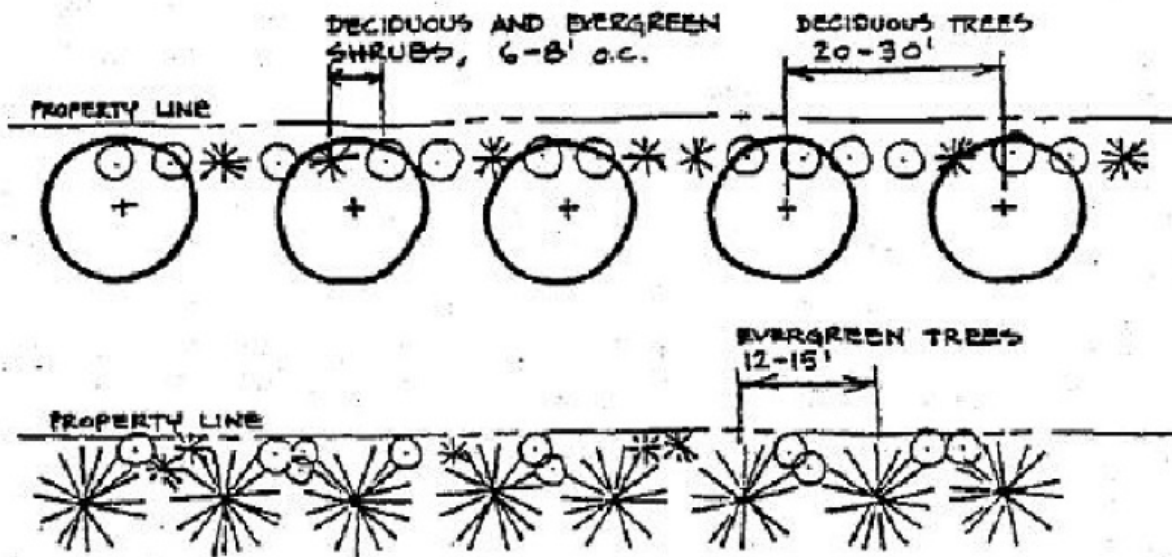
STDS FOR LANDSCAPING
AND PRESERVATION OF
EXISTING VEGETATION
SECTION IV

FIGURE:

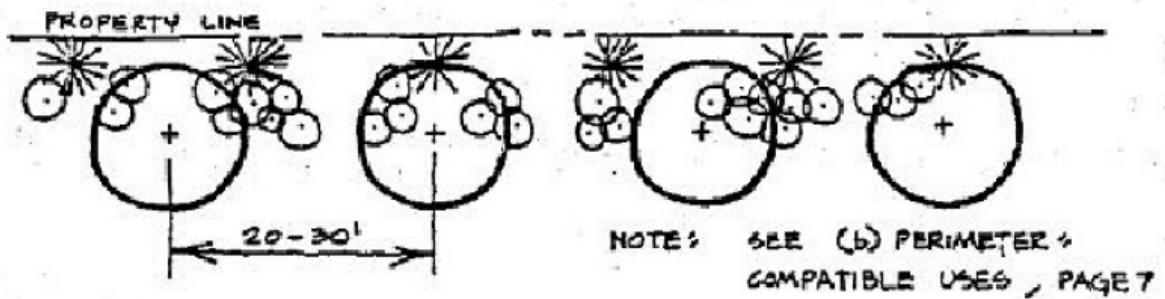
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IV-2

TREE PRESERVATION DETAIL



A. Commercial/Industrial Screening



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TECHNICAL STANDARDS MANUAL

STDS FOR LANDSCAPING
AND PRESERVATION OF
EXISTING VEGETATION
SECTION IV

FIGURE:

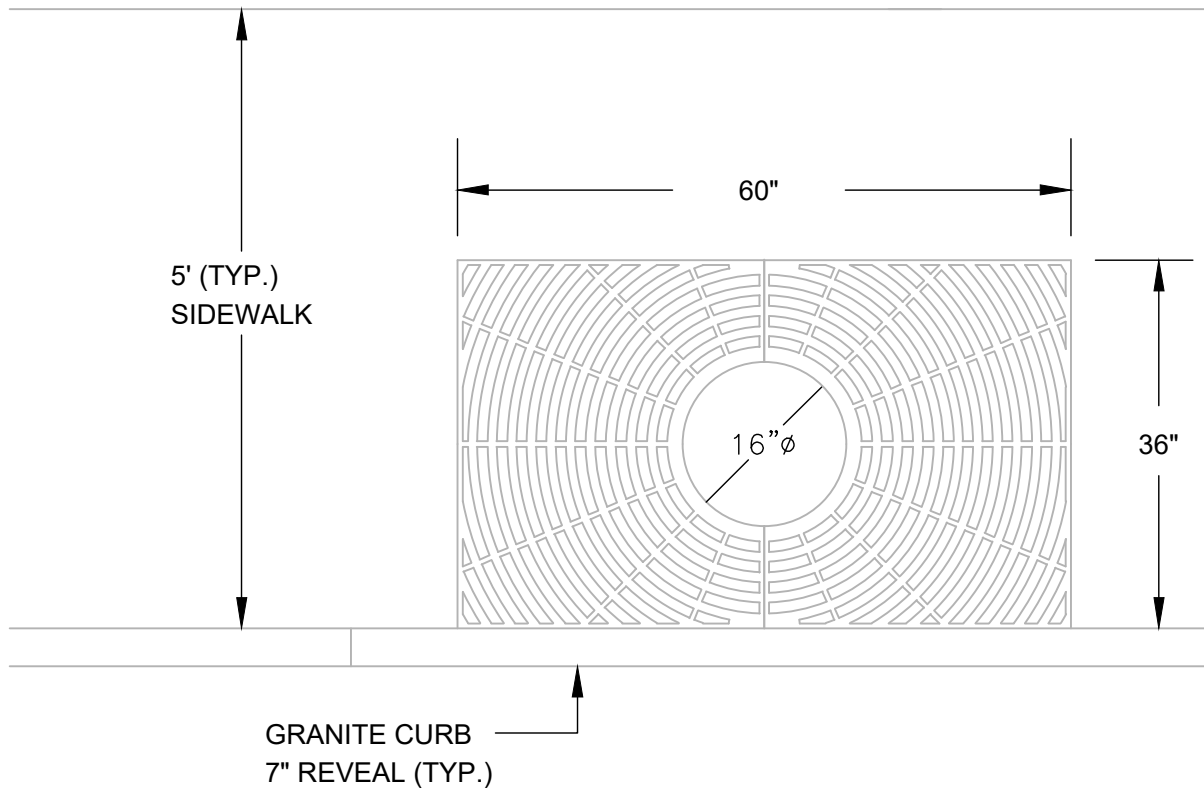
REVISED:

LANDSCAPING BETWEEN COMPATIBLE USES

IV-3

NOTES:

1. 16"Ø EXPANDABLE TREE OPENING. 0.25" SLOT OPENINGS.
2. ALL TREE GRATES SHALL COMPLY WITH CITY TECHNICAL STANDARDS AND MUST BE APPROVED BY THE CITY ARBORIST.
3. FINAL PLACEMENT LOCATION OF TREE GRATES SHALL BE APPROVED BY DPW AND SHALL CONSIDER SIDEWALK WIDTH AND ADA COMPLIANCE, ON-STREET PARKING CONFIGURATIONS, ABOVE AND BELOW GROUND UTILITIES AND OTHER OBSTRUCTIONS.
4. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY. SEE SIDEWALK CONSTRUCTION DETAILS IN SECTION 1 OF THE TECHNICAL MANUAL.
5. WHEN THE TREE GRATE IS INSTALLED IN A CONCRETE SIDEWALK, A NOTCH MUST BE INSTALLED ALONG THE EDGE TO HOLD THE GRATE, WHEN INSTALLED IN A BRICK SIDEWALK IT REQUIRES A FRAME TO BE INSTALLED TO HOLD THE GRATE IN PLACE.



PLAN VIEW

EXPANDABLE TREE GRATE WITH FRAME **NEENAH MODEL R-8810**

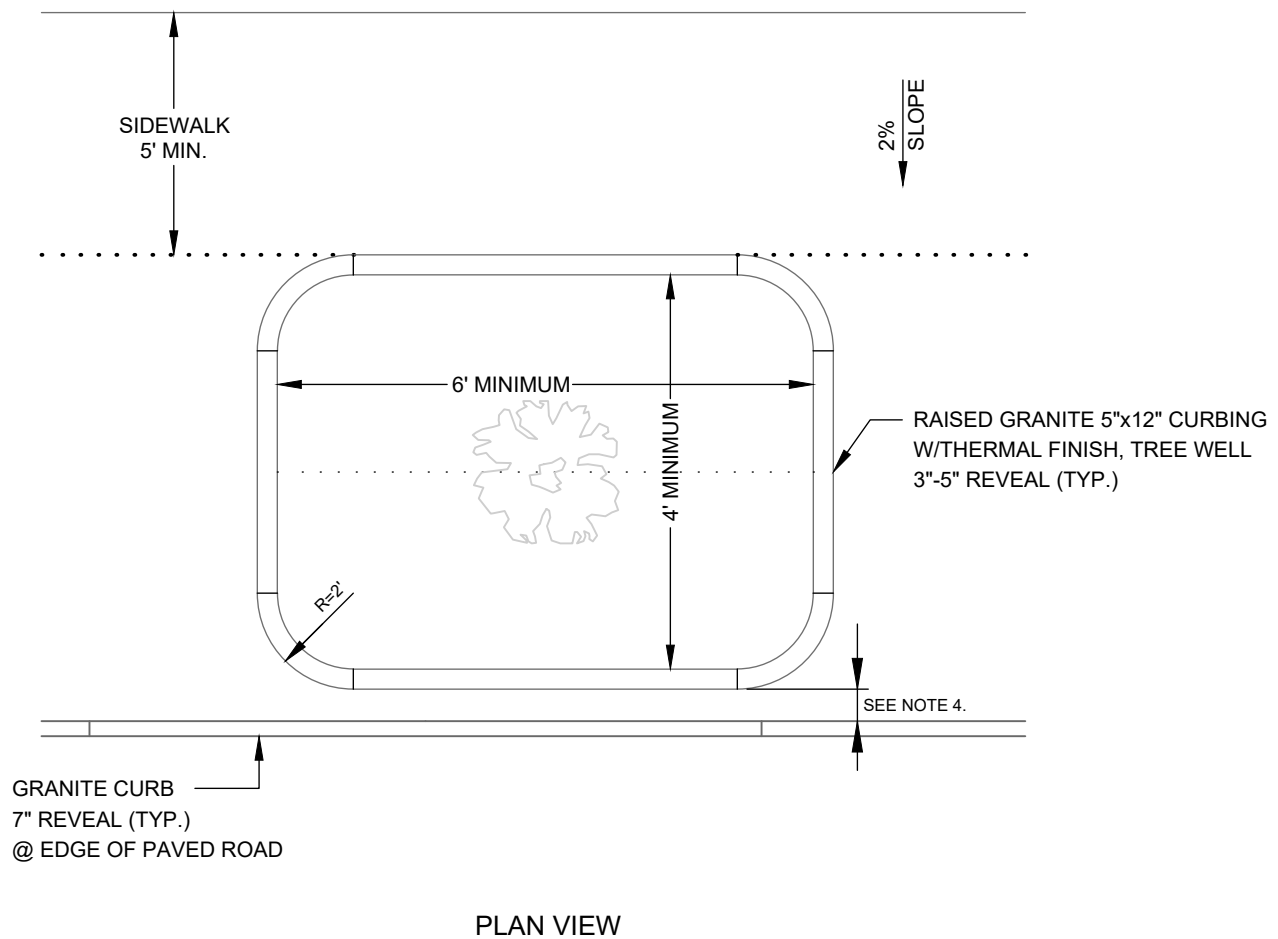
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<http://www.nfco.com/literature/TreeGrateCatalog22/Avenue.pdf>

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	LANDSCAPE AND LANDSCAPING PRESERVATION EXISTING VEGETATION STANDARDS - SECTION IV	FIGURE:
	EXPANDABLE TREE GRATE WITH FRAME FOR NARROW RESIDENTIAL URBAN STREETS		IV-4A

NOTES:

1. ALL TREE WELLS SHALL COMPLY WITH CITY TECHNICAL STANDARDS AND MUST BE APPROVED BY THE CITY ARBORIST.
2. FINAL PLACEMENT LOCATION OF THE GRANITE CURB TREE WELL SHALL BE APPROVED BY DPW AND SHALL CONSIDER SIDEWALK WIDTH, STREET PARKING STATUS, ABOVE AND BELOW GROUND UTILITIES AND OTHER OBSTRUCTIONS.
3. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY. SEE SIDEWALK CONSTRUCTION DETAILS IN SECTION 1 OF THE TECHNICAL MANUAL.
4. RAISED CURB TREE WELL OFFSETS FROM THE CURB LINE SHALL TAKE THE LOCATION OF ON-STREET PARKING INTO ACCOUNT. WHERE ADJACENT TO ON-STREET PARKING AND SIDEWALK WIDTH ALLOWS, A MINIMUM OFFSET OF 2 FEET IS PREFERRED, UNLESS IT CAN BE DEMONSTRATED THAT THE PLACEMENT OF THE TREE WELLS WILL NOT INTERFERE WITH THE OPENING OF VEHICLE DOORS.



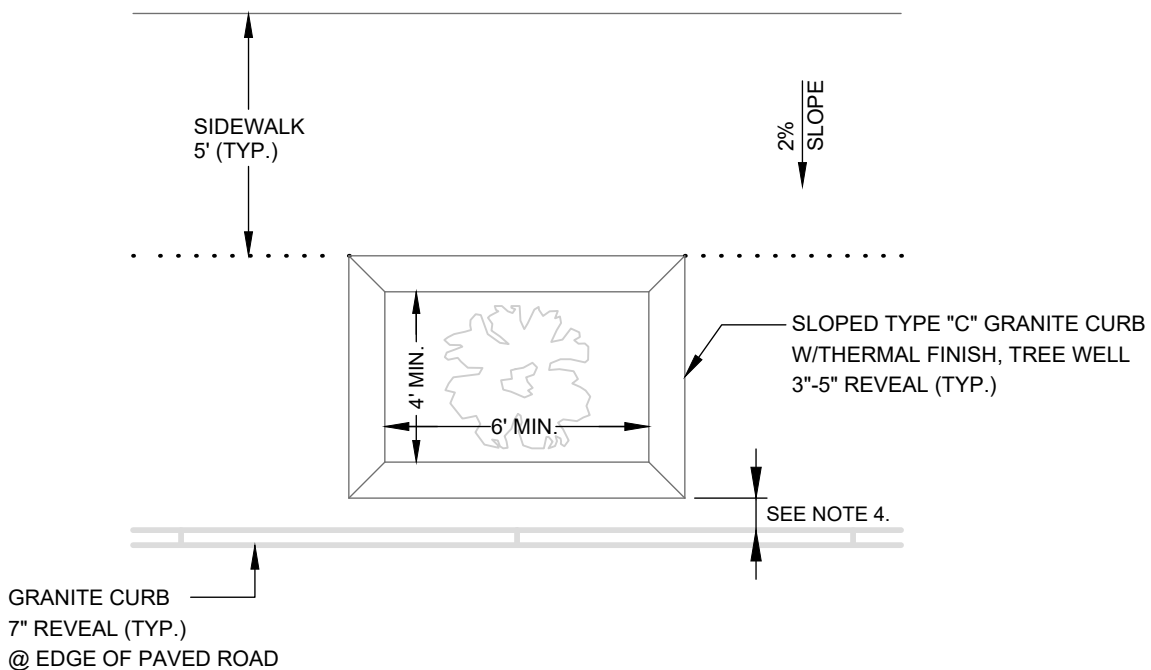
GRANITE BORDER TREEWELL IN SIDEWALK WITH NO ESPLANADE

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DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	LANDSCAPING AND LANDSCAPE PRESERVATION STANDARDS - SECTION IV	FIGURE:
	GRANITE BORDER TREE WELL IN SIDEWALK WITH NO ESPLANADE		IV-4B

NOTES:

1. ALL TREE WELLS SHALL COMPLY WITH CITY TECHNICAL STANDARDS AND MUST BE APPROVED BY THE CITY ARBORIST.
2. FINAL PLACEMENT LOCATION OF THE GRANITE CURB TREE WELL SHALL BE APPROVED BY DPW AND SHALL CONSIDER SIDEWALK WIDTH, STREET PARKING STATUS, ABOVE AND BELOW GROUND UTILITIES AND OTHER OBSTRUCTIONS.
3. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY. SEE SIDEWALK CONSTRUCTION DETAILS IN SECTION 1 OF THE TECHNICAL MANUAL.
4. RAISED CURB TREE WELL OFFSETS FROM THE CURB LINE SHALL TAKE THE LOCATION OF ON-STREET PARKING INTO ACCOUNT. WHERE ADJACENT TO ON-STREET PARKING AND SIDEWALK WIDTH ALLOWS, A MINIMUM OFFSET OF 2 FEET IS PREFERRED, UNLESS IT CAN BE DEMONSTRATED THAT THE PLACEMENT OF THE TREE WELLS WILL NOT INTERFERE WITH THE OPENING OF VEHICLE DOORS.

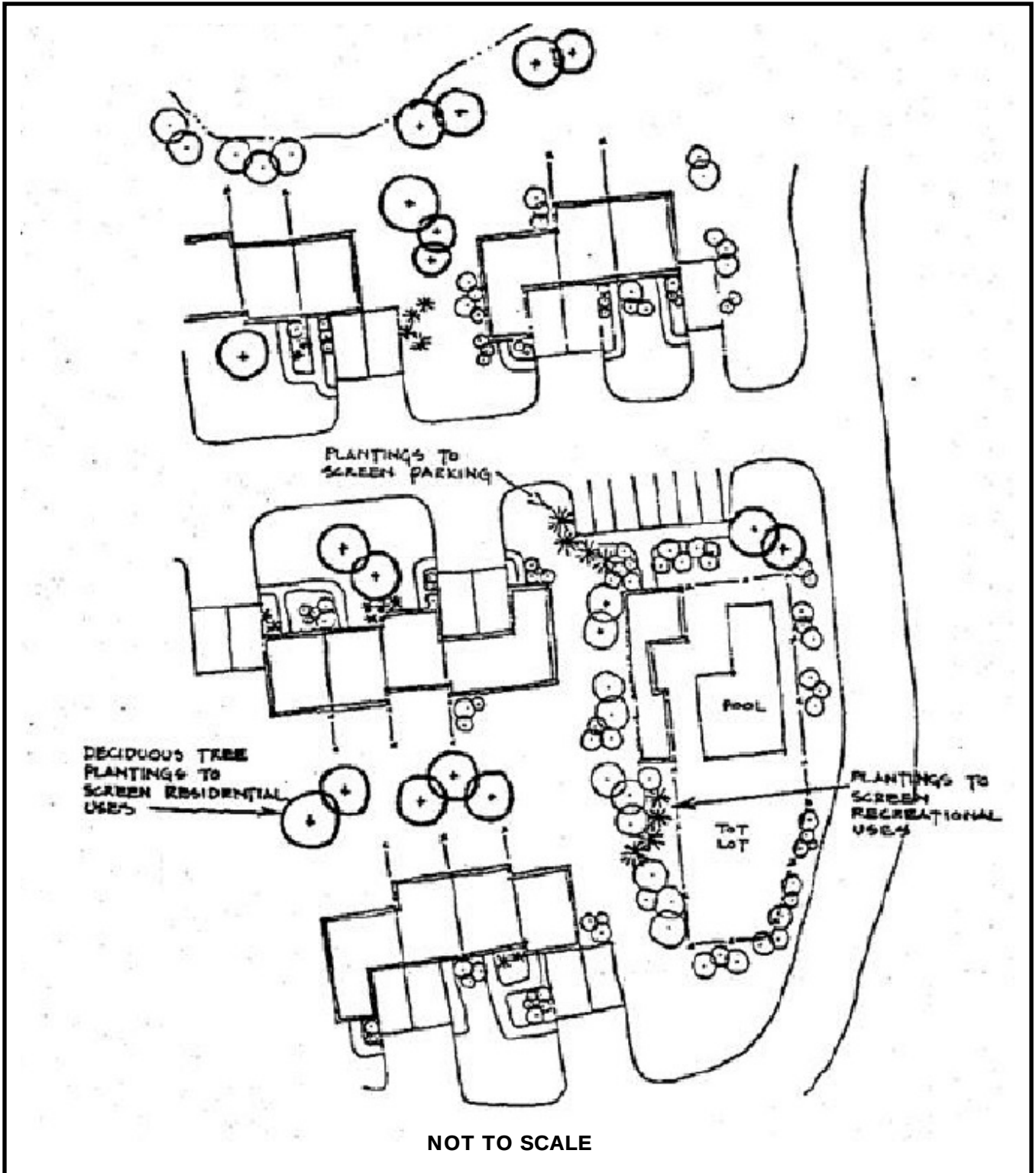


PLAN VIEW

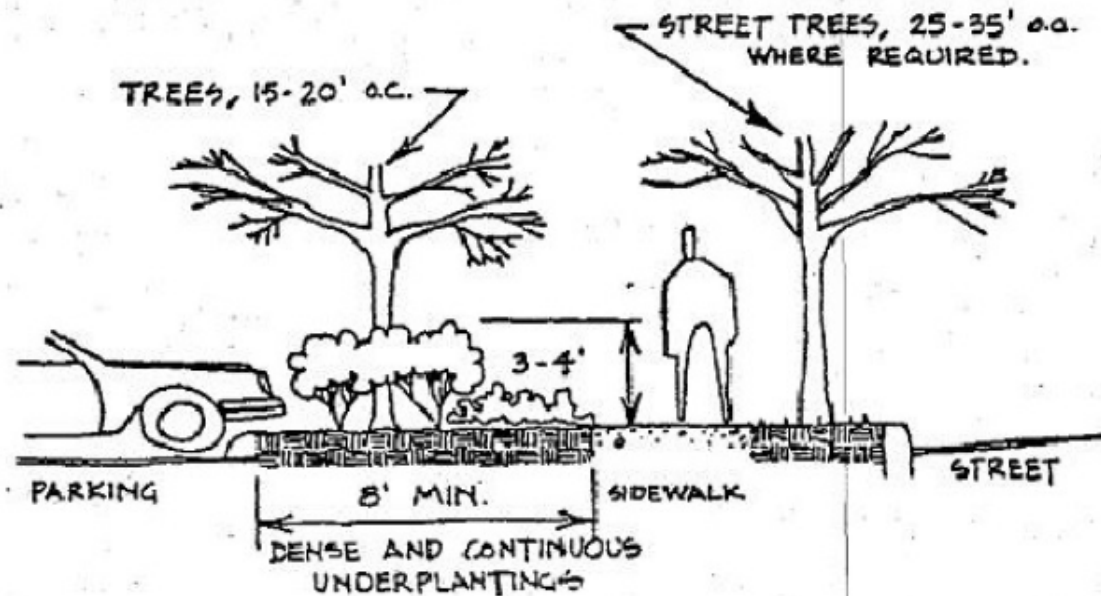
SLOPED TYPE "C" TREE WELL IN SIDEWALK WITH NO ESPLANADE

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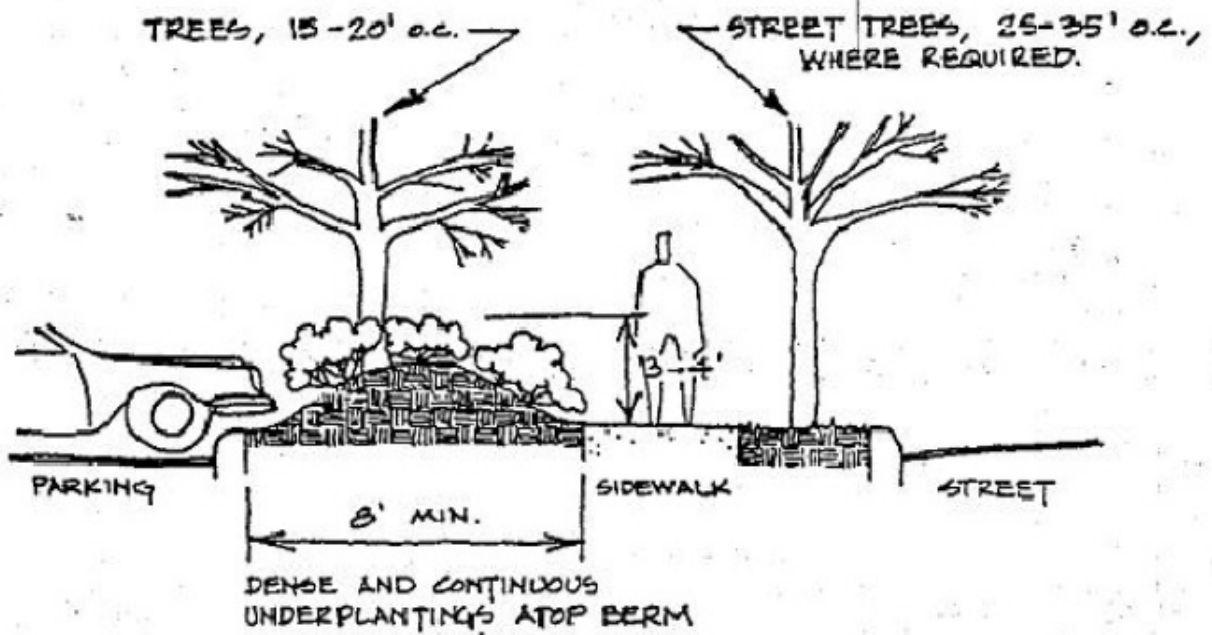
DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	LANDSCAPING AND LANDSCAPE PRESERVATION STANDARDS - SECTION IV	FIGURE:
	SLOPED TYPE "C" GRANITE TREE WELL IN SIDEWALK WITH NO ESPLANADE		IV-4C



DATE: AUGUST 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	STDS FOR LANDSCAPING AND PRESERVATION OF EXISTING VEGETATION SECTION IV	FIGURE:
REVISED:	INTERIOR SITE LANDSCAPING		IV-5



A. Screening from Street (section)



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CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

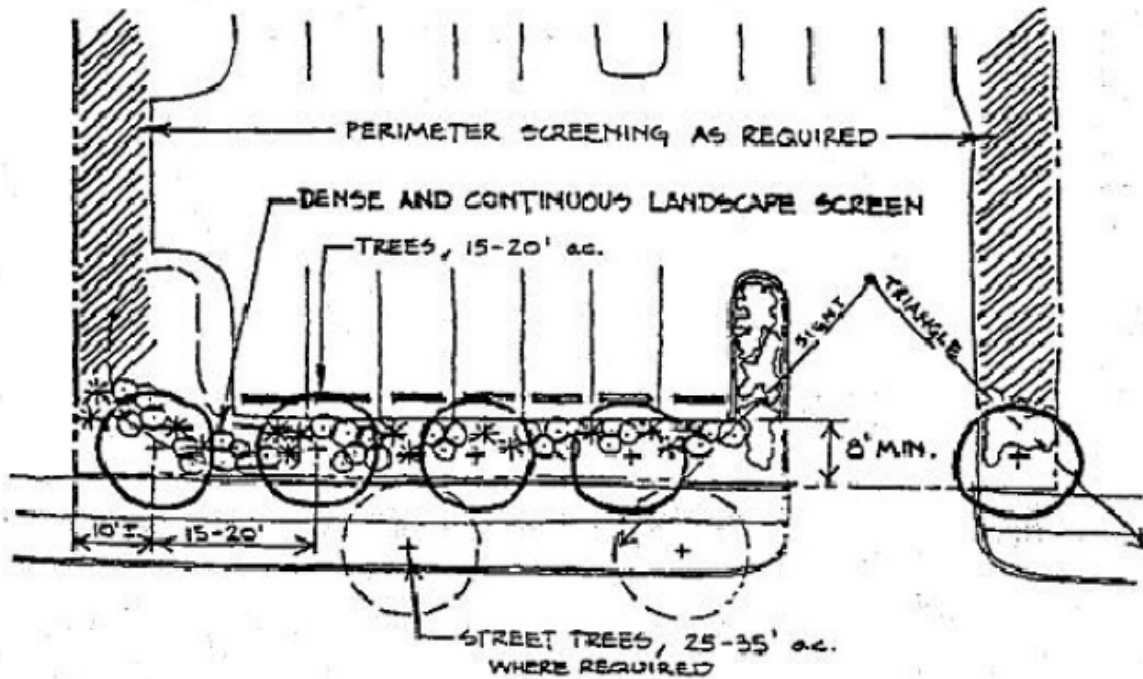
STDS FOR LANDSCAPING
AND PRESERVATION OF
EXISTING VEGETATION
SECTION IV

FIGURE:

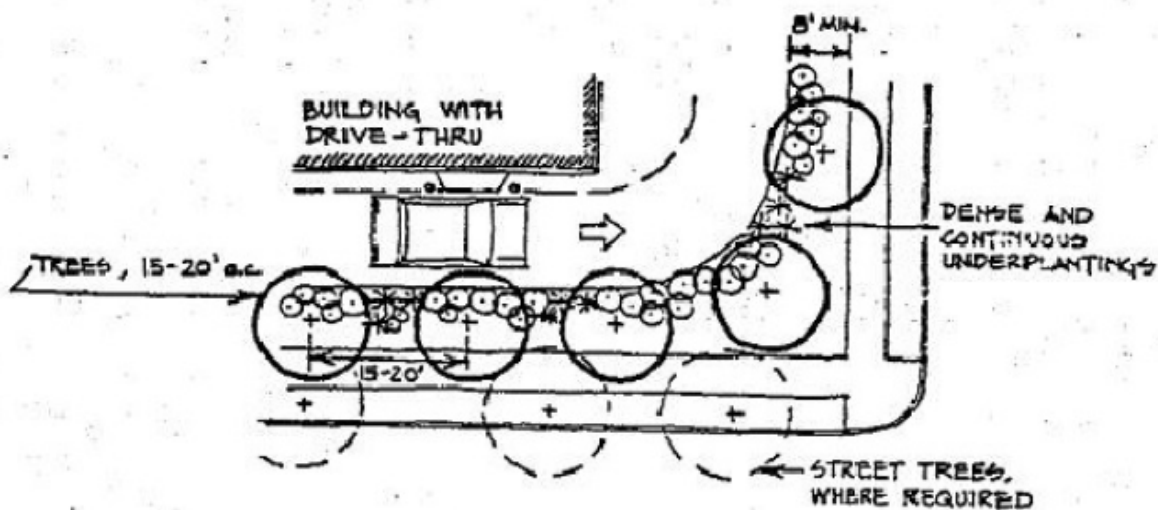
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PARKING LOT SCREENING FROM PUBLIC VIEW

IV-6A



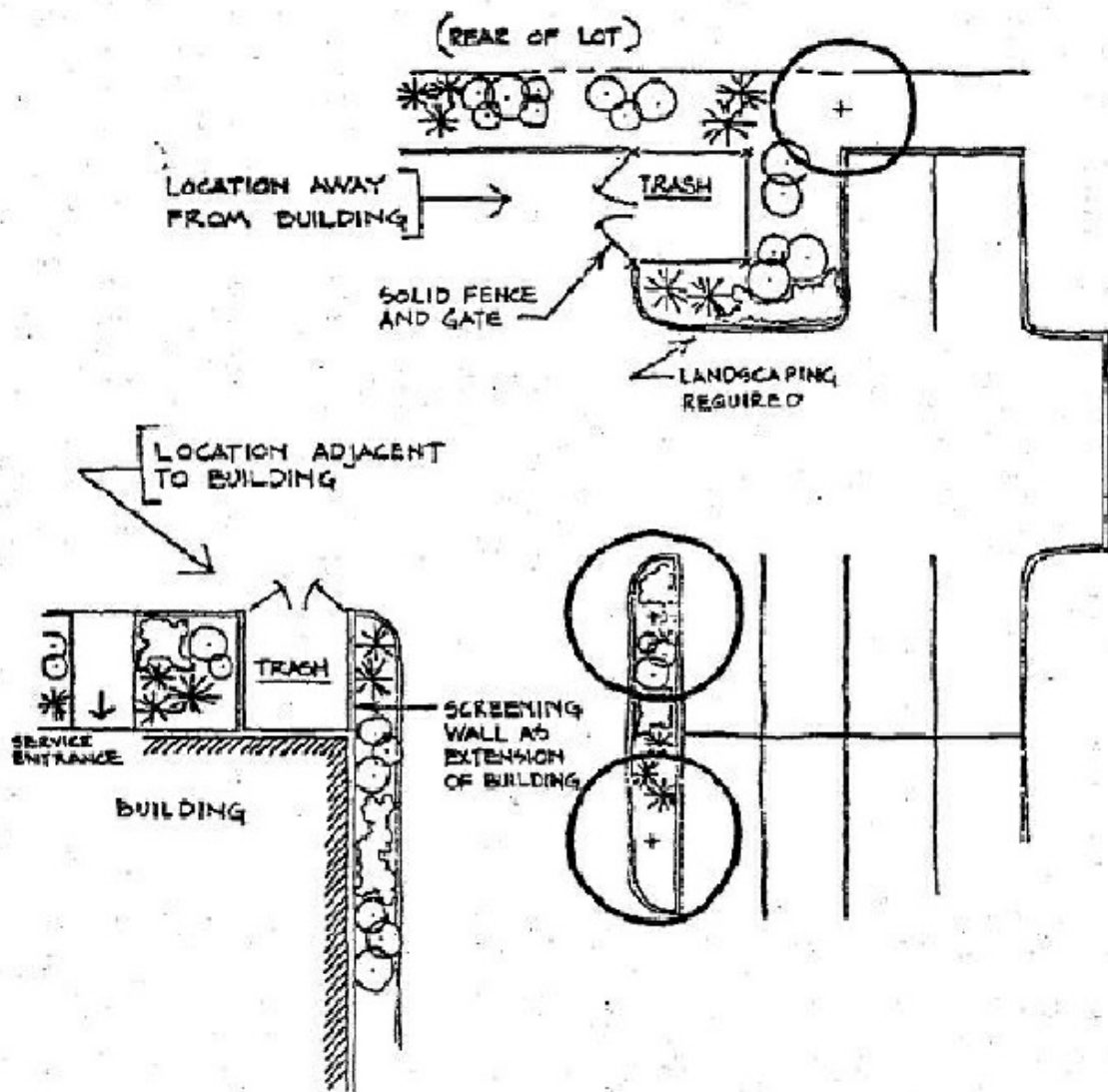
C. Screening from Street (plan)



D. Screening of Drive-Thru (plan)

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DATE: AUGUST 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	STDS FOR LANDSCAPING AND PRESERVATION OF EXISTING VEGETATION SECTION IV	FIGURE:
REVISED:	PARKING LOT SCREENING FROM PUBLIC VIEW		IV-6B



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CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

STDS FOR LANDSCAPING
AND PRESERVATION OF
EXISTING VEGETATION
SECTION IV

FIGURE:

REVISED:

SCREENING OF ACCESSORY SITE ELEMENTS

IV-7



4. LANDSCAPING STANDARDS

~~4.1. PURPOSE~~

~~The Landscaping Standards Section provides guidance on how new development should ensure that site landscaping establishes attractive, low-maintenance outdoor spaces that incorporate site definition and screening to achieve one or more of the following outcomes; promote a healthy and biodiverse urban ecosystem, further City goals around climate resiliency and mitigation, create or enhance areas of native habitat, improve stormwater treatment, and/or increase local food production.~~

4.21. GENERAL LANDSCAPING STANDARDS

~~4.2.1. Applicability.~~ The following types of development are subject to the standards of ~~§4.2.~~ of the Technical Manual:

- ~~A. Minor and Major Site Plans;~~
- ~~B. Minor Residential; and~~
- ~~C. Subdivisions.~~

4.21.21. Plant Materiality.

A. Plants.

1. Selection.
 - a. All trees and shrubs shall comply with the standards set forth by the American Standard for Nursery Stock (ANSI Z60.1 - 2004). These standards are available through the Department of Public Works.
 - b. All trees and shrubs shall be nursery grown, healthy, free of disease, and insect pests, and shall have a well-developed and compact root system. Plant material showing signs of a lack of proper nursery care or a lack of pruning or cultivation, or which is not true to name will be classified as collected stock regardless of its source and shall be rejected.
 - c. Proposed trees and shrubs installed as part of the landscape plan shall be comprised of at least 50% native species.
 - d. The developer shall be responsible for preventing the spread of existing or the introduction of new invasive species on the site, as identified below. If, within one (1) year following construction, invasive species are identified on the site or if such species are pre-existing on the site but are determined to have spread by the City Arborist, the applicant shall be required to implement appropriate control measures prior to the release of the defect guarantee. Accepted mechanical and chemical control methods are provided by the Maine Natural Areas Program (MNAP) of the Maine Department of Conservation in their Invasive Plant Fact Sheets (available through the Department of Public Services and through the MNAP

program website: <http://www.maine.gov/doc/nrimc/mnap/features/invasives.htm>. The following plant species are recognized as invasive species that are characteristically adaptable, aggressive, and have a high reproductive capacity:

- i. Asiatic Bittersweet (*Celastrus orbiculata*);
 - ii. Autumn and Russian Olive (*Elaeagnus umbellata* & *angustifolia*);
 - iii. Black Swallowwort (*Cynanchum louiseae*);
 - iv. Brazilian Waterweed (*Egeria densa*);
 - v. Common and Glossy Buckthorn (*Rhamnus cathartica* and *Frangula alnus*);
 - vi. Common Reed (*Phragmites australis*);
 - vii. Eurasian Milfoil (*Myriophyllum spicatum*);
 - viii. Fanwort (*Cabomba caroliniana*);
 - ix. Garlic Mustard (*Alliaria petiolata*);
 - x. Hydrilla (*Hydrilla verticillata*);
 - xi. Japanese Barberry (*Berberis thunbergii*);
 - xii. Japanese Honeysuckle (*Lonicera japonica*);
 - xiii. Japanese Knotweed (*Fallopia japonica*);
 - xiv. Japanese Stilt Grass (*Microstegium vimineum*);
 - xv. Lesser Celandine (*Ranunculus ficaria*);
 - xvi. Mile-a-Minute Weed (*Polygonum perfoliatum*);
 - xvii. Morrow and Tartarian Honeysuckle (*Lonicera morrowii* & *tartarica*);
 - xviii. Multiflora/Rambler Rose (*Rosa multiflora*);
 - xix. Porcelainberry (*Ampelopsis*);
 - xx. Milfoil (*Myriophyllum heterophyllum*);
 - xxi. Water Chestnut (*Trapa natans*);
 - xxii. Norway Maple (*Acer platanoides*); and
 - xxiii. Yellow-flag Iris (*Iris pseudacorus*).
- e. Trees selected from the Recommended Tree List (Figure IV-1) shall conform, at a minimum, to the sizes specified on the list.
- f. All upright deciduous and evergreen shrubs shall be a minimum of 3 feet tall at mature height. All spreading evergreen and deciduous shrubs shall be a minimum of 2-2.5 feet in width at maturity.
- g. Ground covers planted in lieu of grass shall be planted at a level of coverage equivalent to one complete growing season. Grass areas shall be planted with Kentucky Bluegrass (*Poa pratensis*), Red Fescue (*Festuca rubra*), Tall Fescue (*Festuca arundinacea*) or Perennial Ryegrass (*Lolium perenne* L.). Rolled turf, erosion reducing net or suitable vegetation along with landscaping shall be used in swales or other areas subject to erosion.
- h. Mulching material shall be a minimum of three (3) inch deep wood chip or bark mulch. Inorganic mulches are not permitted.
- i. No plantings used to satisfy City landscaping requirements shall be comprised of inorganic materials.

4.13.32. Street tTrees.

- A. Selection, arrangement and spacing of trees proposed in the City right of way and/or private roadway, and/or within 20 feet of the edge of the public or private right-of-way and visible to members of the public, shall be coordinated with the Portland City Arborist or their designee. Tree species shall be selected according to the City of Portland recommended tree list (Figure IV-1).
- B. Trees proposed in the sidewalk shall be planted in tree wells, as shown in Figures IV-4a, 4b, and 4c and as required by the City Arborist based upon site context and prospects for tree survival.
- C. Adequate soil volume, as determined by the City Arborist, shall be required to ensure tree survival. ~~shall also be required, as determined by the City Arborist.~~
- D. ~~Table 3-3.3.A. identifies the required number of street trees by development type and Table 3-3.3.B. lists eligible reductions and alternatives to the required number of street trees.~~

TABLE 4-3.3.A. STREET TREE REDUCTIONS AND ALTERNATIVES

Reduction or Alternative	Description of Reduction or Alternative
Retention of Existing Healthy Street Tree not identified by the City of Portland or State or Maine as an Invasive Species	The following reductions can be made based on the caliper in inches at Diameter Breast Height (DBH) of the proposed tree: Over 12 inches DBH: Reduction of 3 trees >8-12 inches DBH: — Reduction of 2 trees 6-8 inches DBH: — Reduction of 1 tree
Retention of On-Site Existing Healthy Trees within 20 feet of the property line and visible from the public right-of-way	
Installation of other planted features in the public right-of-way or within 10 feet of the public right-of-way	Planted features must be visible from the public right-of-way and be documented to the satisfaction of the City Arborist and Planning Authority to meet the objectives of the street tree requirement.
Off-Site Planting Within Same Neighborhood or Area of City with Minimal Tree Coverage	Locations may include esplanades, sidewalks and existing empty street tree wells or planting strips, and also places such as parks, playgrounds, and other areas where public benefit would be derived from the addition of new trees. Evidence that the planting site was unlikely to be redeveloped in the near future and that the trees would be protected and maintained are required.
Waiver: Contribution to the Tree Fund	When it is demonstrated that meet the street tree requirements as stated or through the reductions listed above in Table 4.6.2., contributions to the City of Portland Tree Fund shall be made as stated below: Contribution for new street tree: \$400 Contribution for tree to replace feature mature tree: \$100/inch diameter of the feature mature tree (\$400 shall be subtracted from total if the Applicant plants a replacement tree for the feature mature tree)

4.1.3. Street tree alternatives

A. Retention of existing trees.

1. Where an applicant is able to retain existing healthy and non-invasive trees within the public right-of-way, or within 20 feet of the edge of the right-of-way, such trees shall count towards a project's street tree requirement as described below, based upon the tree's diameter at breast height (DBH).

<u>Over 12 inches DBH</u>	<u>3 Street Trees</u>
<u>8 – 12 inches DBH</u>	<u>2 Street Trees</u>
<u>6 – 8 inches DBH</u>	<u>1 Street Tree</u>

4.1.4. Contribution to the tree fund.

Where the planting of required street trees is demonstrated to be infeasible, the applicant shall contribute to the City of Portland Tree Fund at a ratio of \$400 per required street tree.

4.31.45. On-site landscaping, screening and buffers.

A. Required on-site trees & plantings.

1. In all zoning districts with minimum required front setbacks, one new shade tree is required every 30 linear feet of street frontage as measured along the property line. Alternatives to meeting this requirement are included below in Table 4.3-4.
2. Required on-site plantings may be installed anywhere on the site (including a green roof) and may be planted in any arrangement.
- 2.3. The retention of existing and healthy shade trees or plantings, not identified by the City of Portland or State of Maine as an invasive species, shall be permitted to count toward this requirement.

4.13.56. Buffers & sScreening.

A. Parking Lot Screening along Public Right-of-Way. Where all or a portion of a surface parking area is located within 30 feet of a public right-of-way, and is not separated from the public right-of-way by a structure, the parking area shall include a buffer area five feet in width and utilize one of the following screening methods within five feet of the street line:

1. A masonry wall (excluding concrete masonry unit blocks) 30-36" in height with one planting per 10 feet of street frontage; or
2. A decorative wrought-iron-style fence 30-42" in height, with masonry piers that can extend to 48" in height but do not exceed 18" in width, and do not occupy more than 20% of the length of the fence with one planting per 10 feet of street frontage, or
3. A continuous line of shrubs that achieves 80% opaque screening 30-48" in height during summer months.



B. Walls & fences.

1. Fences and walls visible from the public right-of-way must be of high architectural quality.
2. Chain link and wire mesh fences shall not be directly visible from the public right-of-way and shall be vinyl coated and dark in color. Chain link fences shall meet the following design standards:
 - a. **Residential Development:** Be a minimum of 6-gauge fence fabric for
 - b. **Commercial/Industrial Development:** Be a minimum of 9-gauge fence fabric and mounted on schedule 40 pipe posts
3. Masonry walls shall be constructed of stone, brick or other durable and attractive materials. Concrete block walls are not permitted except where variety in color, design and detailing of the materials are of high architectural quality.
4. Electrified or barbed fencing is not permitted.

~~CB. Side and Rear Lot Line Buffers & Screening.~~

~~**Applicability.** Landscaped buffering and screening shall be provided in accordance with Table 4.4.5. along each side or rear lot line where any of the following conditions occur:~~

2. Buffer standards.

- a. **General.** Where required, buffer areas shall be comprised of existing trees and vegetation, new landscaping or a combination thereof to create a dense, mixed buffer incorporating both understory and tree canopy layers. ~~While primarily of benefit from a ground level pedestrian viewpoint, S~~such screening should also effectively provide screening when viewed from upper floors of surrounding properties, where applicable. ~~Breaks in required buffers are permitted to maintain or create sufficient access for existing and/or proposed bicycle, pedestrian, and/or shared use facilities.~~
- b. **Vegetative ~~b~~Buffers.** New shrubs shall be spaced six (6) to eight (8) feet apart. Buffers between contrasting land uses may incorporate earthen berms not exceeding 4:1 slope, opaque fencing of high architectural quality, masonry wall or a combination thereof, in addition to landscape plantings. Where fencing or masonry wall is proposed as part of a buffer, less landscaping density is acceptable; however, buffers shall still include trees, shrubs and other vegetation.
- c. **Parking areas.** Landscaping shall be incorporated into the development of surface parking to reduce adverse environmental and aesthetic impacts, to shade pavement to reduce heat island effect and to screen parking areas from public view. Plant materials shall be selected for appearance, durability, and tolerance to salt. Figures IV-6a and IV-6b provide examples of parking lot screening.

Landscaping that abuts areas of vehicular use shall be adequately protected and separated from vehicles. Protection should take the form of physical or visual separation, such as curb stops, bollards, or continuous curbing. Protection shall be designed with adequate visibility and durability in order to withstand normal snow plowing operations.

Landscaped islands shall be curbed and a minimum of eight (8) feet in width, not including curbing. The incorporation of bioretention into landscaped islands is strongly encouraged.

- d. **Snow storage.** Snow storage areas may be located in landscaped areas provided that appropriate landscape materials are selected which can withstand such snow storage. Snow storage shall not be located in a stormwater treatment measure, shoreland zoning setback buffers, or where it would adversely impact the functionality of bioretention or other stormwater management measures.

3. **Installation and ~~m~~Maintenance of ~~p~~Plantings.**

~~a. Landscaping, earth moving and grading activities shall be performed according to standards accepted good planting and grading procedures and in accordance with the approved Site Plan, Subdivision Plat, Grading Plan and Landscape Plan.~~

~~b.a.~~ No plant shall be moved after the bud break unless so authorized by the City Arborist or their designee. Planting periods are between April 1st and ~~to~~ July 1st and/or September 1st and November 1st.

~~c.b.~~ Tree planting and other landscaping for subdivisions that cannot be installed prior to ~~the~~ release of the performance guarantee must be insured by a defect bond as described in ~~Section~~ Article 135 of the City Land Use Code.

~~d.c.~~ All bare soil areas shall be vegetated and/or mulched prior to the issuance of a Certificate of Occupancy.

~~d.~~ New vegetation that shows signs of construction damage within a one-year period following construction, including but not limited to bark damage or excessive root damage, grade changes other than those originally indicated in the approved grading plan, soil compaction due to heavy equipment traversing closely, or general decline due to mechanical or natural conditions shall be rejected and must be replaced prior to the release of any defect guarantee.

~~e. Slopes with between a 5% and 50% grade change shall incorporate installation of a mixture of vegetation, organic mulch and/or erosion control seed mix.~~

~~Stabilization of slopes greater than 50% must incorporate biotechnical and/or structural methods including but not limited to terracing rip rap or retaining walls in addition to vegetation. Retaining walls, if four (4) feet in height or greater from the bottom of the footing to the top of the wall and/or if supporting a surcharge, must be designed by a licensed engineer and require a City of Portland Building Permit.~~

5. STORMWATER MANAGEMENT

5.1. INTENTION

The City of Portland has adopted local Stormwater Management Standards to address the effects of urban development on both the quantity and quality of stormwater runoff in order to protect and improve water quality, meet Clean Water Act requirements, and to increase the City's long term climate resilience.

The City's local stormwater management standards rely on definitions and technical design standards listed in the Maine Department of Environmental Protection (Maine DEP) Chapter 500 Stormwater Management rules (herein referred to as "Chapter 500"). The City's local standard aims to address a higher percentage of development and redevelopment projects in Portland and ensure that stormwater management is provided for a higher percentage of redeveloped land in Portland over time.

The Technical Manual standards support the review criteria contained in Portland's site plan and subdivision ordinances and with the stormwater management requirements within Chapter 32. Please see Chapter 32 of the City Code of Ordinances for regulations governing stormwater systems, illicit discharges and Post Construction Stormwater Management Plans in Portland.

5.2.1. APPLICABILITY

5.12.1. Projects requiring municipal review only.

All applicable City of Portland stormwater management standards apply as specified below.

5.12.2. Projects requiring state permits and municipal review.

Projects that require a Stormwater Permit pursuant to 38 M.R.S.A. Sec. 420-D (Stormwater Management Law) ~~and projects that may substantially affect the environment and require or~~ a site location of development (Site Law) permit pursuant to 38 M.R.S. A Sec 481-490 shall be reviewed for conformance with Chapter 500 under the City's Delegated Review Authority or by the Maine Department of Environmental Protection. All applicable local City of Portland Standards also apply as specified below. In the case of any overlap or ambiguity between local and state standards, the most stringent requirements shall apply.

5.12.3. City of Portland stormwater management thresholds.

The following development, redevelopment and subdivision proposals shall submit a Stormwater Management Plan pursuant to the standards and requirements listed below:

A. ~~Minor site plans~~Projects that result in the creation of greater than 1,000 square feet of new impervious area.

B. ~~Minor site plans~~Projects that result in greater than 10,000 square feet of disturbed area.

~~C. Major site plans.~~

~~D.C.~~ Projects that include greater than 5,000 square feet of non-roof redeveloped impervious area.

— Other projects where the City of Portland determines that special conditions warrant a stormwater management plan.

~~Projects that require a Stormwater Permit pursuant to 38 M.R.S.A. Sec. 420-D (Stormwater Management Law), a development that may substantially affect the environment and requires a site location of development (Site Law)~~

permit pursuant to 38 M.R.S.A. Sec 481-490; and certain projects that may be eligible for license by rule for the infiltration of stormwater pursuant to 38 M.R.S.A. Sec 413;

Exemption:

1. ~~Minor residential, as defined in the Technical Manual – Section 16.~~

Exemptions, Special Conditions and Additional Notes:

- A. Small Scale Residential Projects, defined as the development of a residential building with 4 units or less, are exempt from requirements Sec. 5.2.2, Sec. 5.2.3, and Sec.5.2.4 as listed below and shall provide management in accordance with requirements stipulated in Section 5.2.5 “Small Scale Residential Project Requirements”.
- B. Projects that don’t otherwise exceed the thresholds listed above but propose to generate over 500 gallons of additional daily sewer flow and require a new stormwater connection into the City’s combined sewer system shall provide management in accordance with requirements listed in Section 5.2.4 “Minimum Detention Volume Requirements”.
- C. The flooding standard analysis (5.2.3) for subdivision projects which are required to construct a new public street shall factor into the analysis developed and impervious area for each proposed lot. This is to ensure the full project build out does not result in down-stream flooding at the conclusion of the project. Impervious area for each residential lot shall be determined by the maximum lot coverage as permitted by the City’s zoning regulations.
- D. The City’s Stormwater Management Standard utilizes Chapter 500 definitions.

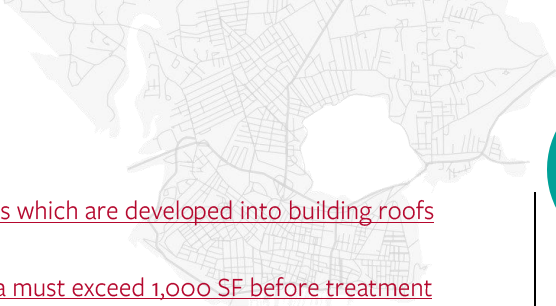
5.32. STORMWATER MANAGEMENT REQUIREMENTS

5.32.1. Erosion and sedimentation control

- A. Refer to requirements set forth in Section 12 of the Technical Manual and Chapter 32 of the City’s Code of Ordinances.

5.32.2. Water quality treatment requirements

- A. Stormwater quality treatment shall be provided for
 1. Projects which do not require a State Stormwater Permit:
 - a. 95% of new impervious area
 - b. 80% of new developed area
 - c. ~~50~~95% of non-roof redeveloped impervious area
 2. Projects which do require a State Stormwater or SLOD Permit:
 - a. 95% of new impervious area
 - b. 80% of new developed area
 - c. ~~50~~95% of non-roof redeveloped impervious area
 - d. Total redeveloped area as required by Chapter 500
- B. Additional notes.
 1. Stormwater treatment systems must be designed in accordance with Chapter 500 rules and the Maine DEP Stormwater BMP Manual.

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2. Water quality treatment is not required for existing impervious areas which are developed into building roofs unless otherwise required by a state stormwater permit.
 3. The total amount of non-roof redeveloped and new impervious area must exceed 1,000 SF before treatment is required.
 4. Redeveloped public street right of way area is exempt from the treatment, flooding and minimum detention volume requirements.
 5. Treatment requirements for the linear portions of projects, as defined in Chapter 500, may be reduced as allowed by Chapter 500.

5.23.3. Flooding standard requirements

- A. Comply with the Chapter 500 Flooding Standard.

5.23.4. Minimum stormwater detention volume requirement

- A. Applicable projects proposing to make a stormwater connection into the City's separated storm drain system shall:
1. Provide a minimum on-site stormwater detention volume equal to 1" of rainfall times the TOTAL impervious area within the project's disturbance limits.
 2. Control stormwater discharge rates into the City's separated storm drain system to a maximum flow rate of 0.1 CFS until the on-site detention system reaches its design capacity.
- B. Applicable projects proposing to make a stormwater connection into the City's combined sewer system shall:
1. Provide a minimum on-site stormwater detention volume equal to the greater of:
 - a. 1" of rainfall times the TOTAL impervious area within the project's disturbance limits;
 - b. The project's proposed increase in average daily sewer flow being added to the combined sewer system.
 2. Control stormwater discharge rates into the City's combined sewer system to a maximum flow rate of 0.1 CFS until the on-site detention system reaches its design capacity.
- C. Additional notes.
1. With adequate calculation documentation stormwater storage provided for water quality treatment systems may be used to meet the ~~minimum~~overall detention volume requirements.
 2. The City's separated storm drain system shall include all municipal underground and overland conveyance systems including pipes, ditches, swales and street gutters.

5.23.45. Urban impaired stream requirements

- A. **Applicable projects located within Urban Impaired Stream Watersheds.**

Comply with the Urban Impaired Stream Standard pursuant to Maine DEP Chapter 500 Stormwater Management Rules if they are located within the following watersheds:

1. Capisic Brook,
2. Fall Brook,
3. Nasons Brook,
4. Dole Brook
- ~~4.5.~~ As listed in the most recent version of the Maine DEP Chapter 502 Rules.

~~B. Developments which will result in the creation of up to 1,000 square feet of new impervious area or up to 10,000 square feet of new non impervious developed area, as defined under Definitions in the Maine DEP Chapter 500, are considered de minimis and are exempt from the Urban Impaired Stream Standard.~~

~~C.B.~~ The City of Portland has an approved Compensation Fee Utilization Plan (CFUP) and can therefore receive in-lieu-fee payments to meet the UIS Standard

~~D.C.~~ Development within the Long Creek watershed shall be subject to the requirements set forth by the Long Creek Watershed Management District.

5.23.5. Small-scale residential project requirements

~~A. Small scale residential projects are required to provide stormwater management systems to manage at least 75% of new impervious area generated by the project.~~

~~B. Small scale residential systems shall generally be designed and implemented in accordance with residential stormwater BMP design criteria located in the City of Portland's Stormwater credit manual.~~

~~C. Residential stormwater credits will be available for these properties as specified in the stormwater credit manual. Stormwater credit requests shall be submitted to the Department of Public Works. Small scale residential applicants are encouraged to apply for credits during the site plan review process.~~

~~D. Stormwater maintenance agreements **are not required** for small scale residential projects. Any projects which receive residential stormwater credits from the Department of Public Works will be required to provide a self-verification stormwater maintenance form to DPW annually in order to keep credits active.~~

~~E. Information pertaining to the City's stormwater credit program can be found here:
<https://www.portlandmaine.gov/1101/Stormwater-Credits>~~

5.23.6 Other chapter 500 requirements

~~A. All projects triggering stormwater management plans, except small scale residential projects, must also meet the following Chapter 500 Standards:~~

- ~~1. Easement and Deed Restriction Standards~~
- ~~2. Redistribution of Stormwater Discharges Standards~~
- ~~3. Discharge to Wetlands Standards~~
- ~~4. Discharges to Public Storm Sewer Standards.~~

5.4- SUBMISSION REQUIREMENTS

Applicants are required to submit a stormwater management and drainage plan as part of development review application and to provide the following submission items to demonstrate compliance with the applicable stormwater management standards:

5.4.1. Urban impaired stream standard requirements.



Calculations for the Compensation Fee or Mitigation Credit per the tables provided in Chapter 500 Rules and other associated Maine DEP regulations. (Note: The City of Portland has an approved Compensation Fee Utilization Plan (CFUP) and can therefore receive in lieu fee payments to meet the UIS Standard.)

5.4.2. Water quality treatment requirements.

Written narrative demonstrating compliance, site plans showing grading and drainage infrastructure, site plan showing water quality treatment area(s) with table showing compliance, BMP sizing calculations, construction details, and a Post-Construction Stormwater Inspection & Maintenance Plan per Maine DEP Chapter 500 Appendix B with reporting requirements per Chapter 32 of City of Portland Code of Ordinances, and a Stormwater Maintenance Agreement. The submission documents should include confirmation of design from the manufacturer for any proprietary systems.

5.4.3. Flooding standard requirements.

Sub-catchment plans with flow paths, full hydrology computations/model output of pre- and post-development conditions, summary of pre- and post-development flowrates, and a written request for waiver with rationale for waiver as noted in Chapter 500 (as applicable). The submission documents should include confirmation of design from the manufacturer for any proprietary systems.

5.4.4. Minimum stormwater detention volume requirements.

Applicable drainage calculations, modeling information, plans and details as required to prove that the detention volume and maximum stormwater outflow control requirements are being met. The submission documents should include confirmation of design from the manufacturer for any proprietary systems. Stormwater detention systems shall be included in the project's overall post-construction stormwater inspection & maintenance plan and stormwater maintenance agreement.

5.4.5. Small-scale residential project requirements.

Provide plans and details as stipulated in section 16 of the Technical Manual. The provided site plan must depict the location and sizing of the proposed residential stormwater management system. Details of the proposed systems must also be provided. A short narrative, with supporting calculation documentation, shall be provided to demonstrate that the project is complying with standard 5 III F.



6. SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS

6.1. TECHNICAL REFERENCE

6.1.1. The following technical publications are recognized by the City of Portland for use in the design, construction and testing of sanitary and stormwater systems:

- A. *Technical Report #16 (TR-16): Guides for the Design of Wastewater Treatment Works*, Prepared by the New England Interstate Water Pollution Control Commission available for review at the Department of Public Works or online at www.neiwpcc.org/tr16guides.asp; and
- B. *Maine Department of Transportation (MDOT) Standard Specifications for Highways and Bridges*, Current Edition.

6.2. SANITARY STANDARDS AND SPECIFICATIONS

6.2.1. Sewer and storm drain systems shall be planned and constructed in accordance with the regulations contained in Chapter 24 of the City Code of Ordinances.

6.2.2. The information presented below are City of Portland exceptions to *TR-16* or additional required standards:

- A. The introduction of non-contaminated water such as rain water, non-contact cooling water, groundwater from foundation drains, sump pumps, surface drains, or any other sources of inflow shall not be allowed to discharge into a sewer which conveys sanitary waste unless approved by the Department of Public Works Water Resources Manager or their designee;
- B. Appeals will be considered by the Director of Public Works. Refer to §24-44 of the City Code (Public sewer connection limitations);
- C. It is not permissible to backfill any excavation with frozen materials, organic materials, clay or blasted ledge. The maximum size of backfill material shall not exceed six inches (6"). Please refer to Division 2 (Street Opening Permits) in the City Code;
- D. The Department of Public Works shall be responsible for televising all new sewer construction for acceptability as soon as backfilling has been completed and access is available. The permittee will be invoiced for these services. Information on current rates is available in Chapter 24 (Sewer Ordinance);
- E. Permits to connect to the municipal stormwater and sanitary sewer system are required and may be obtained from the Department of Public Works; and
- F. Covered or enclosed parking areas, mechanical rooms, garages (parking areas not exposed to rain and snow) shall direct surface drainage to a sanitary sewer. Storm water from outside of these areas shall be directed away from this covered area so that additional storm water is not directed to the sewer. Drainage from these areas shall be collected by an oil/grit separator, as shown in Figure [VIII-20](#) or an approved equivalent.

6.3. SANITARY MANHOLES

6.3.1. All manholes shall be designed in conformance with City of Portland standards as illustrated in Figure [HVI-02](#).

6.3.2. When constructing sanitary manhole channels, if the vertical difference between the invert elevation of the manhole channel and the invert elevation of the sewer pipe connecting to such manhole is two vertical feet (2') or greater, a standard City of Portland internal drop manhole shall be provided. Such drop manholes shall conform to the engineering specifications illustrated in Figure [VIII-03](#). A minimum of two stainless steel pipe anchors shall be used and the manhole diameter shall be five feet (5') minimum.

6.3.3. Sanitary service laterals that are four inches (4") or 6 inches (6") shall not be connected into a sanitary manhole and only into a sanitary sewer main.

6.3.4. Sanitary manholes shall include frames and covers as shown in Figure [VIII-05](#) or an approved equivalent. Both the frame and riser shall be machined to assure a proper fit.

6.3.5. Manhole covers shall be marked "SEWER".

6.3.6. Manhole frames shall be raised to grade using only brick and mortar as shown in Figure [VIII-02](#) or approved equal.

6.3.7. Riser rings without tabs as shown in Figure [VIII-06](#) may be used to adjust manholes to grade with approval of the Department of Public Works.

6.3.8. All new sanitary manholes shall be vacuum tested before backfilling. Refer to *TR-16* for testing standards.

6.3.9. Steps are not required in sewer manholes. Any structures delivered to the site with step "holes" shall be filled with mortar.

6.4. SANITARY GRAVITY PIPES

6.4.1. The types of allowable pipe used for purposes of sanitary sewers shall be:

- A. PVC ring type sewer pipe (SDR 35 or equivalent, minimum PS-46 rating);
- B. PVC ring type sewer pipe meeting ASTM F 789 or equal to SDR;
- C. Ductile Iron Pipe (DIP);
- D. High performance polypropylene dual wall sewer pipe (ADS SaniTite HP or equal) meeting ASTM F2736 and have a minimum pipe stiffness of 46 psi with pipes sizes twelve through thirty inches (12"-30"); or
- E. High performance polypropylene dual wall sewer pipe (ADS SaniTite HP or equal) meeting ASTM F2764 and have a minimum pipe stiffness of 46 psi with pipes sizes thirty through sixty inches (30"-60").

6.4.2. Minimum velocities for sanitary pipes shall not be less than two feet per second (2 ft./sec.).



6.4.3. All PVC connections shall be made with Solid PVC couplings.

6.4.4. The classes of pipe indicated shall be minimum, however the actual class of pipe used shall be determined by soil weight and compaction loads applied to such pipe in accordance with standard engineering design criteria and subject to the approval of the Department of Public Works.

6.5. FORCE MAINS

6.5.1. Force mains four inches (4") or greater shall terminate at a transition manhole and flow by gravity within a minimum sized eight-inch ("8") pipe to a City manhole.

6.5.2. Force mains less than four inches (4") may terminate to the nearest precast concrete manhole as directed by the City.

6.5.3. Cores into existing manholes shall be made with coring machines and have link seal or equivalent wall penetration seals.

6.5.4. Termination of force mains three inches (3") or less may be permitted into existing City-owned manholes if reconstruction or replacement is performed, depending on the material and condition of the existing manhole as determined by the Department of Public Works.

6.5.5. All force mains shall be at a minimum HDPE SDR-21 made with fully restrained connections or equal. Piping pressure ratings shall be at least two (2) times the operating pressure of the system.

6.5.6. Force main discharge shall be directed into the channel in the direction of gravity flow.

6.6. BUILDING SEWER LATERALS

6.6.1. Construction of building sewers and drains shall conform to Chapter 24 (Sewers) of the City Code of Ordinance.

6.6.2. All building sewer laterals shall have a minimum diameter of four inches (4") and a minimum slope of one eighth-inch per foot (1/8 in./ft.) installed, as shown in Figure [VIH-12](#).

6.6.3. Typical pipe installation. Where a building sewer lateral is to be installed from the sewer main in the street to a property or building to be served, the lateral shall either extend to the building or to the street line of each lot to be served and the pipe shall be capped air-tight.

6.6.4. An accurate record of each building sewer, its location and its depth at the street line shall be kept by the developer's engineer and a copy of the same shall be provided to the Department of Public Works.

6.6.5. For new construction, the location of the building sewer at the street line shall be physically marked by the placement of a two-inch by four-inch (2" x 4") wooden stake placed at the end of the lateral end-cap and extending one foot (1') above finished grade.

6.6.6. Each stake shall be painted with a fluorescent paint and marked as storm or sanitary sewer with the depth indicated from grade to end-cap. A one-quarter-inch (¼”) thick by six-inch (6”) square ferrous metal plate or equivalent shall be placed horizontally one foot (1’) below grade over the end of the storm drain.

6.6.7. Building sewers and drains shall be connected to the main sanitary sewer line by the use of wyes, tee/woyes, Inserta-Tees or similar approved methods as determined by the Department of Public Works. A manhole shall be installed at the sewer main to connect building laterals when the building lateral is eight inches (8”) or larger in diameter. The lateral connections shall be installed from the main toward the lot where possible. Inserta-Tees can be installed on pipes where the main receiving pipe is at least twelve inches (12”) in size and the lateral is not more than half the size of the main receiving pipe in order to use a coring tee-type connection.

6.6.8. Before connecting new pipes into an existing sewer line, the contractor shall obtain a sewer connection permit from the Department of Public Works.

6.6.9. Accessory dwelling unit (ADU) sewer laterals. Per Chapter 24 of the City Code of Ordinance “A separate and independent building sewer shall be provided for every new building, and a separate connection shall be made for each building sewer.” The Department of Public Works recognizes the following scenarios in Table 6.6.9. for the successful connection of the proposed ADU to the public sewer system (See Figure VII-21 for additional information):

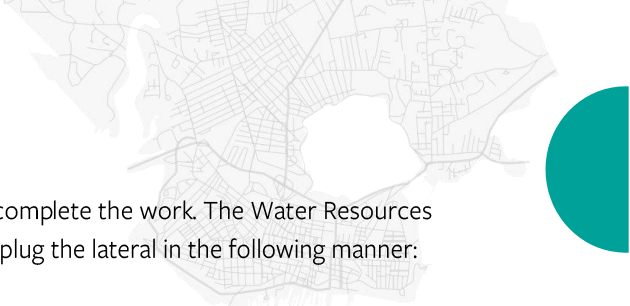
TABLE 6-A. PERMITTED SEWER CONNECTIONS FOR ACCESSORY DWELLING UNITS (ADU)

Type of ADU	Permitted Connection Strategy	Option in Figure VII-21
Internal or Attached ADU	ADU can connect to the primary residence sewer lateral internal to the primary residence	Option A
	A separate and independent sewer lateral will be provided from both buildings with independent connections to the sewer	Option B
Detached ADU	A separate and independent sewer lateral is provided from both buildings with a connection into a sewer manhole at the property line. The sewer manhole will be a minimum two-foot size providing access to each sewer lateral. The sewer manhole may be placed on the existing sewer lateral from the primary residence with the ADU sewer lateral being fed into it.	Option C

6.6.10. Backflow protection. Fixtures installed on a floor level that is lower than the next upstream manhole cover of the public, or private sewer shall be protected from backflow of sewage by installing an approved type of backwater valve. Fixtures on such floor level that are not below the next upstream manhole cover shall not be required to be protected by a backwater valve. Fixtures on floor levels above such elevation shall not discharge through the backwater valve. Cleanouts from drains that pass through a backwater valve shall be clearly identified with a permanent label stating “backwater valve downstream”.

6.6.11. All building floor drains shall discharge to the sanitary sewer system.

6.6.12. Plugging of abandoned sewer laterals. Prior to abandoning any storm water or sanitary sewer lateral, the applicant shall acquire a permit from the Department of Public Works. The applicant shall provide a 48-hour notice



the Public Works Dispatch stating the date and time the applicant wishes to complete the work. The Water Resources Division will mobilize to the site and allow one hour to assist the applicant to plug the lateral in the following manner:

- A. The location of the lateral to be plugged shall be televised by the applicant and witnessed by Water Resources staff on site;
- B. The applicant shall excavate or other means plug the lateral at the main where the lateral connects to the street sewer, as determined by City staff; and
- C. The lateral must be filled with pumped grout starting at the plug and filling out to the points of excavation.

6.7. STORM WATER MANHOLES

6.7.1. Storm water manholes shall include frames and covers as shown in Figure [HVI-o5](#) or an approved equivalent. Both the frame and riser shall be machined to assure a proper fit.

6.7.2. Manhole frames shall be raised to grade using only brick and mortar, as shown in Figure [HVI-o2](#).

6.7.3. Riser rings without tabs as shown in Figure [HVI-o6](#) may be used to adjust manholes to grade with approval of the Department of Public Works.

6.7.4. Manhole covers shall be marked “DRAIN”.

6.7.5. Steps are not required in storm manholes. Any structures delivered to the site with step “holes” shall be filled with mortar.

6.8. STORM DRAINS

6.8.1. The types of allowable pipe and fittings shall be used for purposes of storm drains are included below:

- A. All pipes listed for sanitary sewers;
- B. Reinforced Concrete Pipe (RCP) with a minimum strength of Class III; or
- C. Smooth Bore Height Performance Polypropylene Dual Wall Storm Drain Pipe (ADS HP Storm or equal) meeting a minimum PS-46.

6.8.2. Storm drain lateral may be connected into storm drain mains without the use of a manhole when the lateral is less than half the diameter of the receiving pipe.

6.8.3. Minimum velocities of surface water drains shall not be less than three feet per second (3 ft./sec.).

6.8.4. Ribbed corrugated polyethylene pipe material, smooth wall interior, is not permitted except for underdrain installation. Underdrain diameter shall be no larger than six inches (6”).

6.8.5. The classes of pipe indicated shall be minimums, however the actual class of pipe used shall be determined by soil weight and compaction loads applied to such pipe in accordance with standard engineering design criteria and subject to the approval of the Department of Public Works.

6.8.6. Pre-fabricated tees are allowable on storm drains. A pre-fabricated tee connection shall be used and installed in accordance with manufacturer specifications.

6.8.7. Connection of catch basin/storm drain lateral leads to storm drain larger than an eighteen-inch (18") diameter may be performed with the use of a coring machine and suitable connection device. The connecting pipe shall not be more than half the size of the main receiving pipe in order to use a coring tee-type connection.

6.8.8. Underdrains shall be a six-inch (6") diameter perforated pipe SDR 35 PVC or corrugated ADPE with smooth interior wall (AASHTO M252 Type S). They shall have a minimum of two rows of perforations.

6.9. CATCH BASINS

6.9.1. All catch basins and catch basin inlets shall be designed and constructed in accordance with Figures [HVI-o7](#) through [HVI-11](#).

6.9.2. Catch basin drain pipes of less than ten inches (10") in diameter are not permitted.

6.9.3. All catch basins shall have a four-foot (4') granite headstone of catch basin inlets conforming to City standards as shown in Figure [HVI-11](#).

6.9.4. No radius catch basin stones shall be permitted.

6.9.5. All catch basins shall be constructed with a minimum sump of three feet (3').

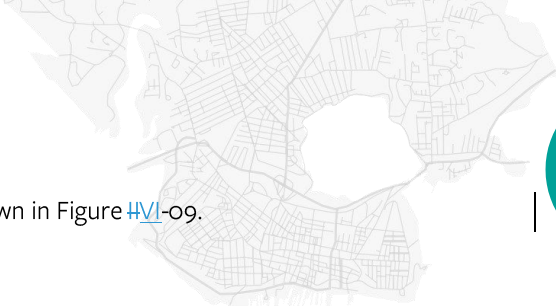
6.9.6. Catch basins shall not be located in driveway openings.

6.9.7. No storm drains or storm drain laterals, with the exception of street underdrains, shall be connected into a catch basin structure.

6.9.8. Catch basin drains and catch basin inlet drain pipe slopes shall be such that minimum flow velocities shall not be less than three feet per second (3 ft./sec.).

6.9.9. Bee hive casting shall be used on drainage structures located at low points in grassed off-road locations.

6.9.10. Field inlets or Type-F catch basins may be used when outside of City street rights-of-way within lawn areas, with Department of Public Works approval. They must have a minimum of a twelve-inch (12") sump and can be plastic or concrete.



6.9.11. All catch basins are required to have a hood on the outlet pipe as shown in Figure #VI-09.

6.10. SUBSURFACE WASTEWATER DISPOSAL

6.10.1. To ensure that adequate provisions have been made for subsurface wastewater disposal, developers are required to locate, design, and install septic systems in accordance with the latest version of the *Maine Subsurface Wastewater Disposal Rules*, 144 CMR minimum 241, as described in Chapter 6, §6-18(A) of the City Code.

6.10.2. Developers are required to obtain a permit through the City of Portland Inspections Division prior to the installation of any subsurface wastewater disposal system identified on an approved site plan.

6.11. GREASE INTERCEPTORS

6.11.1. Grease control equipment is required for all food establishments based on the City of Portland's Fats, Oils, and Grease Program found in the Rules and Regulations for Use of the Sewer System.

6.11.2. Concrete grease interceptors must have two chambers. Chamber A, where influent enters, must be two-thirds (2/3) of the tank volume.

6.11.3. Concrete grease interceptors must have three (3) twenty-four-inch (24") access points.

6.11.4. Tanks must be designed for H-20 traffic wheel load and a concrete strength of 5,000 PSI at 28 days.

6.11.5. Joints must be sealed with butyl rubber joint sealant such as CS-102 Butyl Rubber Sealant.

6.11.6. Tees inside grease interceptors must be supported. Galvanized riser clamps on drop must be rodded to tank wall with galvanized fasteners six inches (6") below service weight tee. Tees must be accessible via an unobstructed view for cleaning through the top of the grease interceptor.

6.11.7. High density polyethylene grease interceptors are accepted as an equivalent to concrete grease interceptors. Polyethylene units shall be properly anchored to prevent floatation.

6.11.8. A control manhole must be installed downstream of the interceptor before it enters the city sewer system.

6.12. SANITARY STANDARDS AND SPECIFICATIONS

6.12.1. The provisions of Section 703 of the State of Maine Department of Transportation (MDOT) *Standard Specifications for Highways and Bridges* shall apply with the following additions and modifications:

- A. **§703.13 Crushed Stone $\frac{3}{4}$ " for Pipe Bedding and Underdrain.** "Crushed Stone" shall be defined as rock of uniform quality and shall consist of clean, angular fragments of quarried rock, free from soft disintegrated pieces or other objectionable matter. Crushed stone used as a bedding material for pipe and underdrain shall be uniformly graded and shall meet the gradations in Table 6.12.1. The stone shall be free from vegetable matter, lumps or balls of clay, and other inappropriate substances.
- B. **§703.18 Common Borrow.** Common borrow shall not contain any particle of bituminous material.

- C. **§703.19 Granular Borrow.** Granular borrow shall contain no particles which will not pass a three-inch (3") square mesh sieve.
- D. **§703.20 Gravel Borrow.** Gravel borrow shall not contain particles of rock which will not pass a three-inch (3") square mesh sieve.

TABLE 6-B. AGGREGATE GRADING REQUIREMENTS

Sieve Designation	City of Portland Percentage by Weight Passing Square Mesh Sieve
1 inch	100
¾ inch	90-100
½ inch	20-55
⅜ inch	0-15
No. 4	0-5

FIGURE II-01 = LIST OF DETAILS

FIGURE II-02 = PRECAST CONCRETE MANHOLE

FIGURE II-03 = TYPICAL INSIDE DROP MANHOLE

FIGURE II-04 = GENERAL NOTES FOR MANHOLES AND CATCH BASINS

FIGURE II-05 = CAST IRON MANHOLE COVER AND FRAME

FIGURE II-06 = MANHOLE RISER RING

FIGURE II-07 = PRECAST CONCRETE CATCH BASIN

FIGURE II-08 = CATCH BASIN FRAME AND GRATE

FIGURE II-09 = CATCH BASIN HOOD

FIGURE II-10 = TYPICAL PAVEMENT GRADING FOR CATCH BASIN INLETS

FIGURE II-11 = 4' GRANITE HEADSTONE FOR CATCH BASIN INLET

FIGURE II-12 = TYPICAL PIPE TRENCH INSTALLATION AND NOTES

FIGURE II-13 = PLASTIC PIPE CONNECTION METHODS 1 & 2

FIGURE II-14 = PLASTIC PIPE CONNECTION METHODS 3 & 4

FIGURE II-15 = MASONRY PLUG

FIGURE II-16 = TYPICAL EXISTING LATERAL CONNECTION

FIGURE II-17 = TYPICAL HOUSE LATERAL TEE/WYE CONNECTION

FIGURE II-18 = FORCE MAIN CONCRETE THRUST BLOCK PLACEMENT

FIGURE II-19 = EXTERNAL GREASE TRAP DESIGN

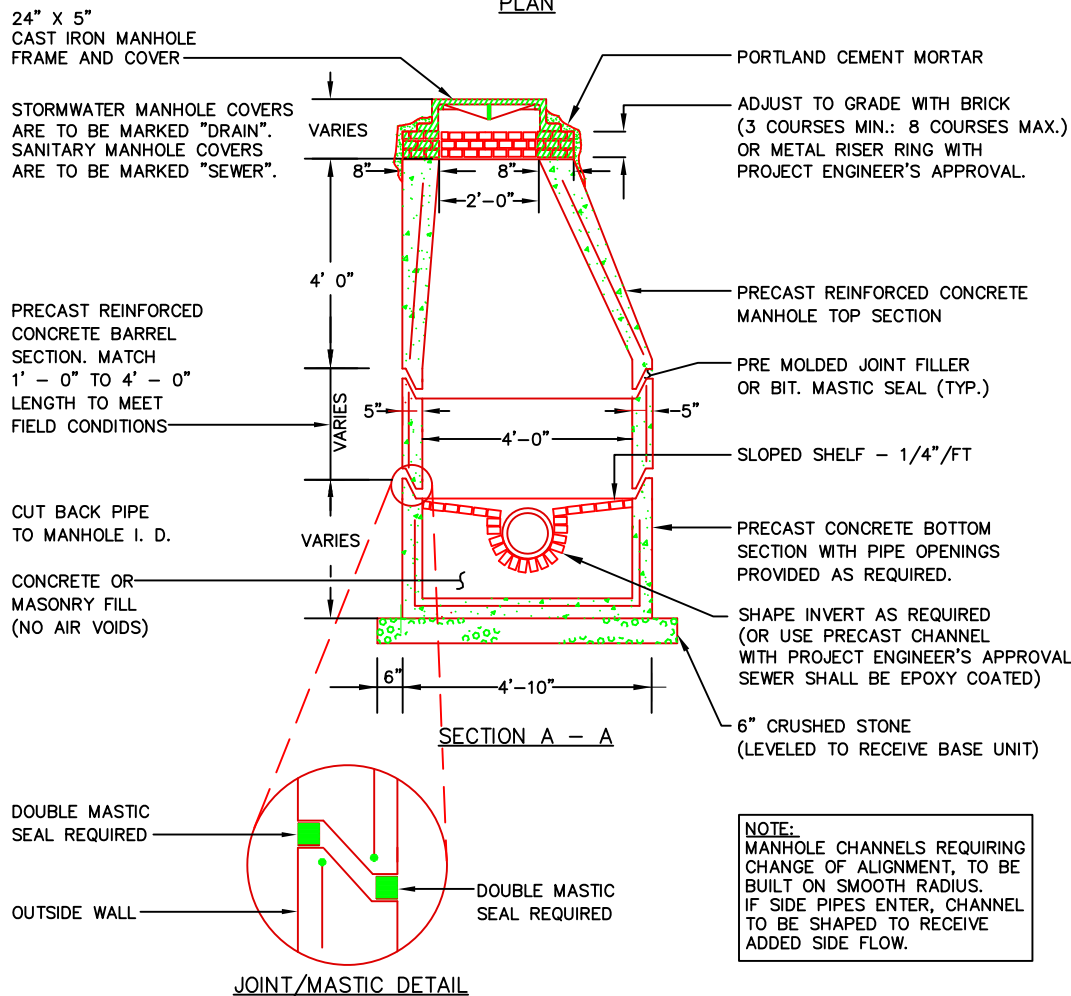
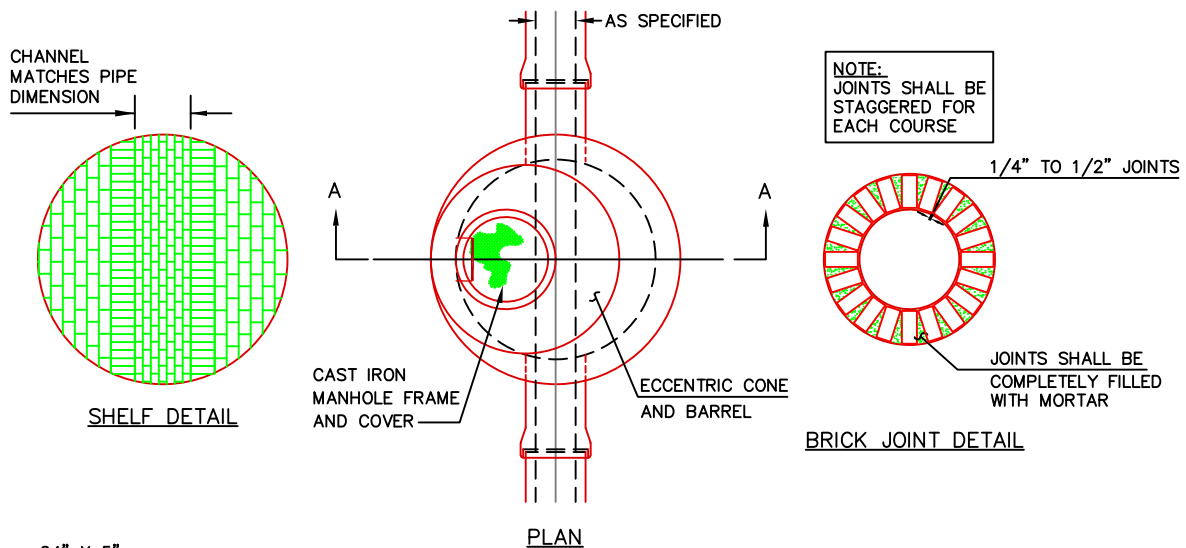
FIGURE II-20 = OIL / GRIT SEPARATOR

FIGURE II-21 = SEWER LINE CONFIGURATIONS FOR PRIMARY RESIDENCES
WITH AN ACCESSORY DWELLING UNIT

FIGURE II-22 = TYPE "B" UNDERDRAIN INSTALLATION ALTERNATIVE A

FIGURE II-23 = TYPE "B" UNDERDRAIN INSTALLATION ALTERNATIVE B

DATE: APRIL 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE:
REVISED:			II-1
LIST OF DETAILS			



PRECAST CONCRETE MANHOLE

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DATE:
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DEC. 2021

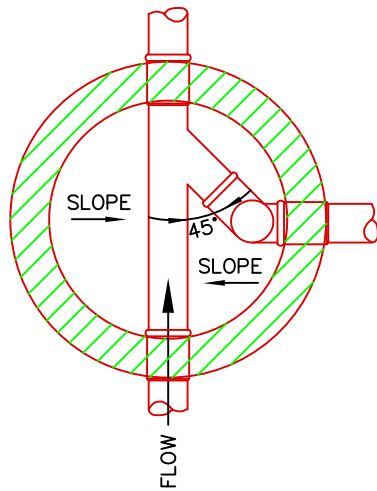
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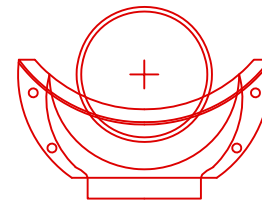
FIGURE:

II-2

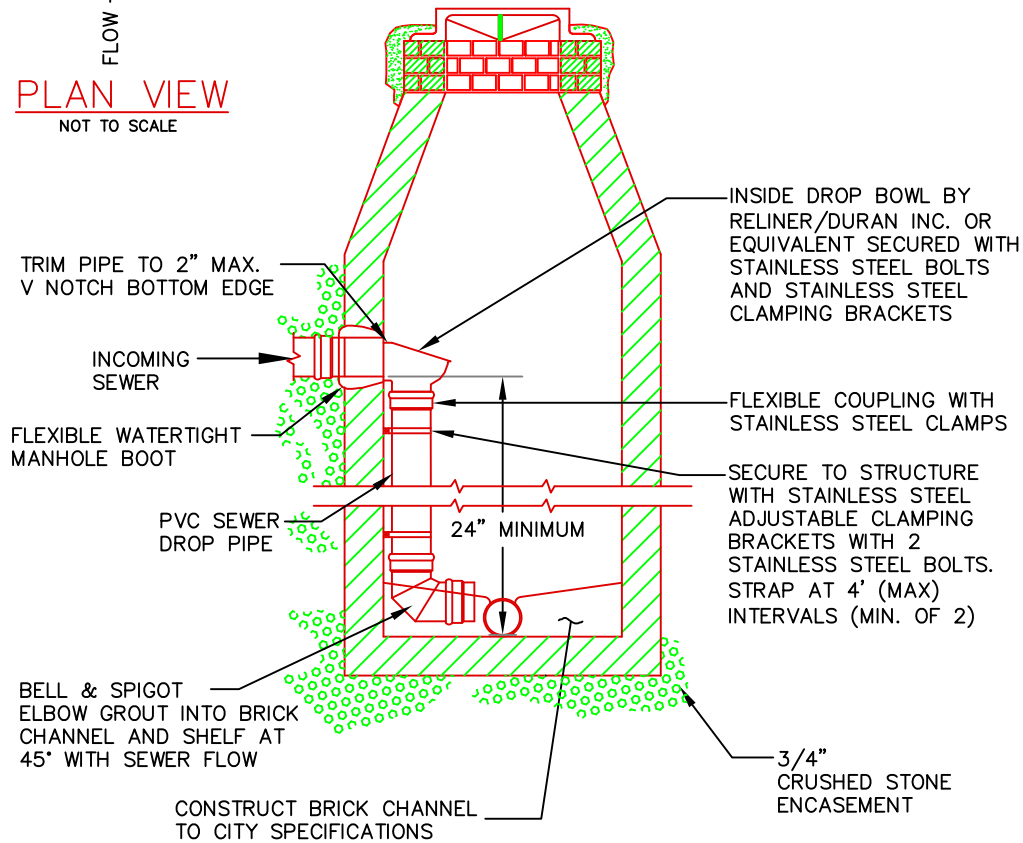
PRECAST CONCRETE MANHOLE



PLAN VIEW
NOT TO SCALE



**DROP BOWL
MOUNTING POSITION**
NOT TO SCALE



NOTES:

- 1) DROP MANHOLES ARE NOT REQUIRED FOR STORMWATER SYSTEMS.
- 2) MANHOLE MUST HAVE A MINIMUM DIAMETER OF 5' TO USE AN INSIDE DROP
- 3) ALL INSIDE DROP CONNECTIONS FOR SERVICES AND COLLECTOR SEWERS SHALL USE THE DROP BOWL AS SHOWN.

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**SANITARY SEWER AND STORM
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FIGURE:

II-3

TYPICAL INSIDE DROP MANHOLE

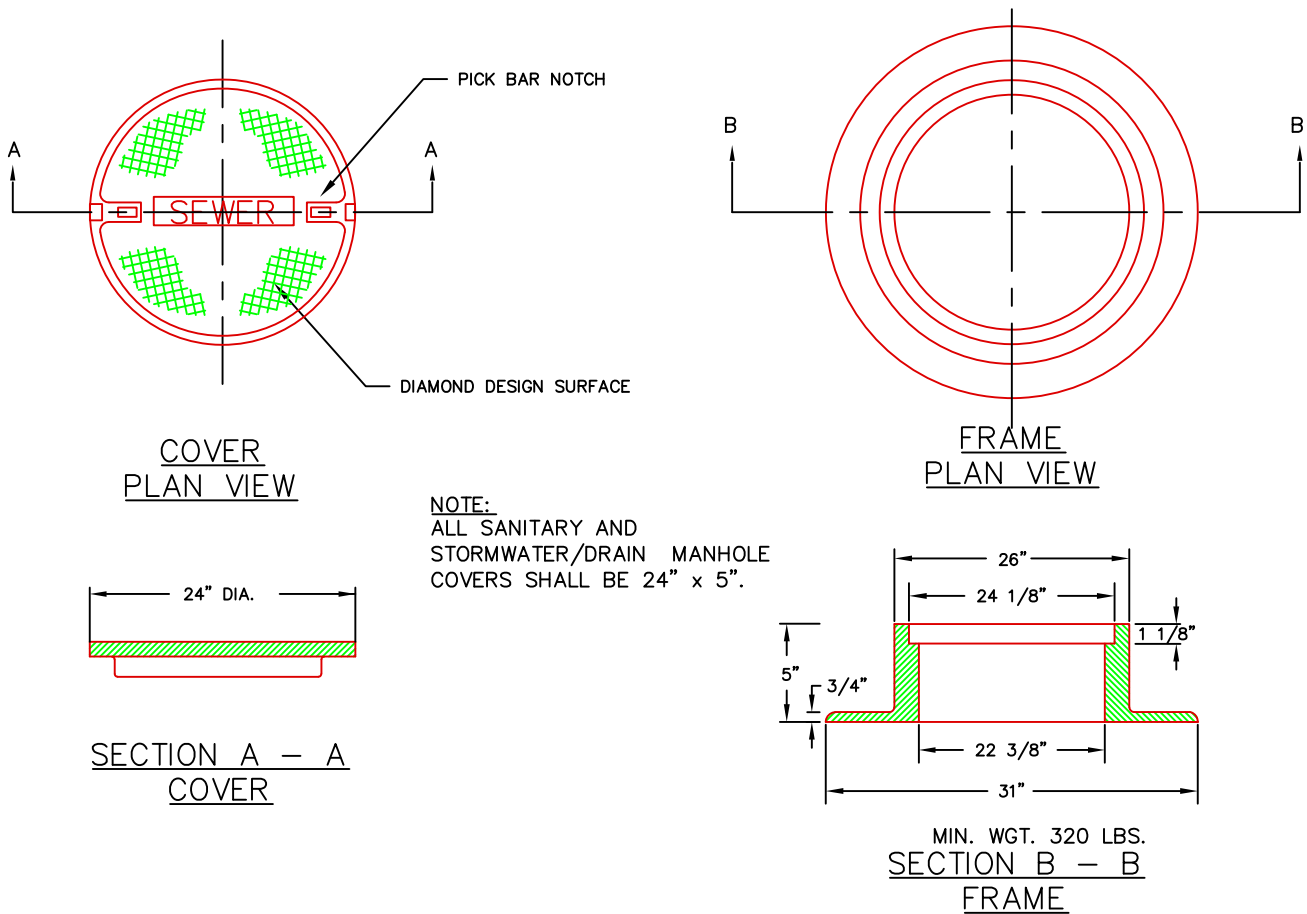
1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 lbs. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. MANHOLES MAY BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
3. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
4. ALL PIPES 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

DATE: MARCH 2019	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE:
REVISED: AUG 2022	GENERAL NOTES FOR MANHOLES AND CATCH BASINS		II-4

NOTES:

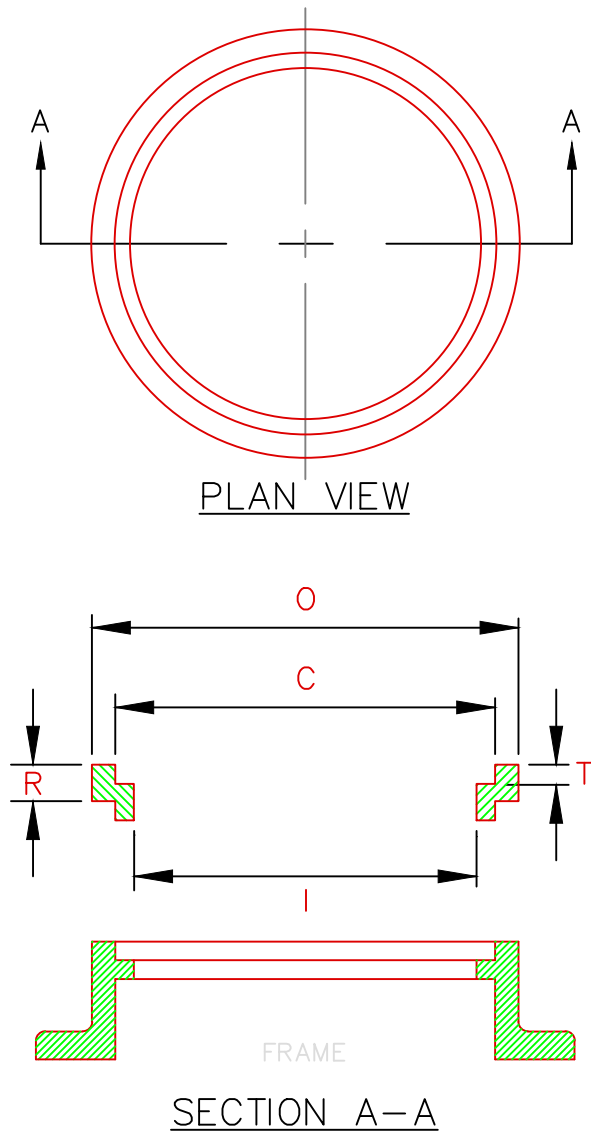
1. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
2. APPROVED MANHOLE FRAMES:
 - 2.1. EAST JORDAN = 1690Z
 - 2.2. NEENAH = R-1496
 - 2.3. OR APPROVED EQUAL
3. APPROVED MANHOLE COVERS
 - 3.1. EAST JORDAN = 2160A
 - 3.2. NEENAH = R-1496
 - 3.3. OR APPROVED EQUAL



CAST IRON MANHOLE COVER AND FRAME

NOT TO SCALE

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REVISED: DEC 2021	CAST IRON MANHOLE COVER AND FRAME		II-5



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 NOT TO SCALE

DATE:
DEC 2009
REVISED:

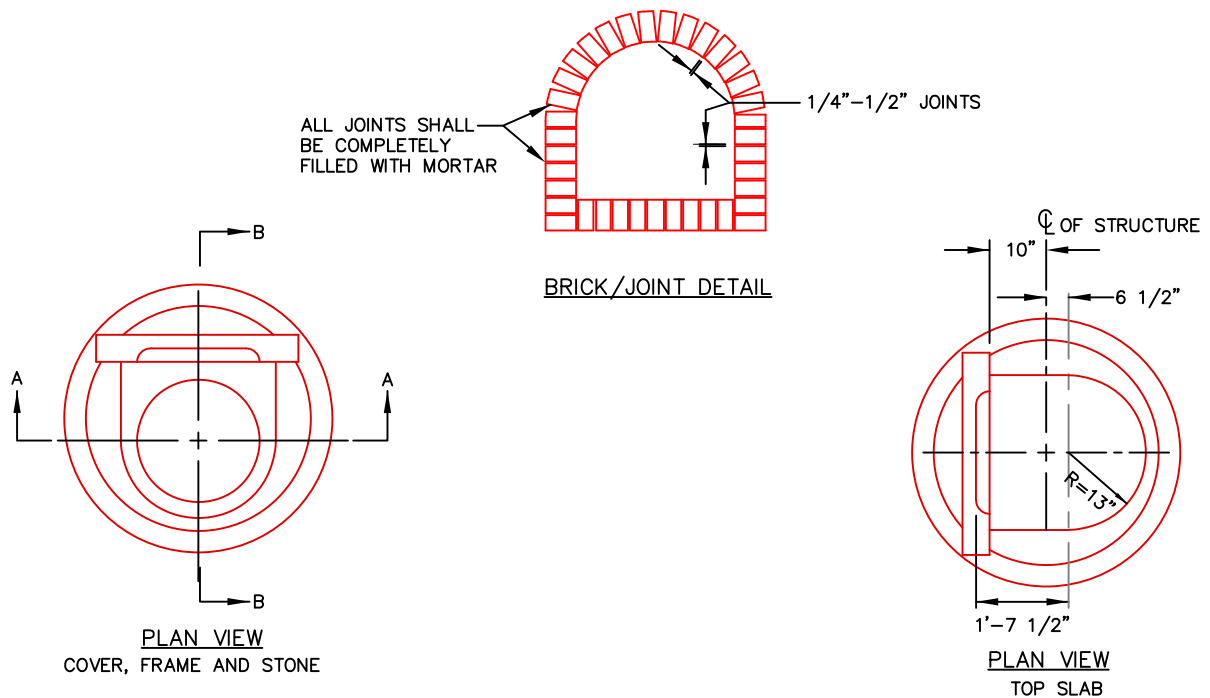
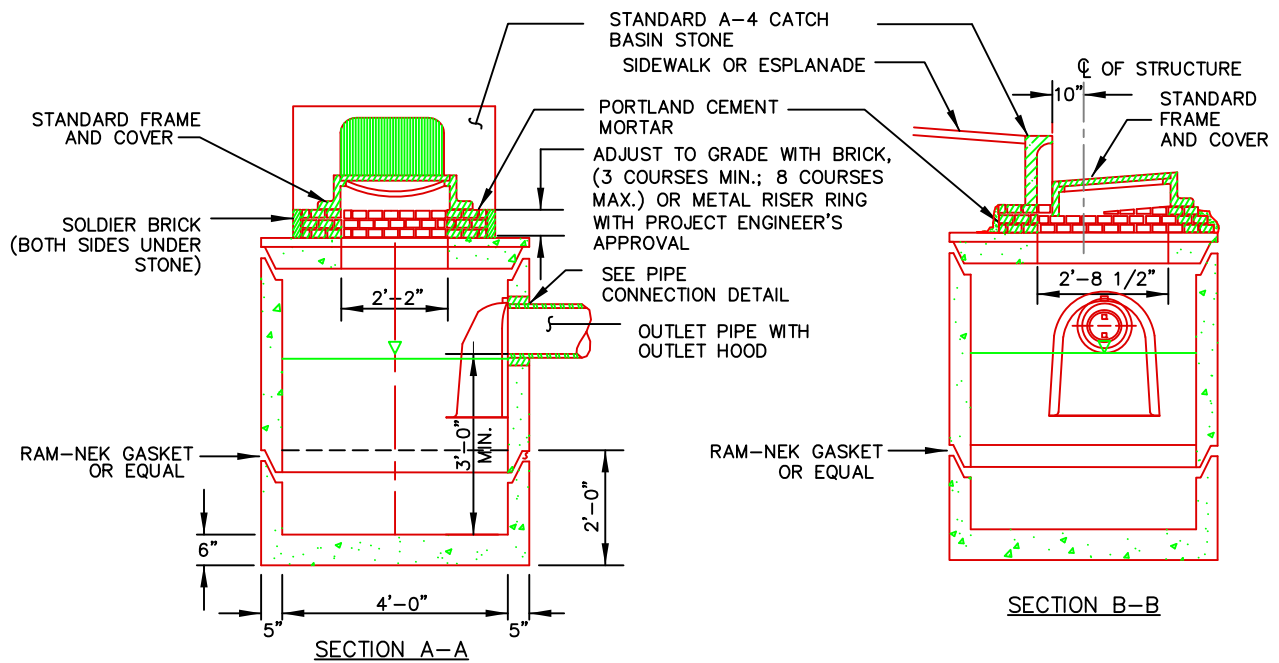
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FIGURE:

II-6

MANHOLE RISER RING



PRECAST CONCRETE CATCH BASIN – TYPE "E"
NOT TO SCALE

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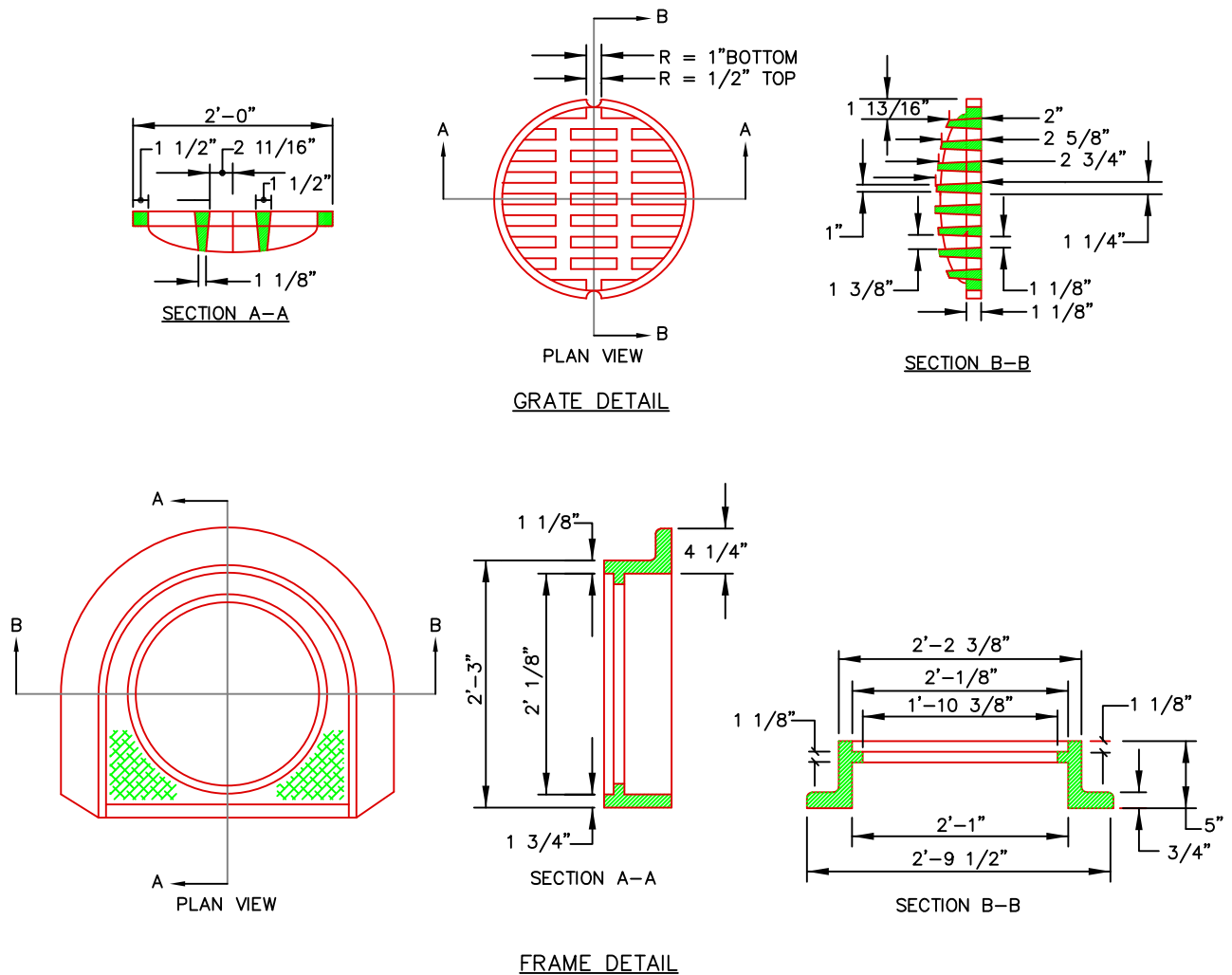
**SANITARY SEWER AND STORM
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PRECAST CONCRETE CATCH BASIN

FIGURE:

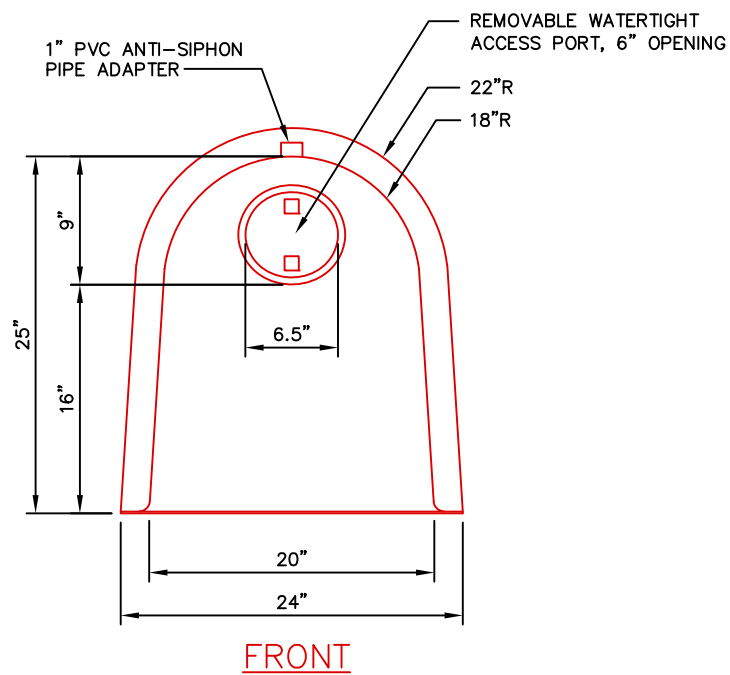
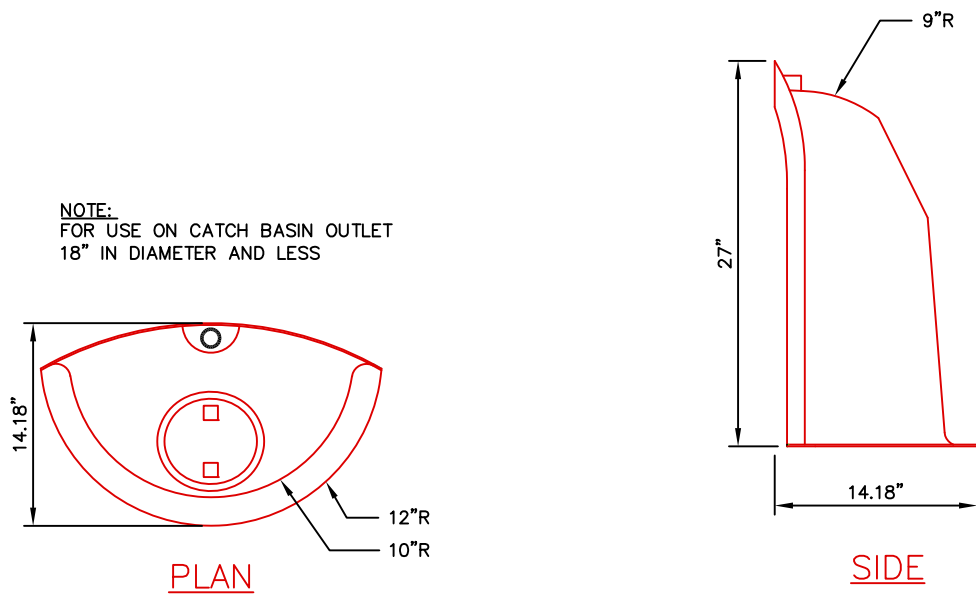
II-7

1. APPROVED CATCH BASIN FRAMES:
 - 1.1. EAST JORDAN = 7375Z
 - 1.2. NEENAH = R-3248
 - 1.3. OR APPROVED EQUAL
2. APPROVED CATCH BASIN GRATES
 - 2.1. EAST JORDAN = 2440M
 - 2.2. NEENAH = R-3248
 - 2.3. OR APPROVED EQUAL



CATCH BASIN FRAME & GRATE

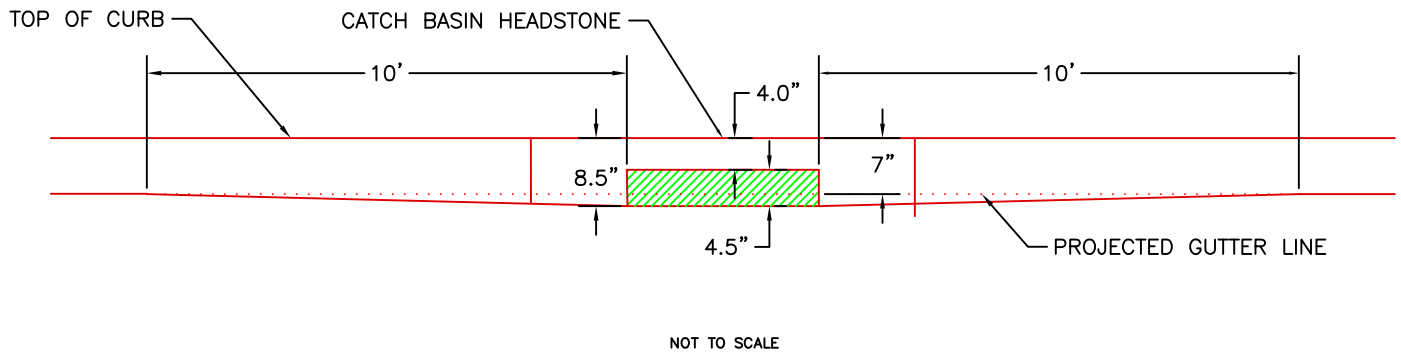
DATE: AUGUST 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE:
REVISED: DEC. 2021	CATCH BASIN FRAME AND GRATE		II-8



CATCH BASIN HOOD
NOT TO SCALE

DATE: MARCH 2019 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE: II-9
CATCH BASIN HOOD			

NOTE:
DISH 10' EITHER SIDE OF HEADSTONE FOR
CATCH BASIN AT LOW POINT



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DEC. 2021

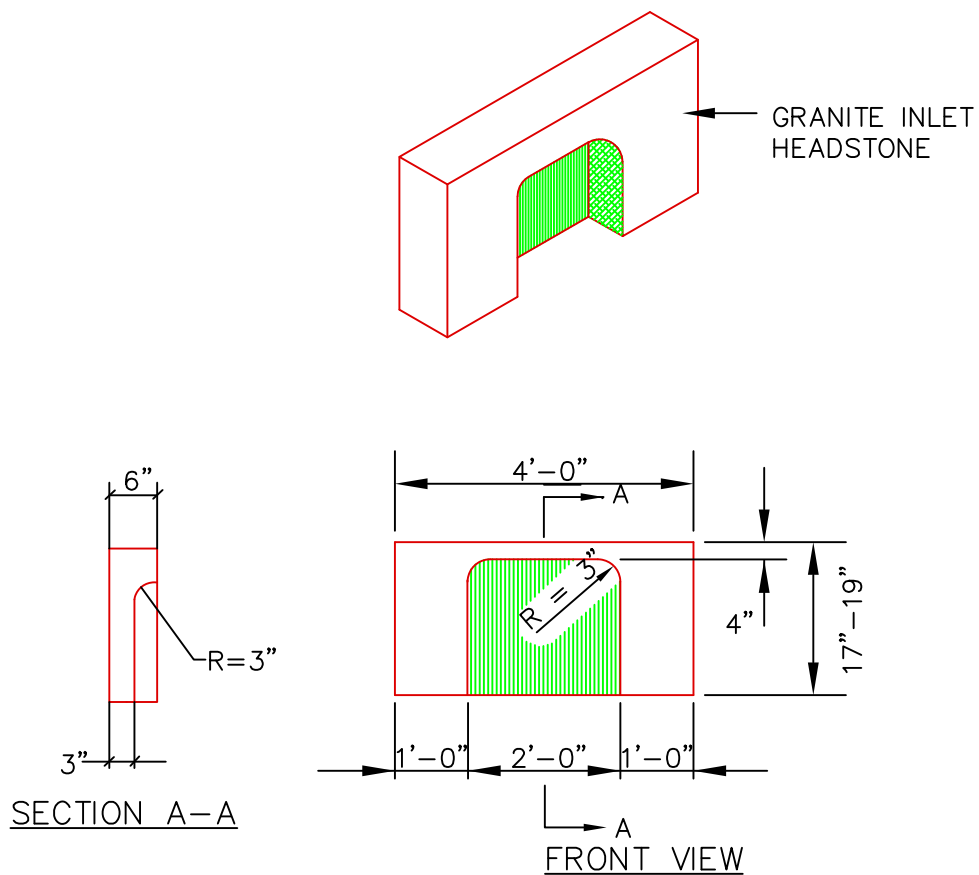
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**TYPICAL PAVEMENT GRADING
FOR CATCH BASIN INLETS**

FIGURE:

II-10



4' GRANITE HEADSTONE FOR CATCH BASIN INLET

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4' GRANITE HEADSTONE FOR CATCH BASIN INLET

FIGURE:

II-11

DEPTH OF BITUMINOUS PAVEMENT AND AGGREGATE COURSES SHALL BE DETERMINED BY STREET CLASSIFICATION.

PAVED AREAS ← → UNPAVED AREAS

AGGREGATE SUBBASE COURSE — GRAVEL

AGGREGATE BASE COURSE — GRAVEL

HOT BITUMINOUS BASE PAVEMENT

HOT BITUMINOUS SURFACE PAVEMENT

GRIND TO PROPER DEPTH

4" LOAM AND SEED

HALF OF MAX. PAYMENT WIDTH PLUS 12" FOR TRENCH PAVEMENT REPLACEMENT

6" 12"

COMMON BACKFILL FROM TRENCH EXCAVATION (INCIDENTAL) OR GRANULAR BORROW (IF ORDERED)

3/4" CRUSHED STONE OR SAND 12" ABOVE TOP OF PIPE.

12"

3/4" CRUSHED STONE FOR PIPE BEDDING TO PIPE SPRINGLINE

6"

ESTABLISHED TRENCH PROFILE

2" CRUSHED STONE

VARIES

A

B

C

D

The diagram illustrates a cross-section of a trench and its surrounding pavement and backfill layers. The top of the diagram is divided into 'PAVED AREAS' on the left and 'UNPAVED AREAS' on the right, separated by a vertical red line. The paved areas consist of several layers: 'AGGREGATE SUBBASE COURSE — GRAVEL', 'AGGREGATE BASE COURSE — GRAVEL', 'HOT BITUMINOUS BASE PAVEMENT', and 'HOT BITUMINOUS SURFACE PAVEMENT'. A note 'GRIND TO PROPER DEPTH' points to the surface pavement. The unpaved area is labeled '4" LOAM AND SEED'. The trench itself is shown with a 'HALF OF MAX. PAYMENT WIDTH PLUS 12" FOR TRENCH PAVEMENT REPLACEMENT' on the left side. The trench is filled with 'COMMON BACKFILL FROM TRENCH EXCAVATION (INCIDENTAL) OR GRANULAR BORROW (IF ORDERED)'. Above the pipe, there is a layer of '3/4" CRUSHED STONE OR SAND' that is '12" ABOVE TOP OF PIPE.' Below this, there is a layer of '3/4" CRUSHED STONE FOR PIPE BEDDING TO PIPE SPRINGLINE' which is '6"' thick. The pipe is shown with a diameter 'D' and a radius 'C'. The trench width at the bottom is labeled 'VARIES' and 'A'. The trench depth is labeled 'B'. The diagram also shows 'ESTABLISHED TRENCH PROFILE' and '2" CRUSHED STONE' at the bottom of the trench.

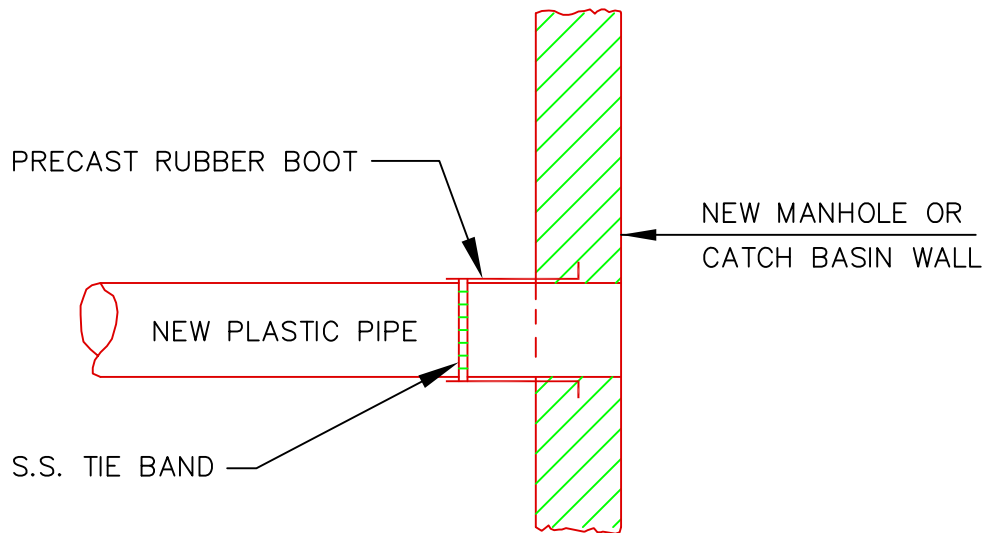
1. ALTERNATIVE CONSTRUCTION METHODS OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2. IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
3. DIMENSION **B** SHALL BE SUFFICIENT TO ALLOW CRUSHED STONE BEDDING TO BE PLACED AND COMPACTED UNDER THE HAUNCHES OF THE PIPE; BUT IN ALL CASES DIMENSION **B** SHALL BE AT LEAST 9".
4. DIMENSION **A** IS THE MAXIMUM WIDTH ALLOWED FOR CALCULATING PAY QUANTITIES UNDER GRANULAR BORROW, CRUSHED STONE, STRUCTURAL EARTH EXCAVATION, AND STRUCTURAL ROCK EXCAVATION. DIMENSION **A** SHALL BE BASED ON PIPE DIAMETER **D**, AS SET FORTH IN THE FOLLOWING TABLE.

PIPE DIAMETER, D (INCHES)	MAX. TRENCH WIDTH, A (FEET)				
4	—	—	—	—	4.0
6					4.0
8					4.0
10					4.0
12					5.0
15					5.0
18	—	—	—	—	5.0
21					5.0
24					6.0
27					6.0
30					6.0
36	—	—	—	—	6.0
42					7.0
48					7.0

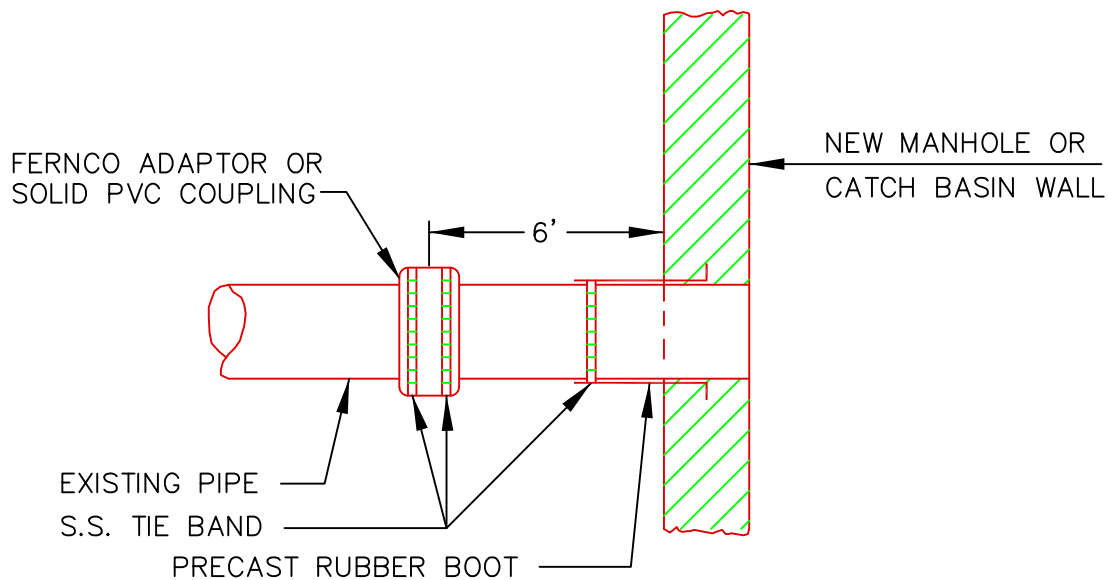
NOT TO SCALE

II-12

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METHOD 2 – NEW CONSTRUCTION



METHOD 1 – EXISTING PIPE INTO NEW STRUCTURE

PLASTIC PIPE CONNECTIONS

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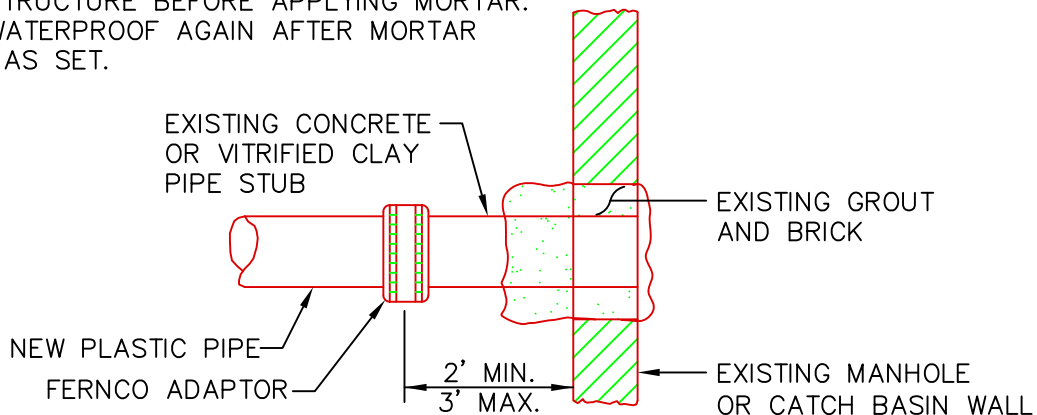
**SANITARY SEWER AND STORM
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FIGURE:

II-13

PLASTIC PIPE CONNECTION METHODS 1 & 2

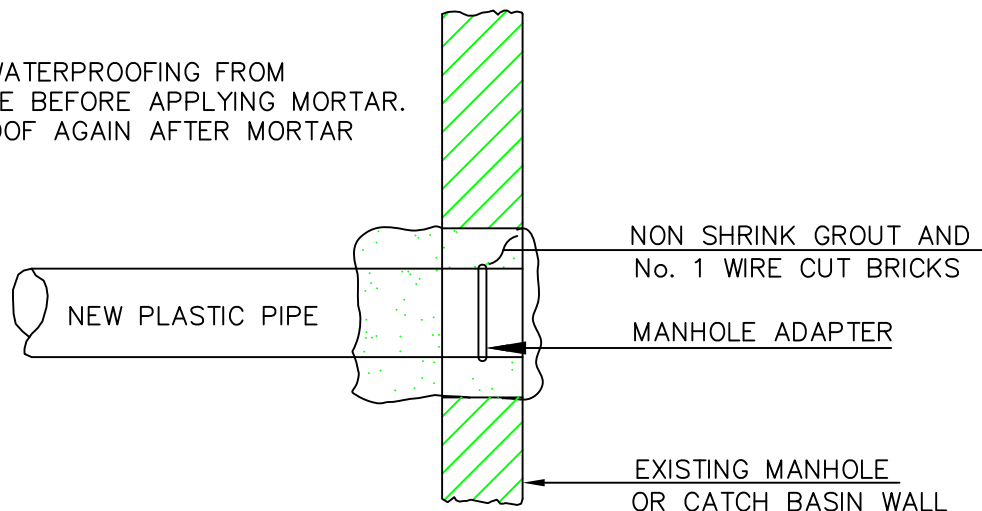
NOTE:
REMOVE WATERPROOFING FROM
STRUCTURE BEFORE APPLYING MORTAR.
WATERPROOF AGAIN AFTER MORTAR
HAS SET.



METHOD 4 – NEW PIPE TO EXISTING STRUCTURE STUB

NOTE: EXISTING MANHOLE OR CATCH BASIN SHALL BE CORE DRILLED
FOR PIPE INSTALLATION. IF PIPE DIAMETER IS SO LARGE
THAT CORE DRILLING IS PROHIBITED, THE CONTRACTOR MAY
SAW CUT THE STRUCTURE TO CREATE PIPE OPENING.
THE NEW OPENING MUST THEN BE SEALED AND WATERTIGHT
BOTH INSIDE AND OUTSIDE THE STRUCTURE.

NOTE:
REMOVE WATERPROOFING FROM
STRUCTURE BEFORE APPLYING MORTAR.
WATERPROOF AGAIN AFTER MORTAR
HAS SET.

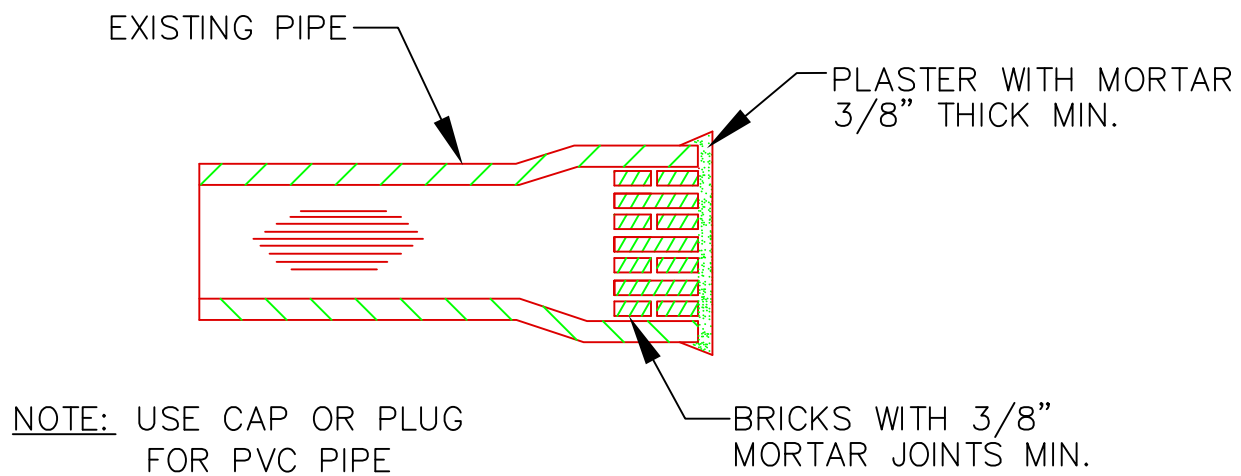


METHOD 3 – NEW PIPE INTO EXISTING STRUCTURE

PLASTIC PIPE CONNECTIONS

NOT TO SCALE

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REVISED:	PLASTIC PIPE CONNECTION METHODS 3 & 4		II-14



MASONRY PLUG

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FIGURE:

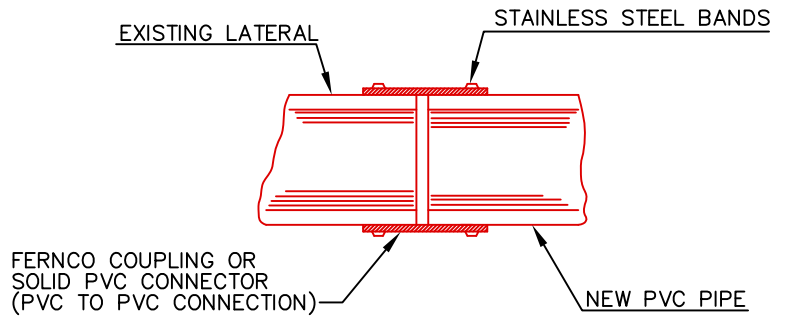
II-15

MASONRY PLUG

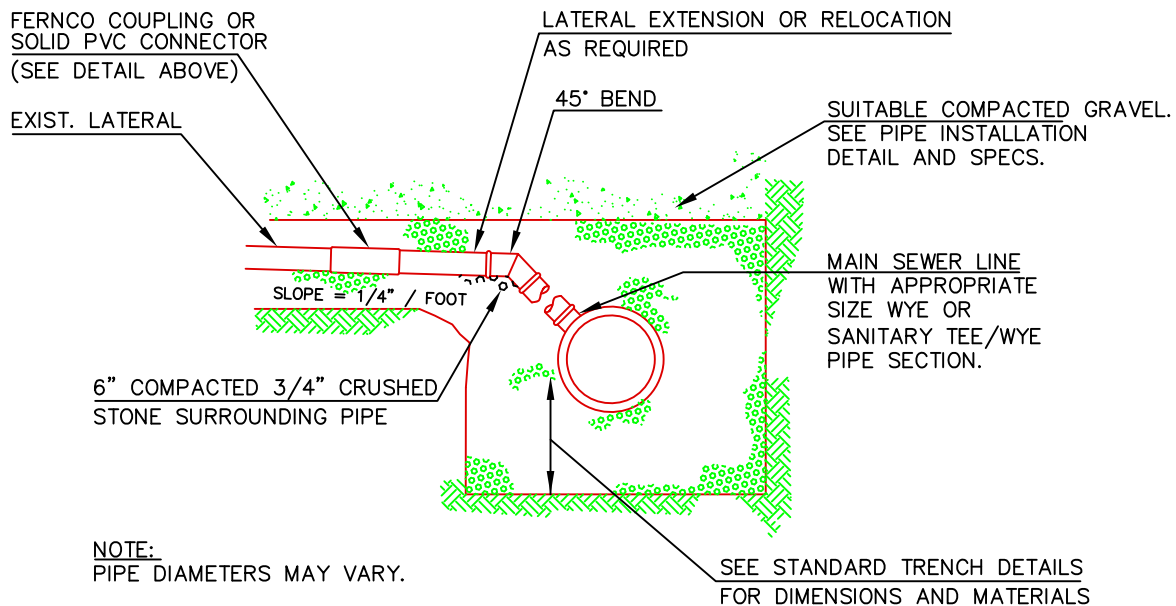
NOTE:

LOCATIONS AND ELEVATIONS OF STUBS SHOWN ON THE PLANS ARE TO BE CONSIDERED AS APPROXIMATE AND MAY BE ADJUSTED AS DIRECTED TO SUIT FIELD CONDITIONS.

HOUSE CONNECTIONS AND CATCH BASINS CONNECTIONS TO THE MAIN LINE OF THE SEWER, SHALL CONSIST OF AN APPROPRIATE WYE BRANCH CONNECTION AS SHOWN ON THE PLANS, OR AS DIRECTED. ACTUAL WYE LOCATIONS FOR HOUSE CONNECTIONS AND CATCH BASIN CONNECTIONS SHALL BE DETERMINED DURING CONSTRUCTION. THE CONTRACTOR SHALL KEEP A COMPLETE RECORD OF WYE LOCATIONS WHICH SHALL BE GIVEN TO THE CITY OF PORTLAND UPON COMPLETION OF THE CONTRACT. ALL PVC TO PVC COUPLING SHALL BE "SOLID PVC COUPLINGS".



FERNCO COUPLING FOR REPAIR OR REPLACEMENT



SECTION

TYPICAL EXISTING LATERAL CONNECTION

NOT TO SCALE

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FIGURE:

II-16

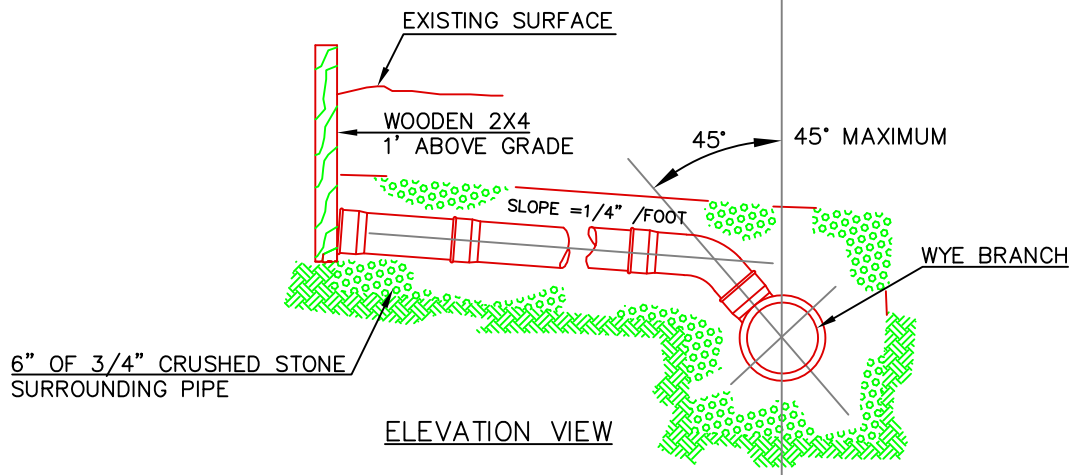
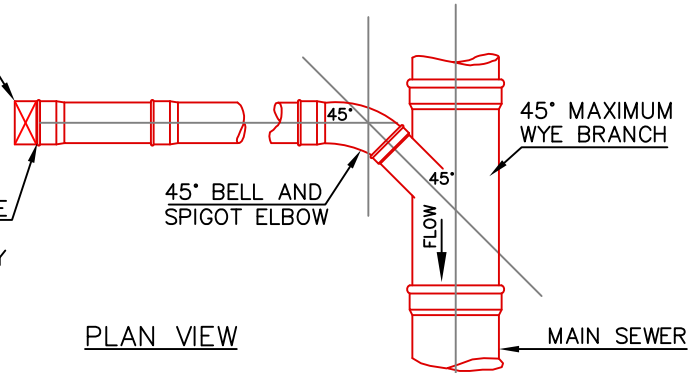
TYPICAL EXISTING LATERAL CONNECTION

NOTE:

LOCATION / WARNING TAPE SHALL BE
INSTALLED OVER CENTERLINE OF PIPE AT A
MAXIMUM OF 24 INCHES BELOW FINISH GRADE.

EXTEND WOODEN 2X4
TO 1' ABOVE GRADE TO
DELINEATE END OF STUB.
MARK 2X4 WITH THE DEPTH
FROM GRADE TO PLUG.

FOR FUTURE CONNECTION, TERMINATE
AND PLUG LATERAL AT STREETLINE.
PLUG TO BE IDENTIFIED AS SANITARY
OR STORM.



TYPICAL HOUSE LATERAL TEE/WYE CONNECTION

NOT TO SCALE

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AUGUST 2009
REVISED:

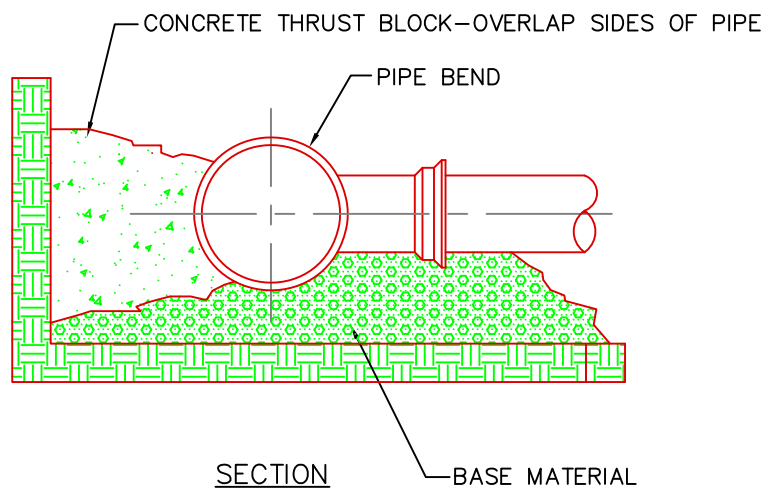
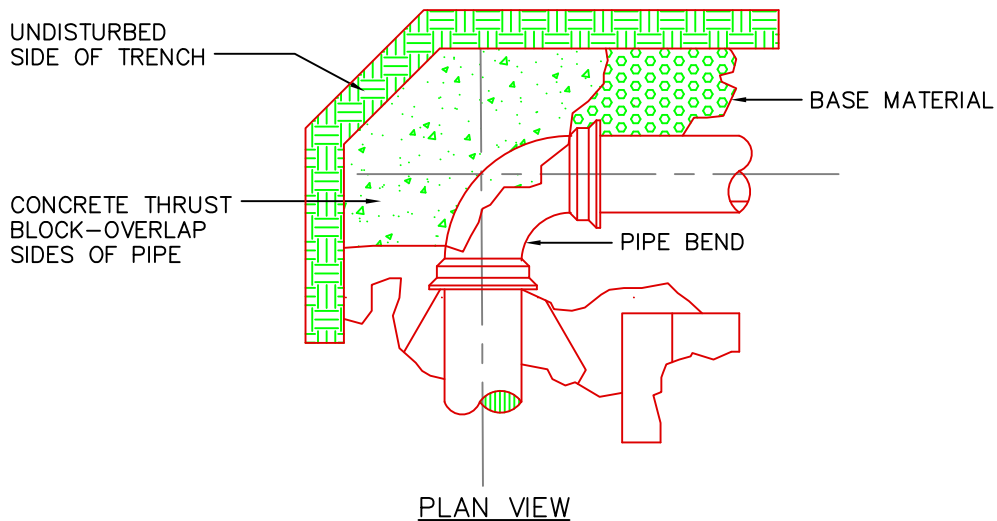
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FIGURE:

II-17

TYPICAL HOUSE LATERAL TEE/WYE CONNECTION



THRUST/RETAINER SCHEDULE		
1/4 BEND	(90°)	USE POURED-IN-PLACE THRUST BLOCK w/RETAINERS
1/8 BEND	(45°)	THRUST BLOCK w/RETAINERS
1/16 BEND	(22 1/2°)	THRUST BLOCK
1/32 BEND	(11 1/4°)	THRUST BLOCK

NOTE: KEEP CONCRETE LEAR OF PIPE JOINT, NUTS AND BOLTS

FORCE MAIN — CONCRETE THRUST BLOCK PLACEMENT ON VERTICAL & HORIZONTAL BENDS

NOT TO SCALE

DATE:
AUGUST 2009
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CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

**SANITARY SEWER AND STORM
DRAIN DESIGN STANDARDS**
SECTION II

FIGURE:

II-18

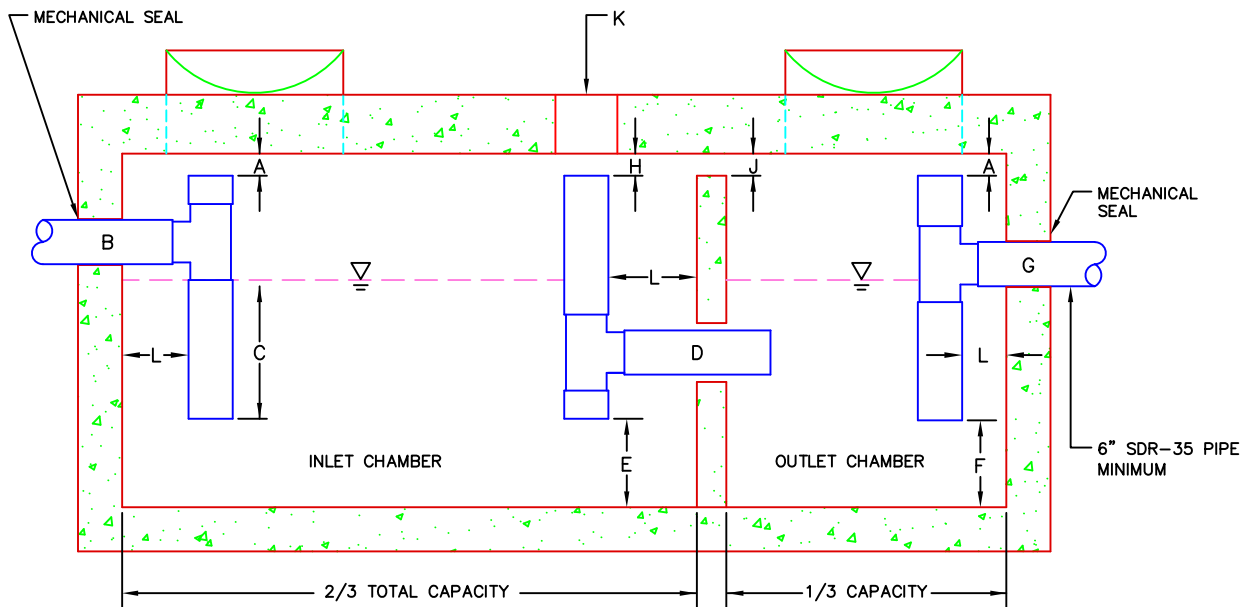
FORCE MAIN CONCRETE THRUST BLOCK PLACEMENT

1000 GALLON GREASE INTERCEPTOR:

- A) MINIMUM 6", BUT NOT LESS THAN PIPE DIAMETER.
- B) INLET PIPE INVERT TO BE 2 1/2" ABOVE LIQUID SURFACE.
- C) INLET PIPE TO TERMINATE 2/3 DEPTH OF WATER LEVEL.
- D) BAFFLE T
- E) 6" FROM FLOOR TO END OF BAFFLE PIPE.
- F) 6" FROM FLOOR TO END OF OUTLET PIPE.
- G) OUTLET PIPE NO SMALLER THAN INLET PIPE.
- H) TOP OF BAFFLE PIPE TERMINATES NO LOWER THAN BAFFLE HEIGHT.
- I) INLET CHAMBER IS $\frac{2}{3}$ TOTAL CAPACITY; OUTLET CHAMBER IS $\frac{1}{3}$ TOTAL CAPACITY.
- J) 6" MINIMUM DISTANCE FROM CEILING.
- K) MINIMUM 6" CLEANOUT.
- L) INLET AND OUTLET PIPES MUST BE SPACED SO THAT CLEAR ACCESS CAN BE MADE FROM MANHOLES.

THIS STRUCTURE MUST DISCHARGE TO A CITY OF PORTLAND STANDARD MANHOLE WITH CHANNEL AND MUST BE RATED.

DAILY PROCESS FLOW FROM THE FACILITY WITH NO SANITARY OR OTHER EXTRANEEOUS WASTES FLOWING THROUGH IT.

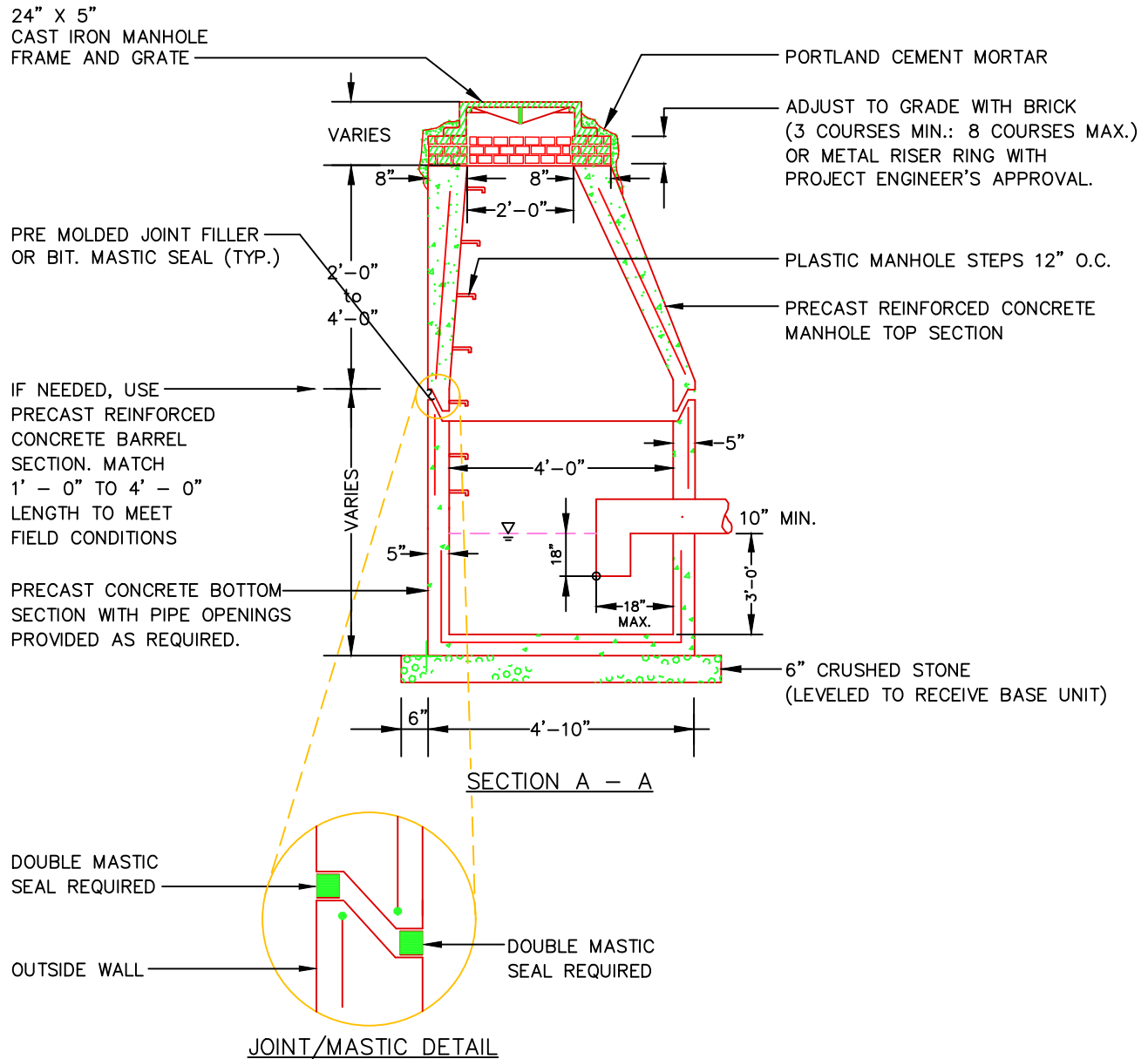


1000 GALLON GREASE INTERCEPTOR

DATE: APRIL 2014 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE: II-19
EXTERNAL GREASE TRAP DESIGN			

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.



OIL / GRIT SEPARATOR

NOT TO SCALE

DATE:
FEB 2015

REVISED:
AUG 2022

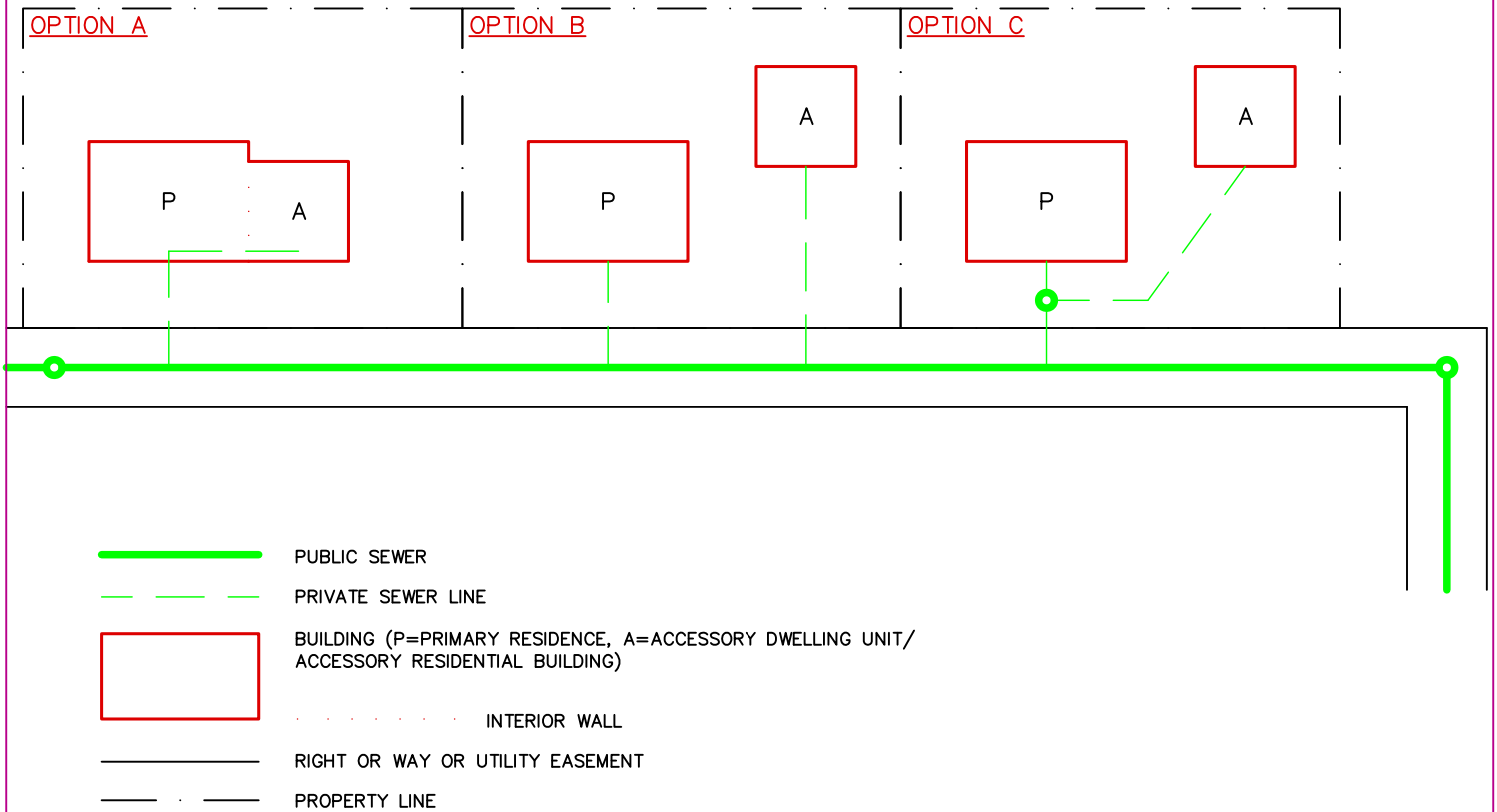
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**SANITARY SEWER AND STORM
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SECTION II

FIGURE:

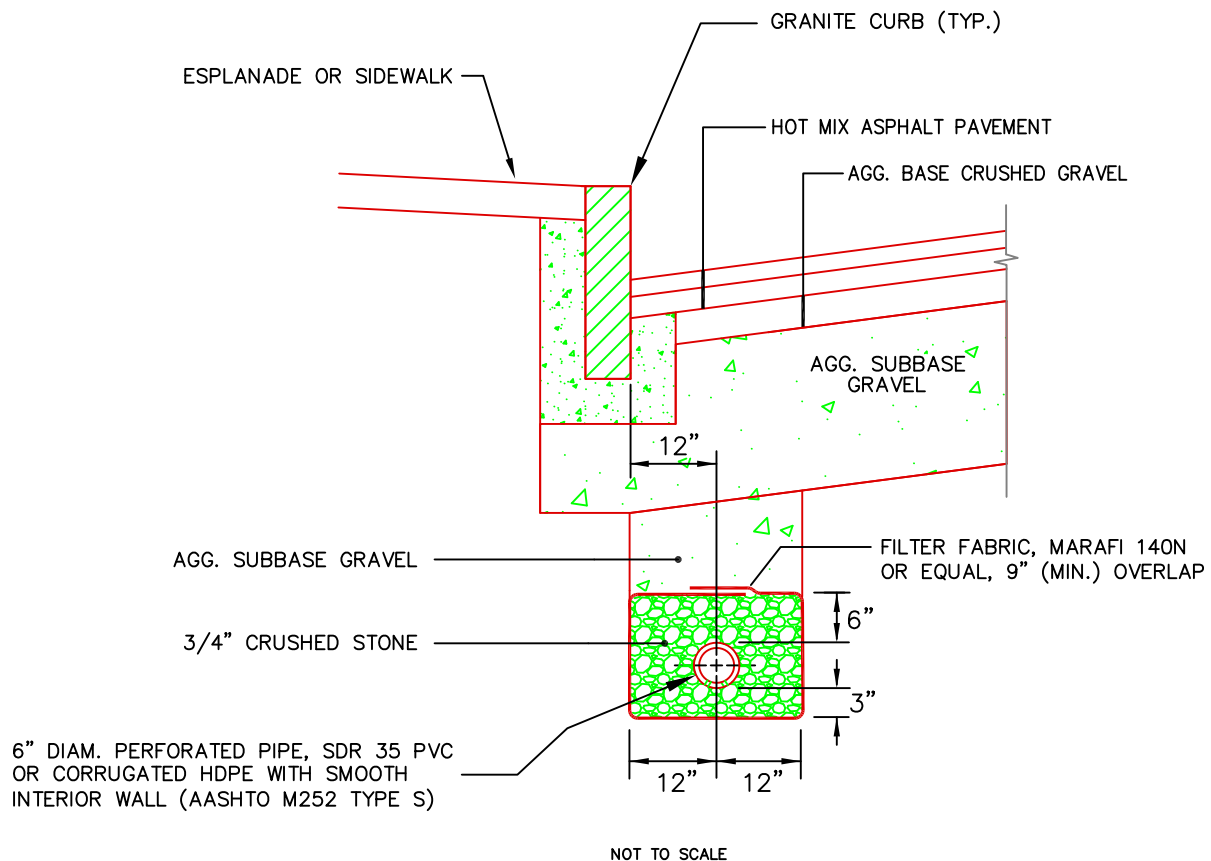
II-20

OIL / GRIT SEPARATOR



POTENTIAL SEWER LINE CONFIGURATION FOR PRIMARY RESIDENCES WITH AN ACCESSORY DWELLING UNIT
NOT TO SCALE

DATE: APRIL 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE:
REVISED:	SEWER LINE CONFIGURATIONS FOR PRIMARY RESIDENCES WITH AN ACCESSORY DWELLING UNIT		II-21



NOTES

1. UNDERDRAIN PIPE INVERT ELEVATIONS SHALL BE AT LEAST 42 INCHES BELOW GUTTER GRADES.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.

DATE:
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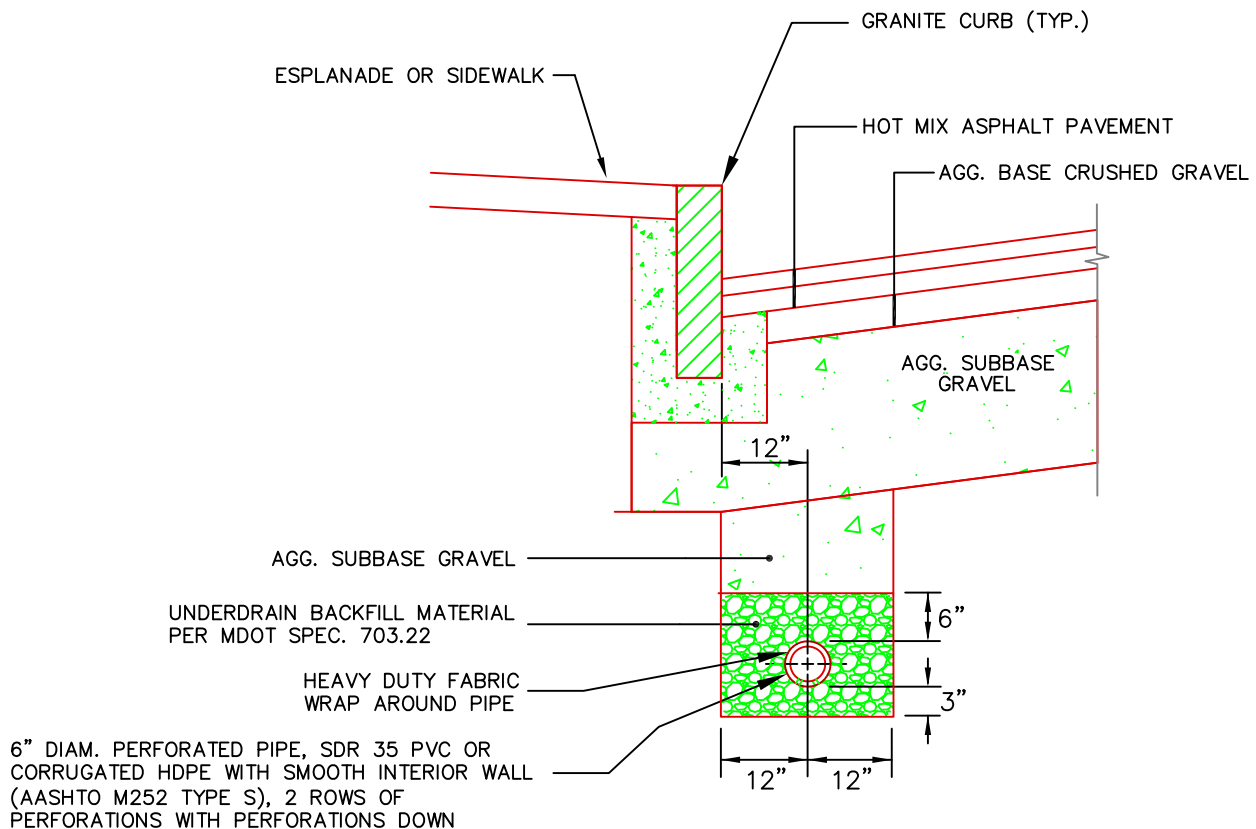
CITY OF PORTLAND, MAINE
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**SANITARY SEWER AND STORM
DRAIN DESIGN STANDARDS**
SECTION II

FIGURE:

II-22

**TYPE "B" UNDERDRAIN INSTALLATION
ALTERNATIVE A**



NOT TO SCALE

NOTES

1. UNDERDRAIN PIPE INVERT ELEVATIONS SHALL BE AT LEAST 42 INCHES BELOW GUTTER GRADES.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN. THE PIPE SHALL BE FURNISHED WITH A HEAVY DUTY FABRIC WRAP, SUCH AS "FILTER SOCK" BY ADS.

DATE:
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FIGURE:

II-23

**TYPE "B" UNDERDRAIN INSTALLATION
ALTERNATIVE B**

FIGURE II-01 = LIST OF DETAILS

FIGURE II-02 = PRECAST CONCRETE MANHOLE

FIGURE II-03 = TYPICAL INSIDE DROP MANHOLE

FIGURE II-04 = GENERAL NOTES FOR MANHOLES AND CATCH BASINS

FIGURE II-05 = CAST IRON MANHOLE COVER AND FRAME

FIGURE II-06 = MANHOLE RISER RING

FIGURE II-07 = PRECAST CONCRETE CATCH BASIN

FIGURE II-08 = CATCH BASIN FRAME AND GRATE

FIGURE II-09 = CATCH BASIN HOOD

FIGURE II-10 = TYPICAL PAVEMENT GRADING FOR CATCH BASIN INLETS

FIGURE II-11 = 4' GRANITE HEADSTONE FOR CATCH BASIN INLET

FIGURE II-12 = TYPICAL PIPE TRENCH INSTALLATION AND NOTES

FIGURE II-13 = PLASTIC PIPE CONNECTION METHODS 1 & 2

FIGURE II-14 = PLASTIC PIPE CONNECTION METHODS 3 & 4

FIGURE II-15 = MASONRY PLUG

FIGURE II-16 = TYPICAL EXISTING LATERAL CONNECTION

FIGURE II-17 = TYPICAL HOUSE LATERAL TEE/WYE CONNECTION

FIGURE II-18 = FORCE MAIN CONCRETE THRUST BLOCK PLACEMENT

FIGURE II-19 = EXTERNAL GREASE TRAP DESIGN

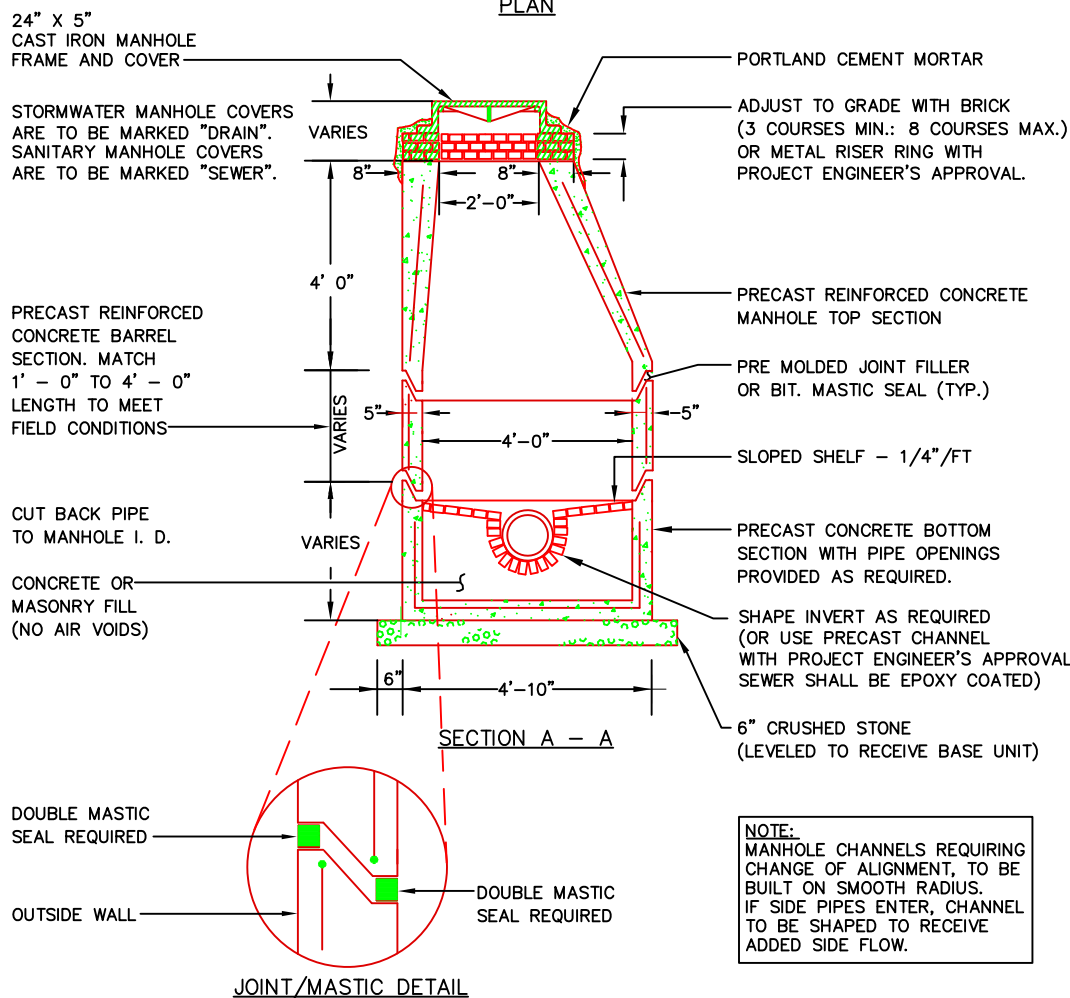
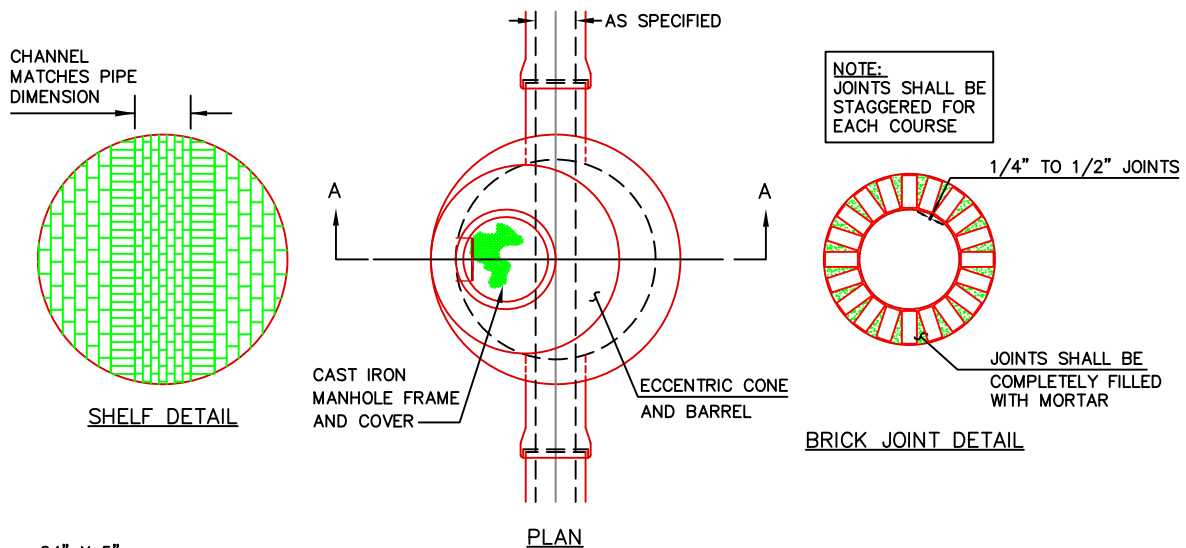
FIGURE II-20 = OIL / GRIT SEPARATOR

FIGURE II-21 = SEWER LINE CONFIGURATIONS FOR PRIMARY RESIDENCES
WITH AN ACCESSORY DWELLING UNIT

FIGURE II-22 = TYPE "B" UNDERDRAIN INSTALLATION ALTERNATIVE A

FIGURE II-23 = TYPE "B" UNDERDRAIN INSTALLATION ALTERNATIVE B

DATE: APRIL 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE:
REVISED:	LIST OF DETAILS		II-1



PRECAST CONCRETE MANHOLE

NOT TO SCALE

DATE:
DEC. 2009

REVISED:
DEC. 2021

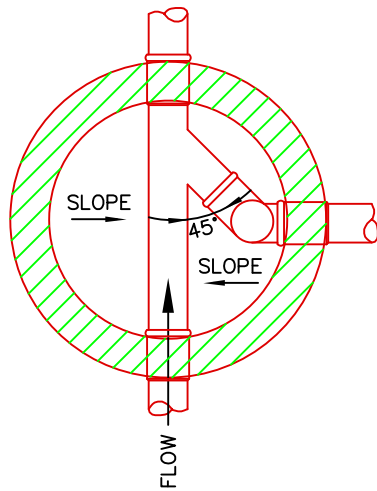
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**SANITARY SEWER AND STORM
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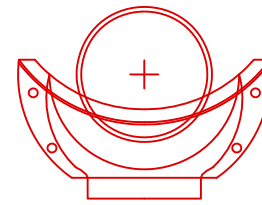
FIGURE:

II-2

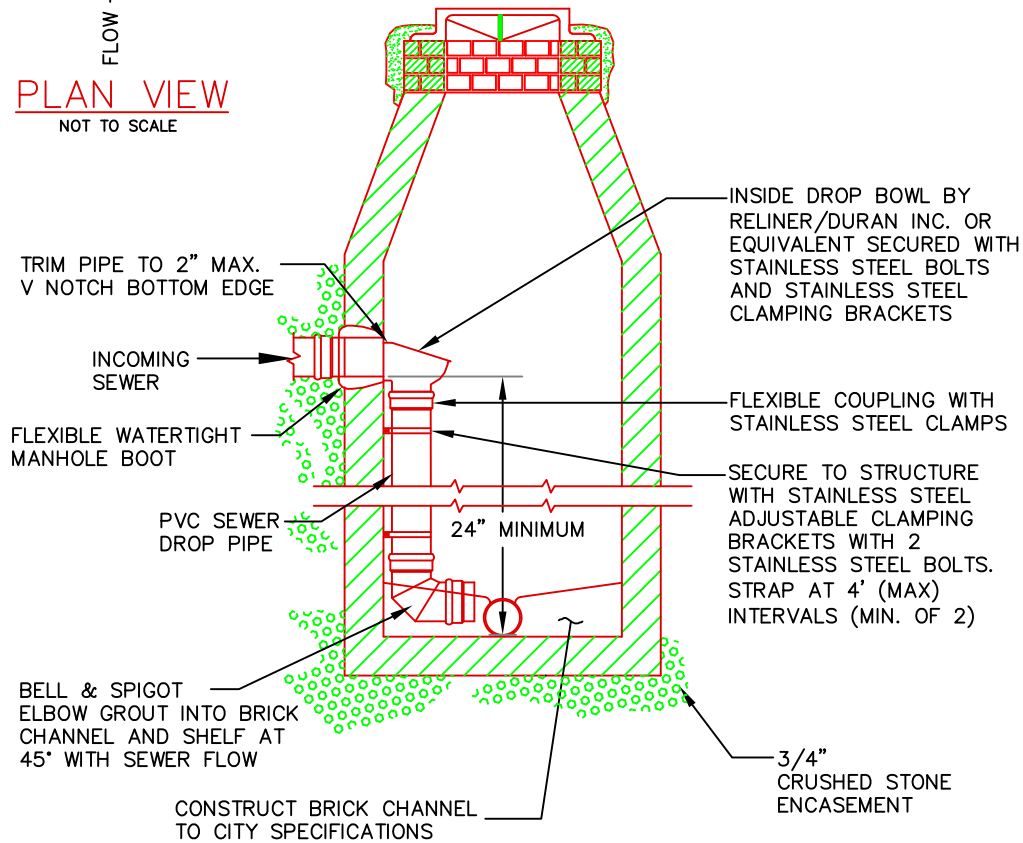
PRECAST CONCRETE MANHOLE



PLAN VIEW
NOT TO SCALE



**DROP BOWL
MOUNTING POSITION**
NOT TO SCALE



NOTES:

- 1) DROP MANHOLES ARE NOT REQUIRED FOR STORMWATER SYSTEMS.
- 2) MANHOLE MUST HAVE A MINIMUM DIAMETER OF 5' TO USE AN INSIDE DROP
- 3) ALL INSIDE DROP CONNECTIONS FOR SERVICES AND COLLECTOR SEWERS SHALL USE THE DROP BOWL AS SHOWN.

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**SANITARY SEWER AND STORM
DRAIN DESIGN STANDARDS**
SECTION II

FIGURE:

II-3

TYPICAL INSIDE DROP MANHOLE

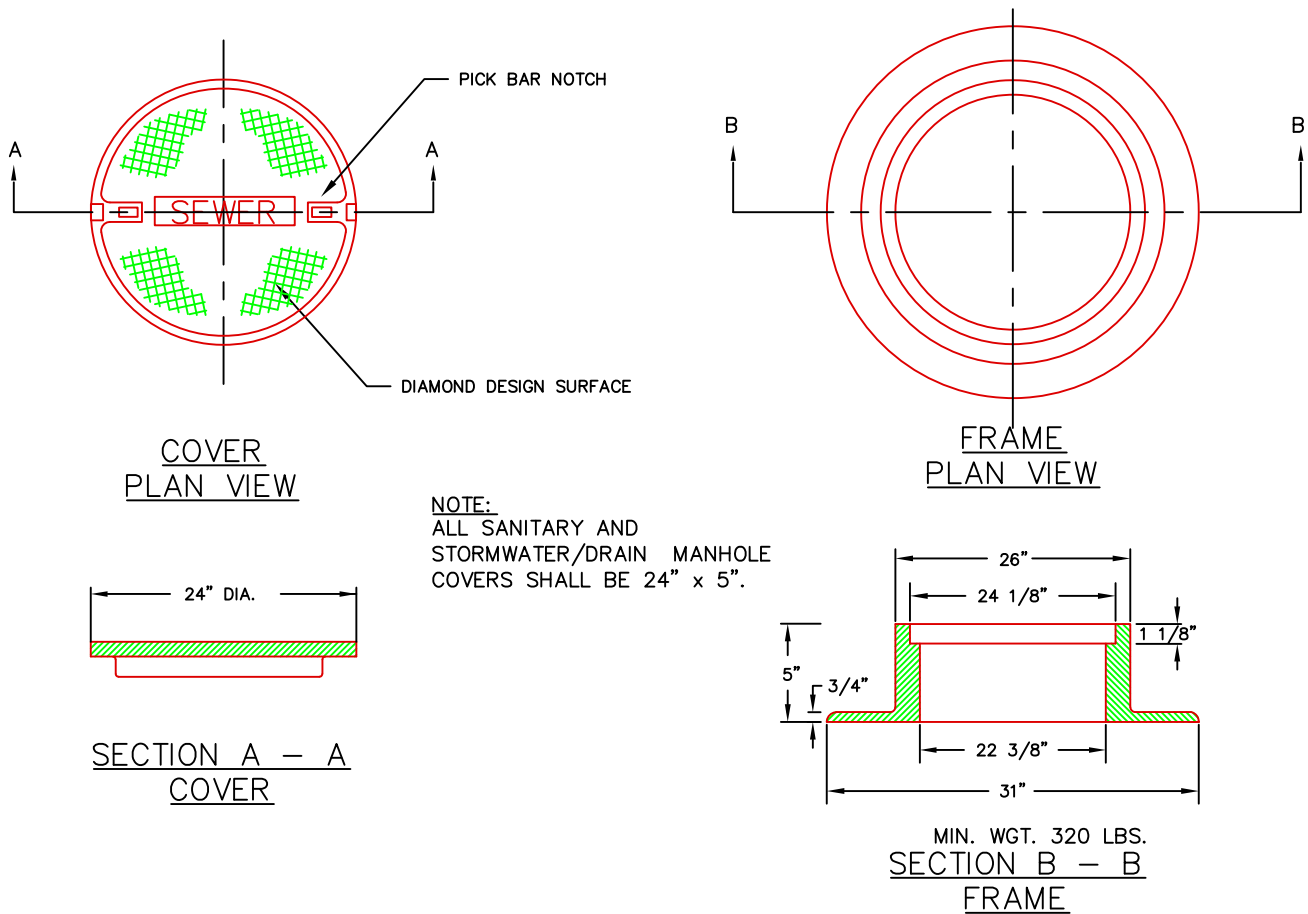
1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 lbs. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. MANHOLES MAY BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
3. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
4. ALL PIPES 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

DATE: MARCH 2019	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE: II-4
REVISED: AUG 2022	GENERAL NOTES FOR MANHOLES AND CATCH BASINS		

NOTES:

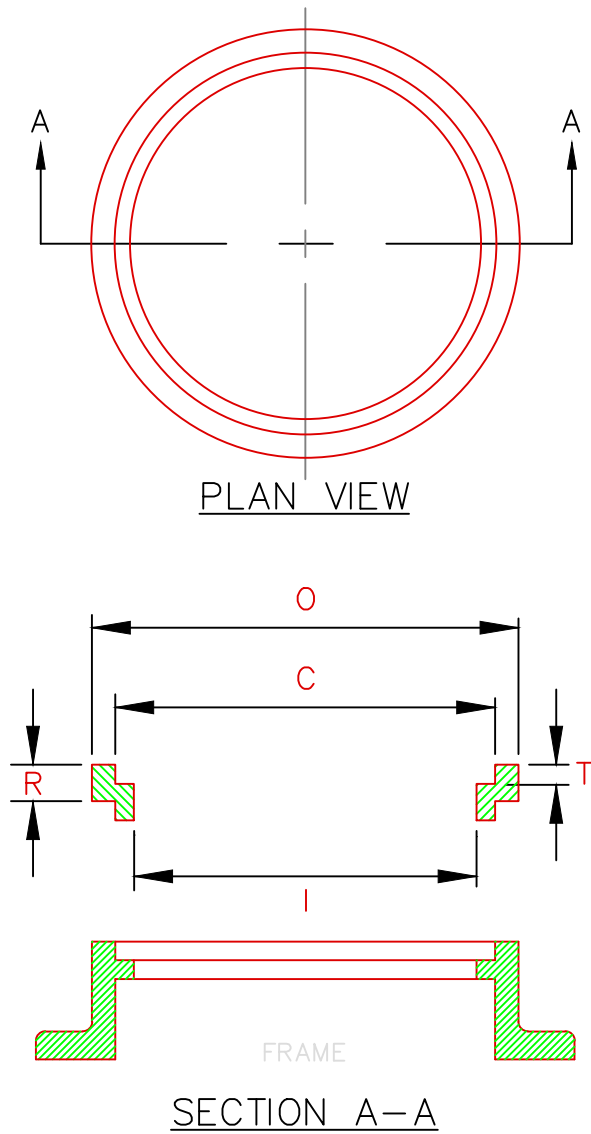
1. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
2. APPROVED MANHOLE FRAMES:
 - 2.1. EAST JORDAN = 1690Z
 - 2.2. NEENAH = R-1496
 - 2.3. OR APPROVED EQUAL
3. APPROVED MANHOLE COVERS
 - 3.1. EAST JORDAN = 2160A
 - 3.2. NEENAH = R-1496
 - 3.3. OR APPROVED EQUAL



CAST IRON MANHOLE COVER AND FRAME

NOT TO SCALE

DATE: AUG 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE:
REVISED: DEC 2021	CAST IRON MANHOLE COVER AND FRAME		II-5



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 NOT TO SCALE

DATE:
DEC 2009
REVISED:

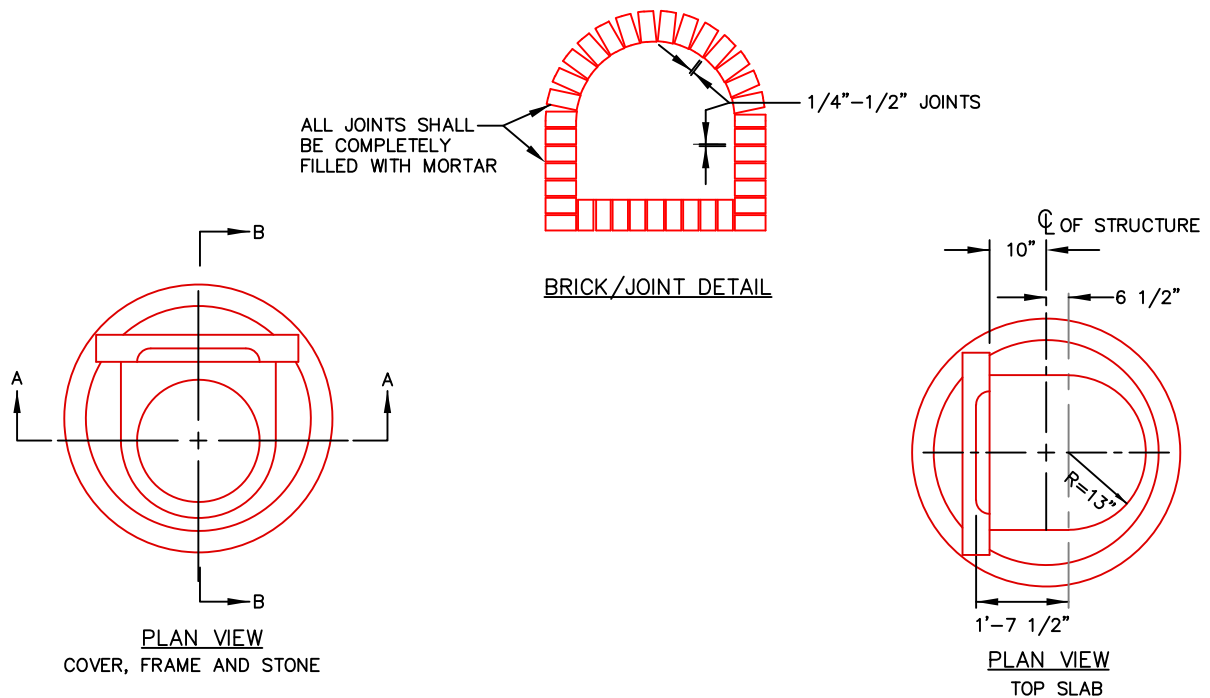
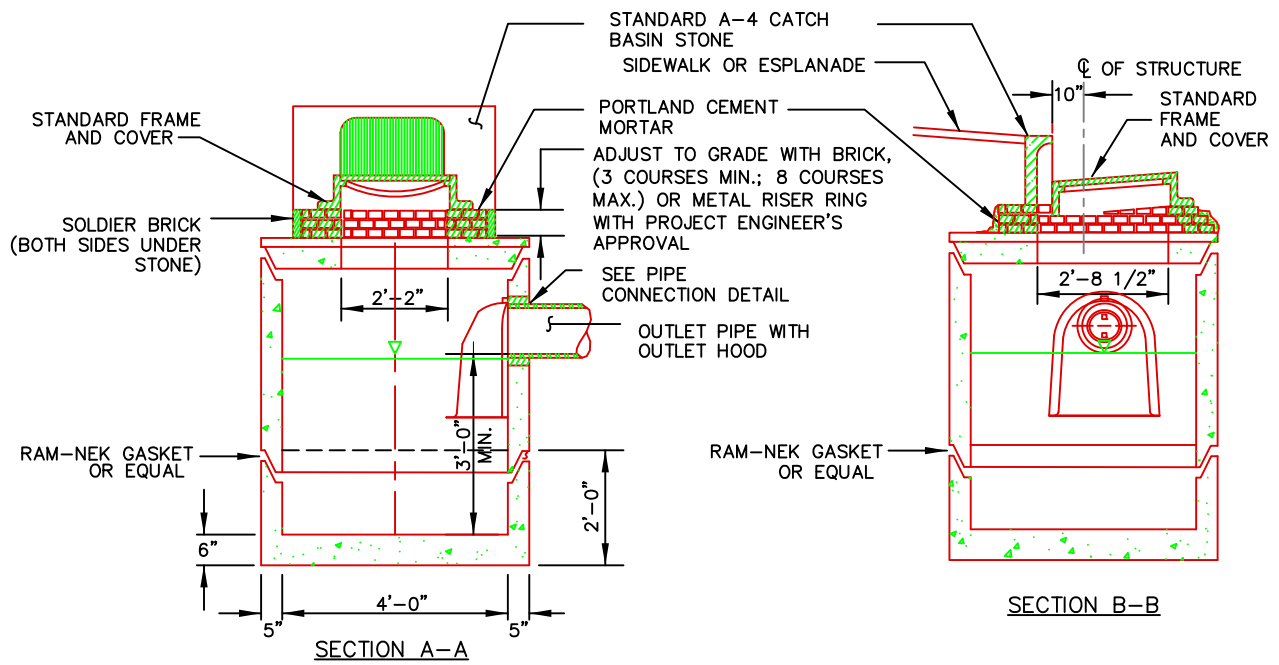
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**SANITARY SEWER AND STORM
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SECTION II

FIGURE:

II-6

MANHOLE RISER RING



PRECAST CONCRETE CATCH BASIN – TYPE "E"
NOT TO SCALE

DATE:
MARCH 2009

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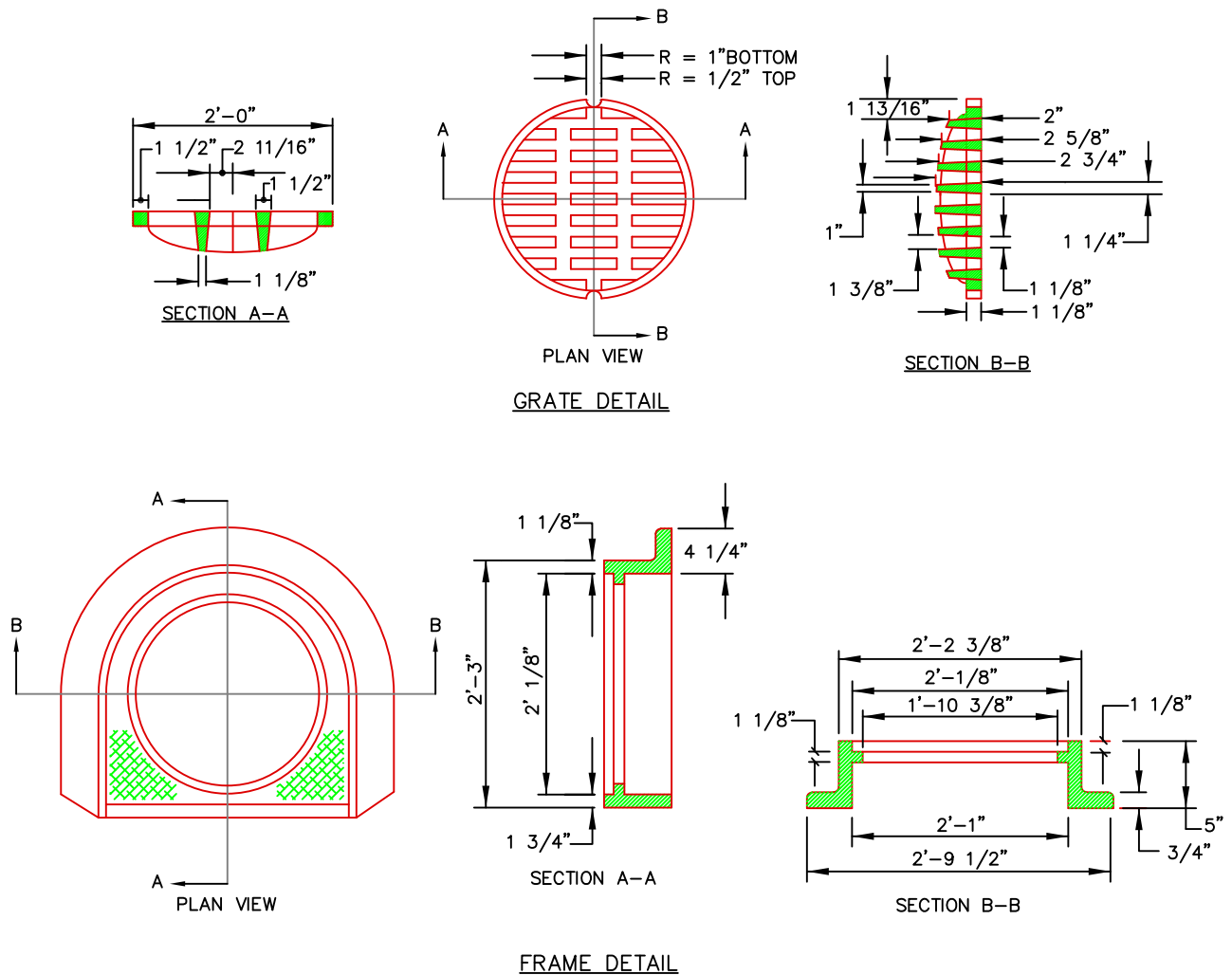
**SANITARY SEWER AND STORM
DRAIN DESIGN STANDARDS**
SECTION II

PRECAST CONCRETE CATCH BASIN

FIGURE:

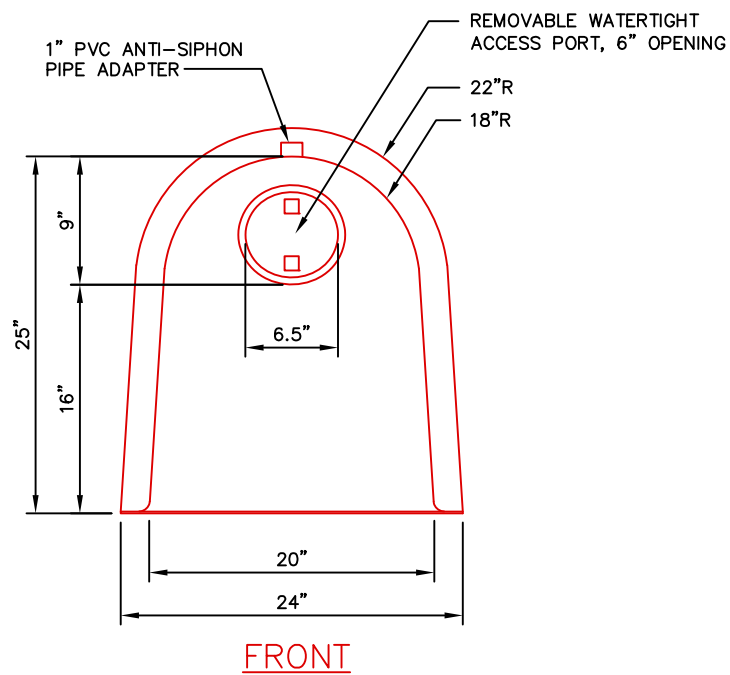
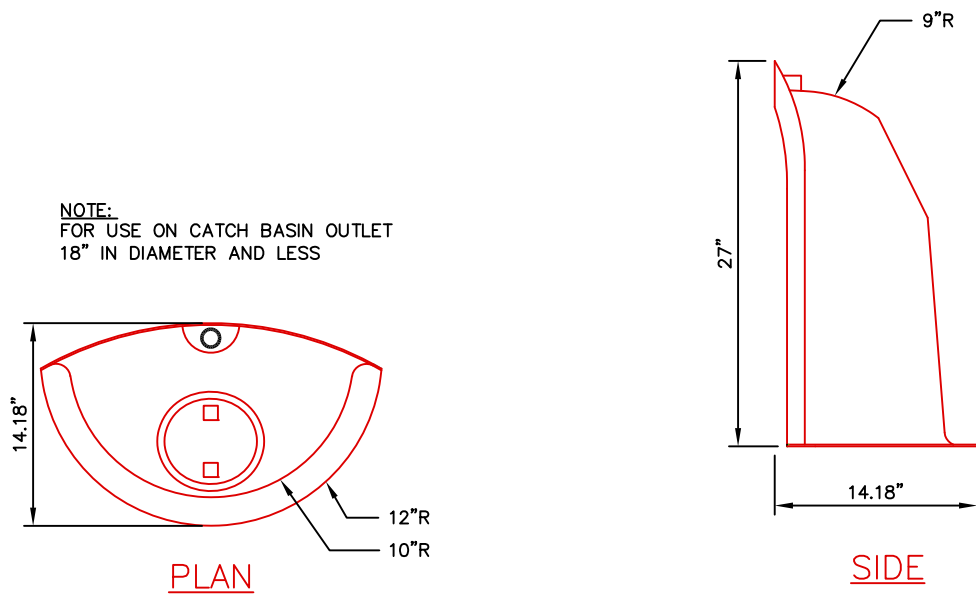
II-7

1. APPROVED CATCH BASIN FRAMES:
 - 1.1. EAST JORDAN = 7375Z
 - 1.2. NEENAH = R-3248
 - 1.3. OR APPROVED EQUAL
2. APPROVED CATCH BASIN GRATES
 - 2.1. EAST JORDAN = 2440M
 - 2.2. NEENAH = R-3248
 - 2.3. OR APPROVED EQUAL



CATCH BASIN FRAME & GRATE

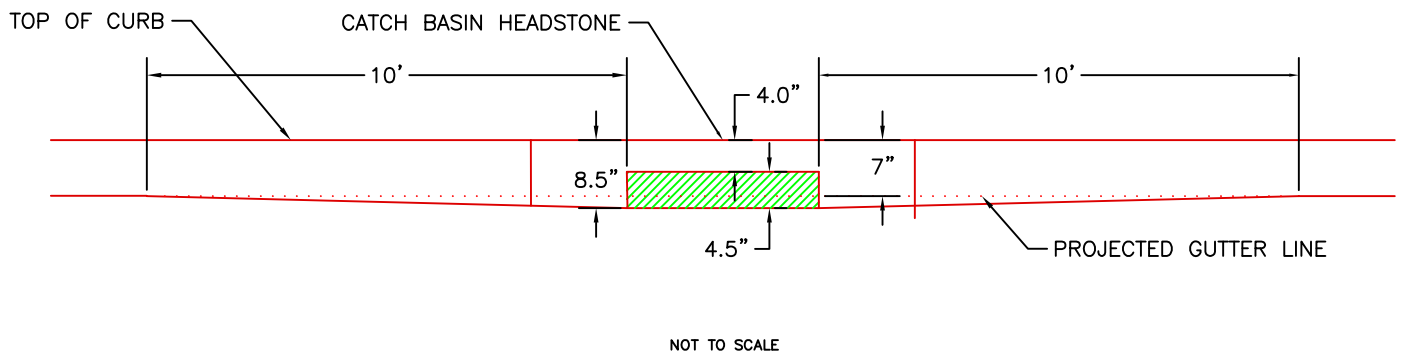
DATE: AUGUST 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE:
REVISED: DEC. 2021	CATCH BASIN FRAME AND GRATE		II-8



CATCH BASIN HOOD
NOT TO SCALE

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CATCH BASIN HOOD			

NOTE:
DISH 10' EITHER SIDE OF HEADSTONE FOR
CATCH BASIN AT LOW POINT



DATE:
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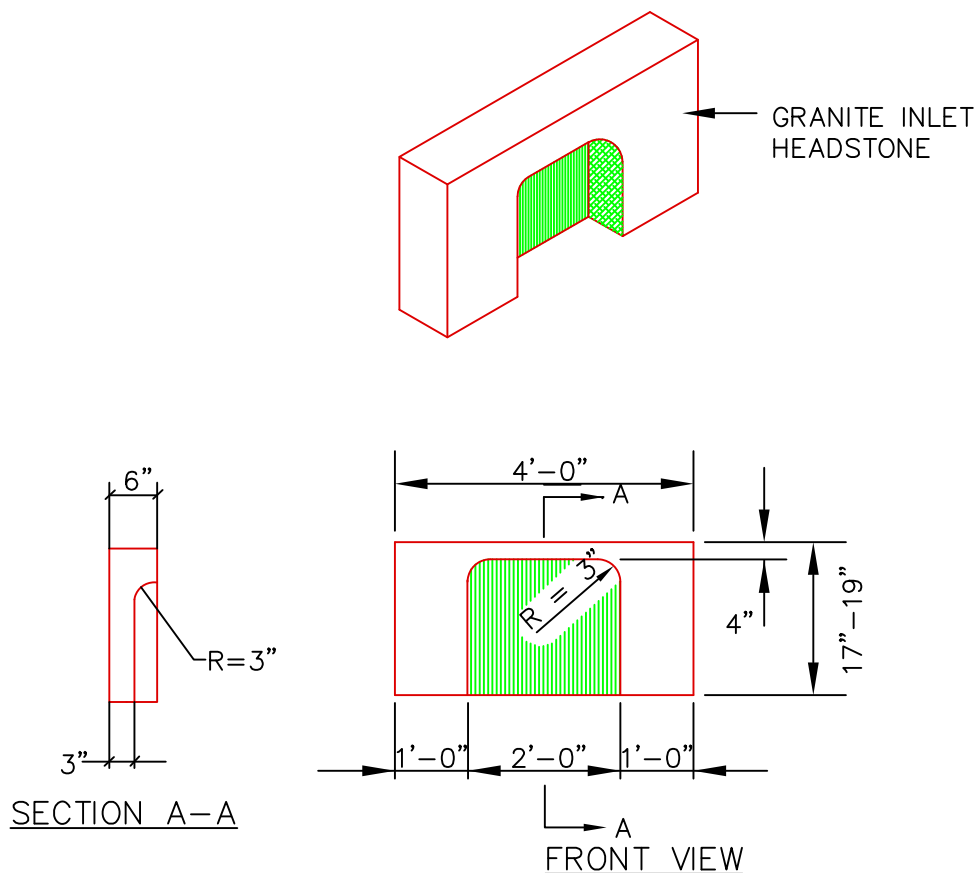
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**SANITARY SEWER AND STORM
DRAIN DESIGN STANDARDS**
SECTION II

**TYPICAL PAVEMENT GRADING
FOR CATCH BASIN INLETS**

FIGURE:

II-10



4' GRANITE HEADSTONE FOR CATCH BASIN INLET

NOT TO SCALE

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4' GRANITE HEADSTONE FOR CATCH BASIN INLET

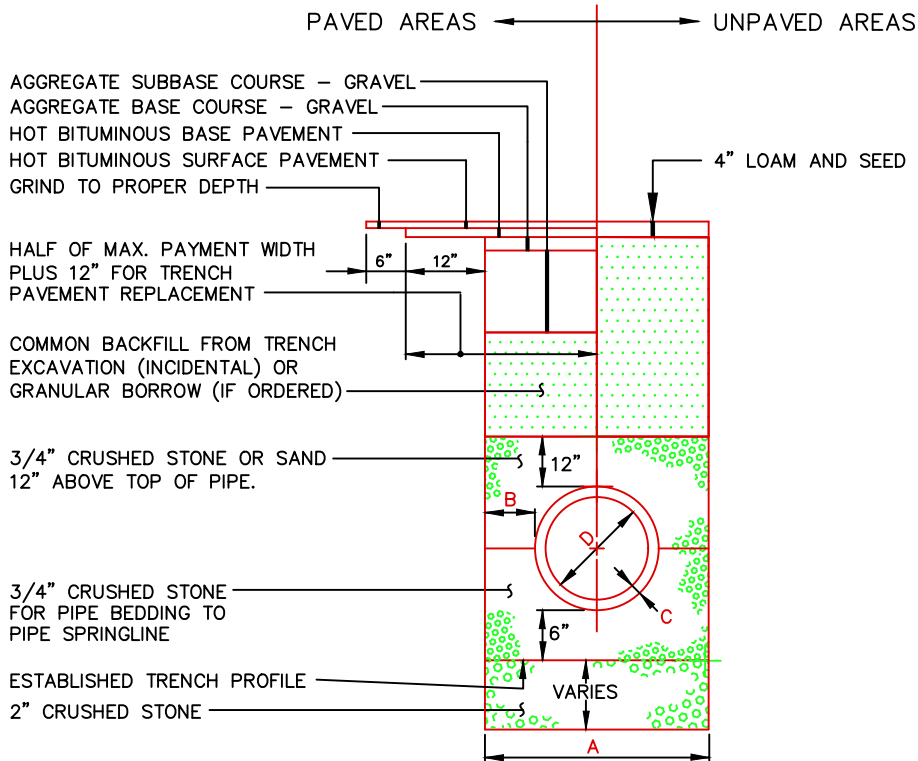
FIGURE:

II-11

NOTES:

DEPTH OF BITUMINOUS PAVEMENT AND AGGREGATE COURSES SHALL BE DETERMINED BY STREET CLASSIFICATION.

ANY ALTERNATE TRENCHING OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY OF PORTLAND, DEPARTMENT OF PUBLIC SERVICES..



NOTES

1. ALTERNATIVE CONSTRUCTION METHODS OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2. IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
3. DIMENSION **B** SHALL BE SUFFICIENT TO ALLOW CRUSHED STONE BEDDING TO BE PLACED AND COMPACTED UNDER THE HAUNCHES OF THE PIPE; BUT IN ALL CASES DIMENSION **B** SHALL BE AT LEAST 9".
4. DIMENSION **A** IS THE MAXIMUM WIDTH ALLOWED FOR CALCULATING PAY QUANTITIES UNDER GRANULAR BORROW, CRUSHED STONE, STRUCTURAL EARTH EXCAVATION, AND STRUCTURAL ROCK EXCAVATION. DIMENSION **A** SHALL BE BASED ON PIPE DIAMETER **D**, AS SET FORTH IN THE FOLLOWING TABLE.

PIPE DIAMETER, D (INCHES)	MAX. TRENCH WIDTH, A (FEET)
4	4.0
6	4.0
8	4.0
10	4.0
12	5.0
15	5.0
18	5.0
21	5.0
24	6.0
27	6.0
30	6.0
36	6.0
42	7.0
48	7.0

TYPICAL PIPE TRENCH INSTALLATION

NOT TO SCALE

DATE:
AUGUST 2009

REVISED:
SEPTEMBER 2022

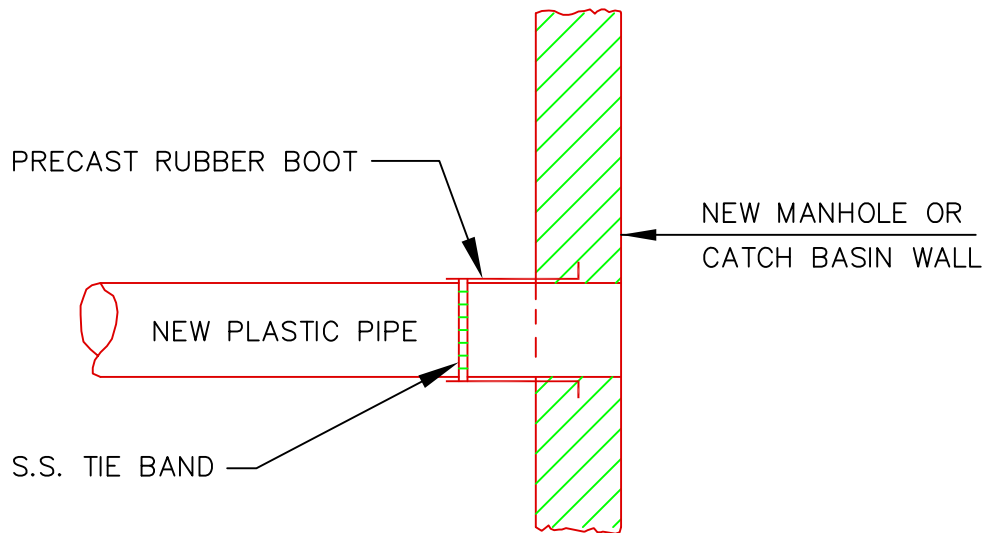
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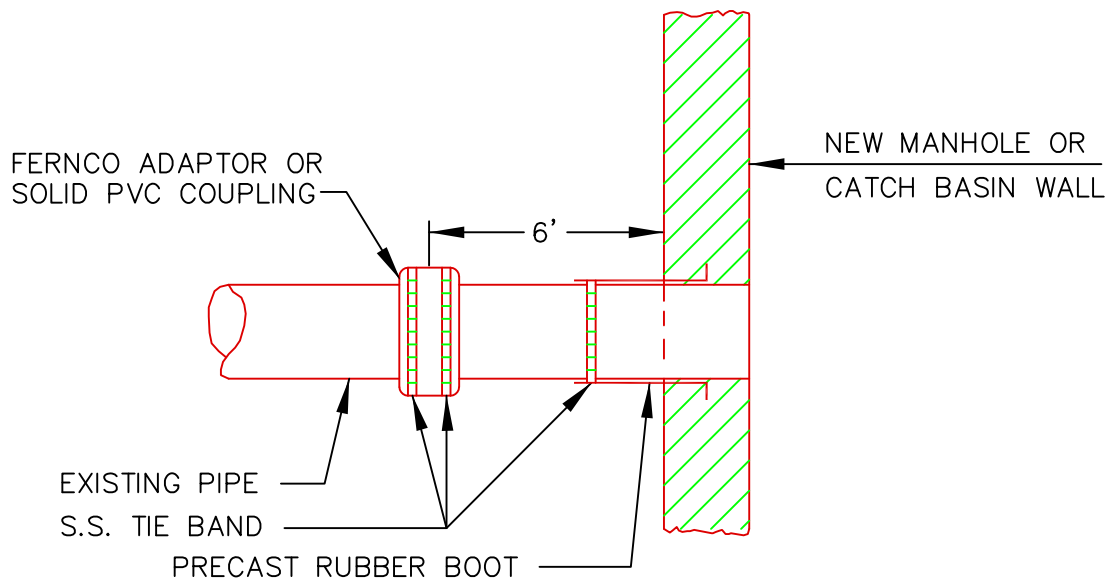
TYPICAL PIPE TRENCH INSTALLATION AND NOTES

FIGURE:

II-12



METHOD 2 – NEW CONSTRUCTION



METHOD 1 – EXISTING PIPE INTO NEW STRUCTURE

PLASTIC PIPE CONNECTIONS

NOT TO SCALE

DATE:
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TECHNICAL STANDARDS MANUAL

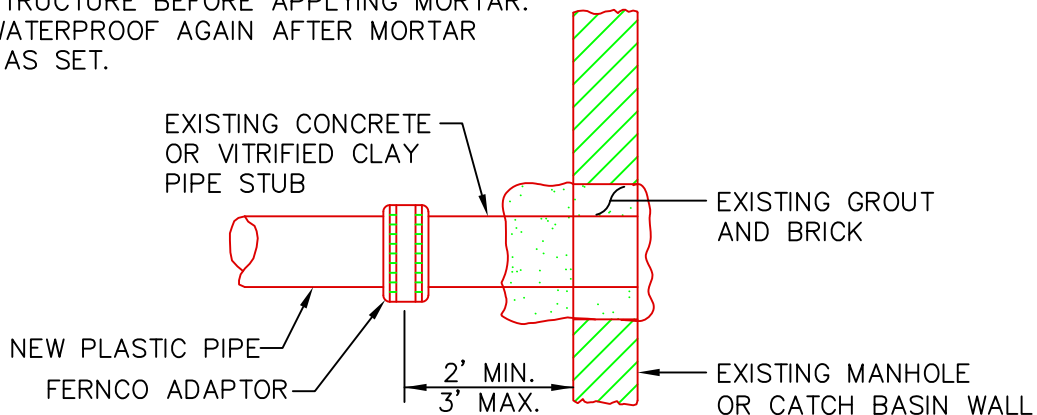
**SANITARY SEWER AND STORM
DRAIN DESIGN STANDARDS**
SECTION II

FIGURE:

II-13

PLASTIC PIPE CONNECTION METHODS 1 & 2

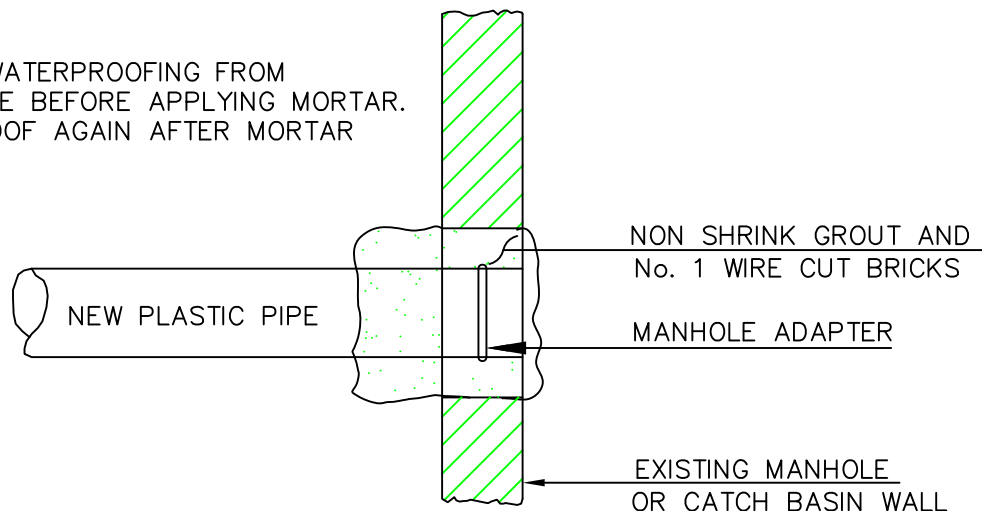
NOTE:
REMOVE WATERPROOFING FROM
STRUCTURE BEFORE APPLYING MORTAR.
WATERPROOF AGAIN AFTER MORTAR
HAS SET.



METHOD 4 – NEW PIPE TO EXISTING STRUCTURE STUB

NOTE: EXISTING MANHOLE OR CATCH BASIN SHALL BE CORE DRILLED
FOR PIPE INSTALLATION. IF PIPE DIAMETER IS SO LARGE
THAT CORE DRILLING IS PROHIBITED, THE CONTRACTOR MAY
SAW CUT THE STRUCTURE TO CREATE PIPE OPENING.
THE NEW OPENING MUST THEN BE SEALED AND WATERTIGHT
BOTH INSIDE AND OUTSIDE THE STRUCTURE.

NOTE:
REMOVE WATERPROOFING FROM
STRUCTURE BEFORE APPLYING MORTAR.
WATERPROOF AGAIN AFTER MORTAR
HAS SET.

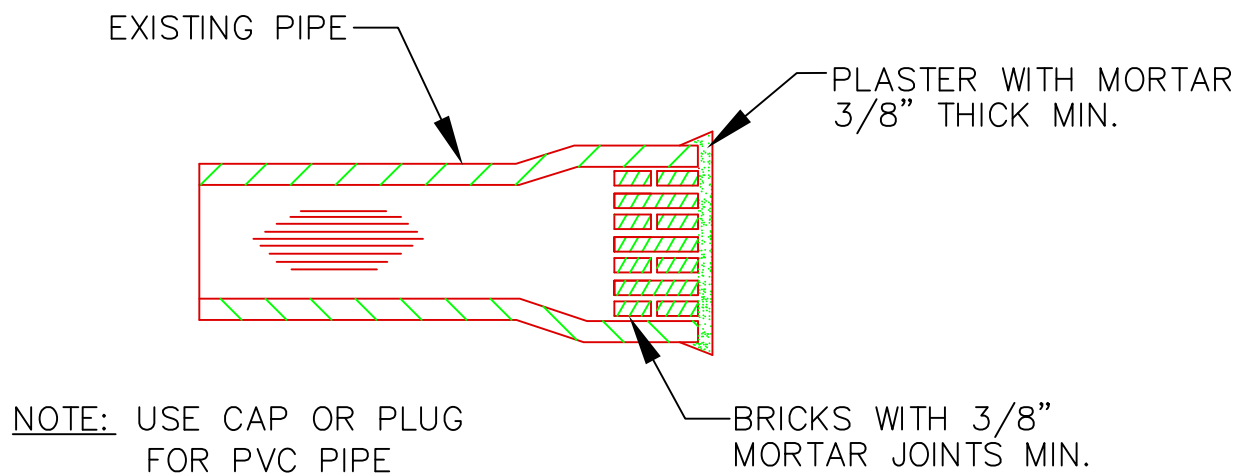


METHOD 3 – NEW PIPE INTO EXISTING STRUCTURE

PLASTIC PIPE CONNECTIONS

NOT TO SCALE

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REVISED:	PLASTIC PIPE CONNECTION METHODS 3 & 4		II-14



MASONRY PLUG

NOT TO SCALE

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**SANITARY SEWER AND STORM
DRAIN DESIGN STANDARDS**
SECTION II

FIGURE:

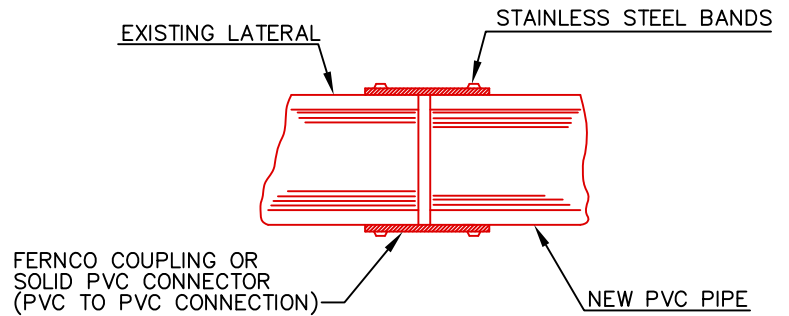
II-15

MASONRY PLUG

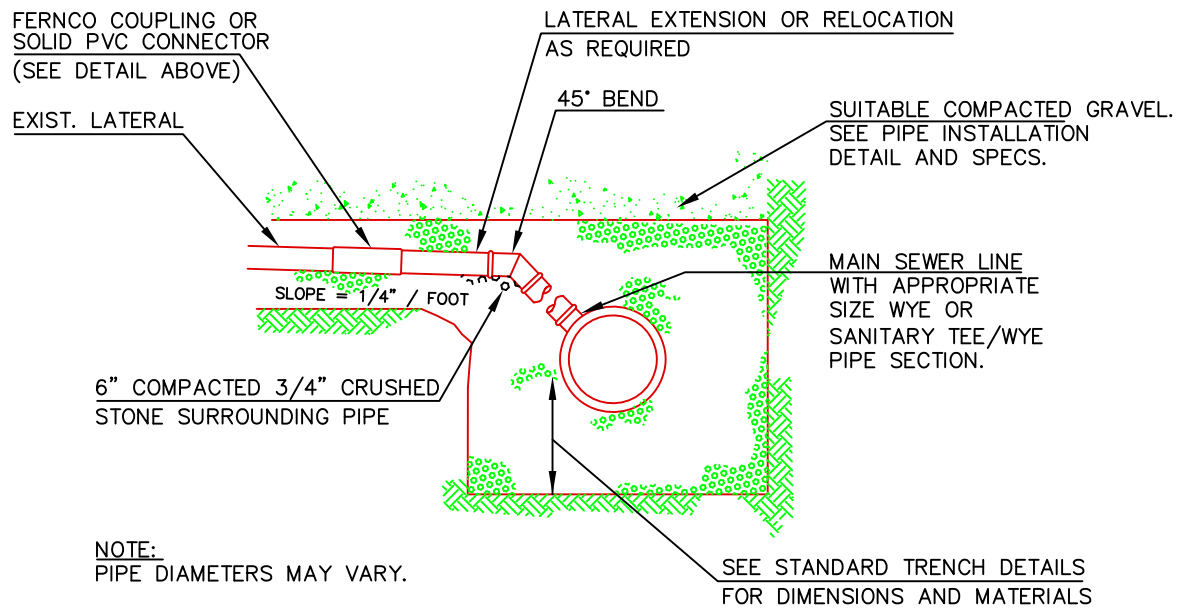
NOTE:

LOCATIONS AND ELEVATIONS OF STUBS SHOWN ON THE PLANS ARE TO BE CONSIDERED AS APPROXIMATE AND MAY BE ADJUSTED AS DIRECTED TO SUIT FIELD CONDITIONS.

HOUSE CONNECTIONS AND CATCH BASINS CONNECTIONS TO THE MAIN LINE OF THE SEWER, SHALL CONSIST OF AN APPROPRIATE WYE BRANCH CONNECTION AS SHOWN ON THE PLANS, OR AS DIRECTED. ACTUAL WYE LOCATIONS FOR HOUSE CONNECTIONS AND CATCH BASIN CONNECTIONS SHALL BE DETERMINED DURING CONSTRUCTION. THE CONTRACTOR SHALL KEEP A COMPLETE RECORD OF WYE LOCATIONS WHICH SHALL BE GIVEN TO THE CITY OF PORTLAND UPON COMPLETION OF THE CONTRACT. ALL PVC TO PVC COUPLING SHALL BE "SOLID PVC COUPLINGS".



FERNCO COUPLING FOR REPAIR OR REPLACEMENT



SECTION

TYPICAL EXISTING LATERAL CONNECTION

NOT TO SCALE

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**SANITARY SEWER AND STORM
DRAIN DESIGN STANDARDS**
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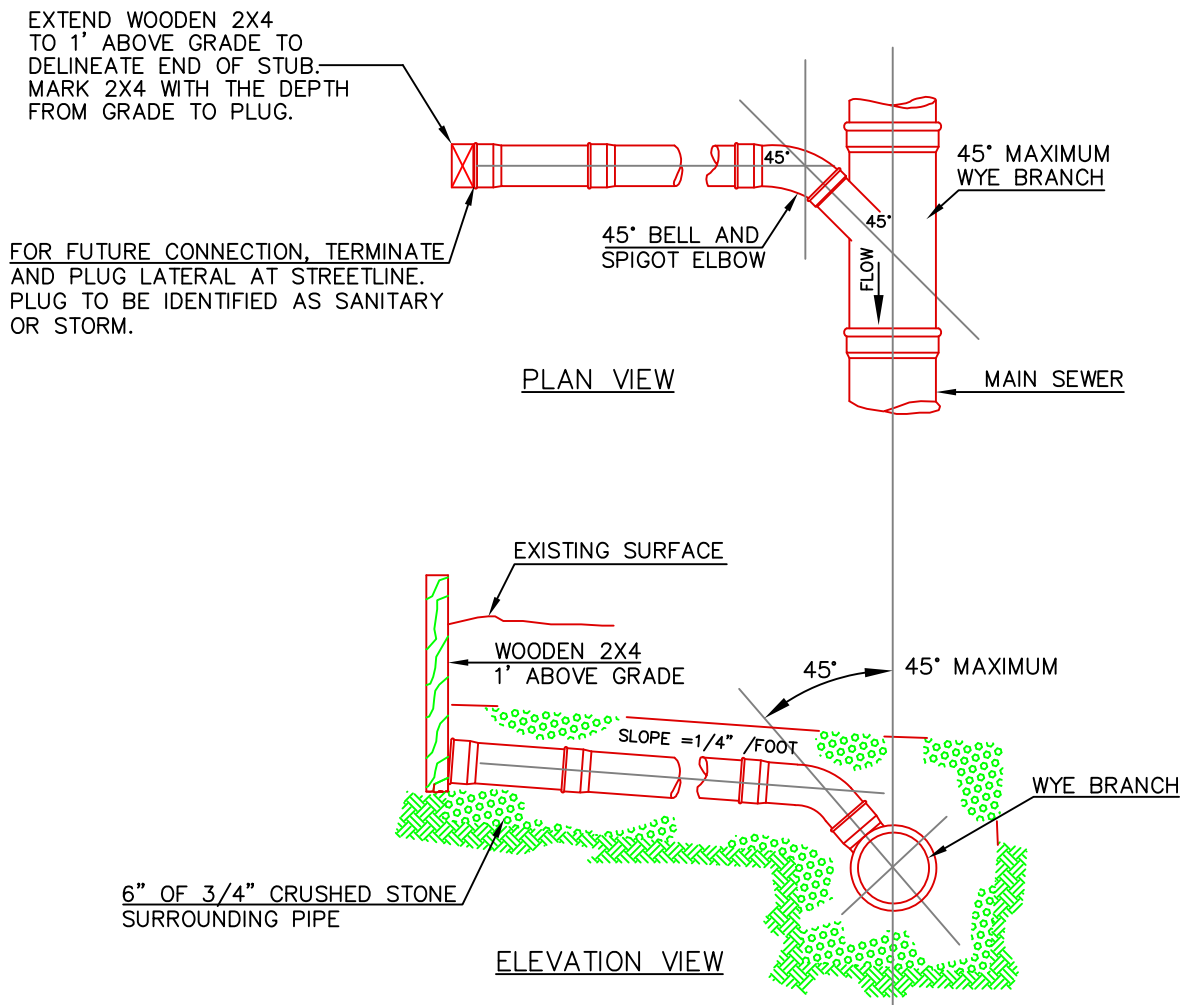
FIGURE:

II-16

TYPICAL EXISTING LATERAL CONNECTION

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

DATE:
AUGUST 2009
REVISED:

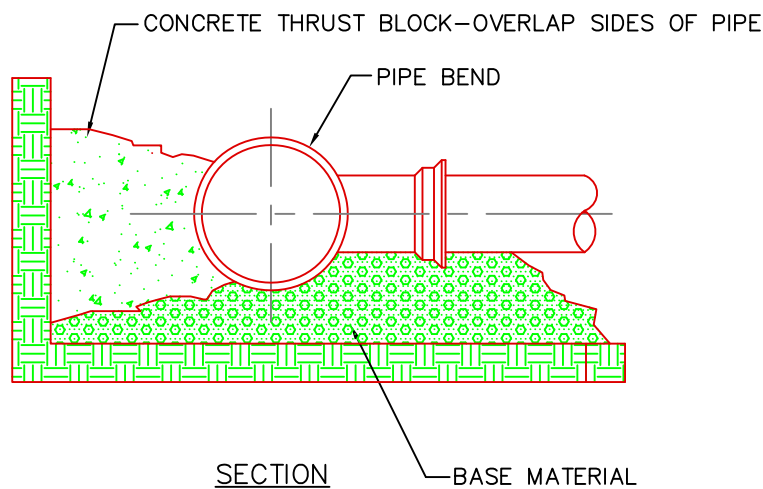
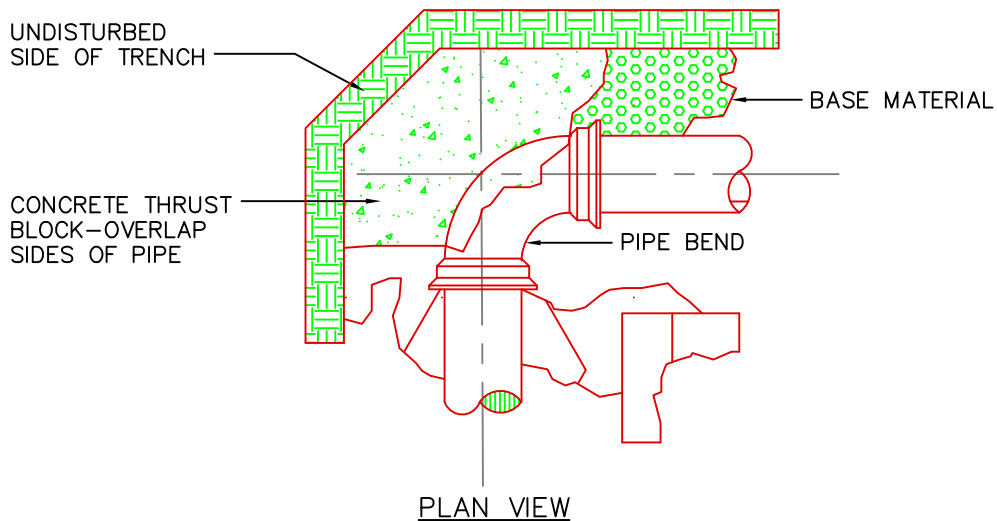
CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

**SANITARY SEWER AND STORM
DRAIN DESIGN STANDARDS**
SECTION II

FIGURE:

II-17

TYPICAL HOUSE LATERAL TEE/WYE CONNECTION



THRUST/RETAINER SCHEDULE		
1/4 BEND	(90°)	USE POURED-IN-PLACE THRUST BLOCK w/RETAINERS
1/8 BEND	(45°)	THRUST BLOCK w/RETAINERS
1/16 BEND	(22 1/2°)	THRUST BLOCK
1/32 BEND	(11 1/4°)	THRUST BLOCK

NOTE: KEEP CONCRETE LEAR OF PIPE JOINT, NUTS AND BOLTS

FORCE MAIN — CONCRETE THRUST BLOCK PLACEMENT ON VERTICAL & HORIZONTAL BENDS

NOT TO SCALE

DATE:
AUGUST 2009

REVISED:

CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

**SANITARY SEWER AND STORM
DRAIN DESIGN STANDARDS**
SECTION II

FIGURE:

II-18

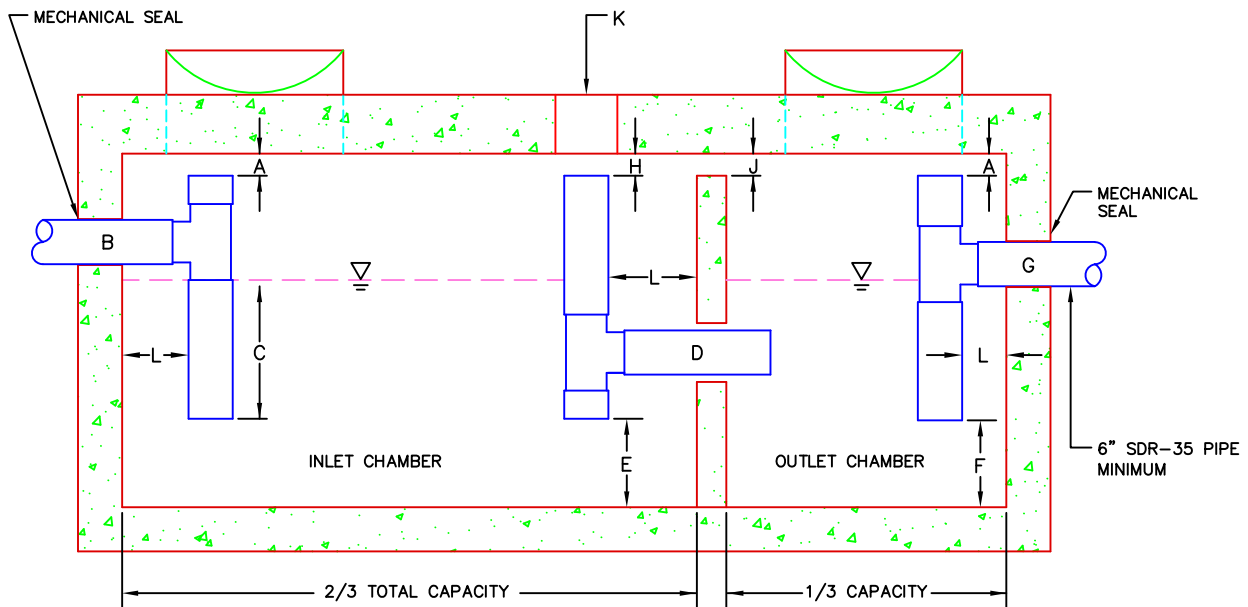
FORCE MAIN CONCRETE THRUST BLOCK PLACEMENT

1000 GALLON GREASE INTERCEPTOR:

- A) MINIMUM 6", BUT NOT LESS THAN PIPE DIAMETER.
- B) INLET PIPE INVERT TO BE 2 1/2" ABOVE LIQUID SURFACE.
- C) INLET PIPE TO TERMINATE 2/3 DEPTH OF WATER LEVEL.
- D) BAFFLE T
- E) 6" FROM FLOOR TO END OF BAFFLE PIPE.
- F) 6" FROM FLOOR TO END OF OUTLET PIPE.
- G) OUTLET PIPE NO SMALLER THAN INLET PIPE.
- H) TOP OF BAFFLE PIPE TERMINATES NO LOWER THAN BAFFLE HEIGHT.
- I) INLET CHAMBER IS $\frac{2}{3}$ TOTAL CAPACITY; OUTLET CHAMBER IS $\frac{1}{3}$ TOTAL CAPACITY.
- J) 6" MINIMUM DISTANCE FROM CEILING.
- K) MINIMUM 6" CLEANOUT.
- L) INLET AND OUTLET PIPES MUST BE SPACED SO THAT CLEAR ACCESS CAN BE MADE FROM MANHOLES.

THIS STRUCTURE MUST DISCHARGE TO A CITY OF PORTLAND STANDARD MANHOLE WITH CHANNEL AND MUST BE RATED.

DAILY PROCESS FLOW FROM THE FACILITY WITH NO SANITARY OR OTHER EXTRANEEOUS WASTES FLOWING THROUGH IT.

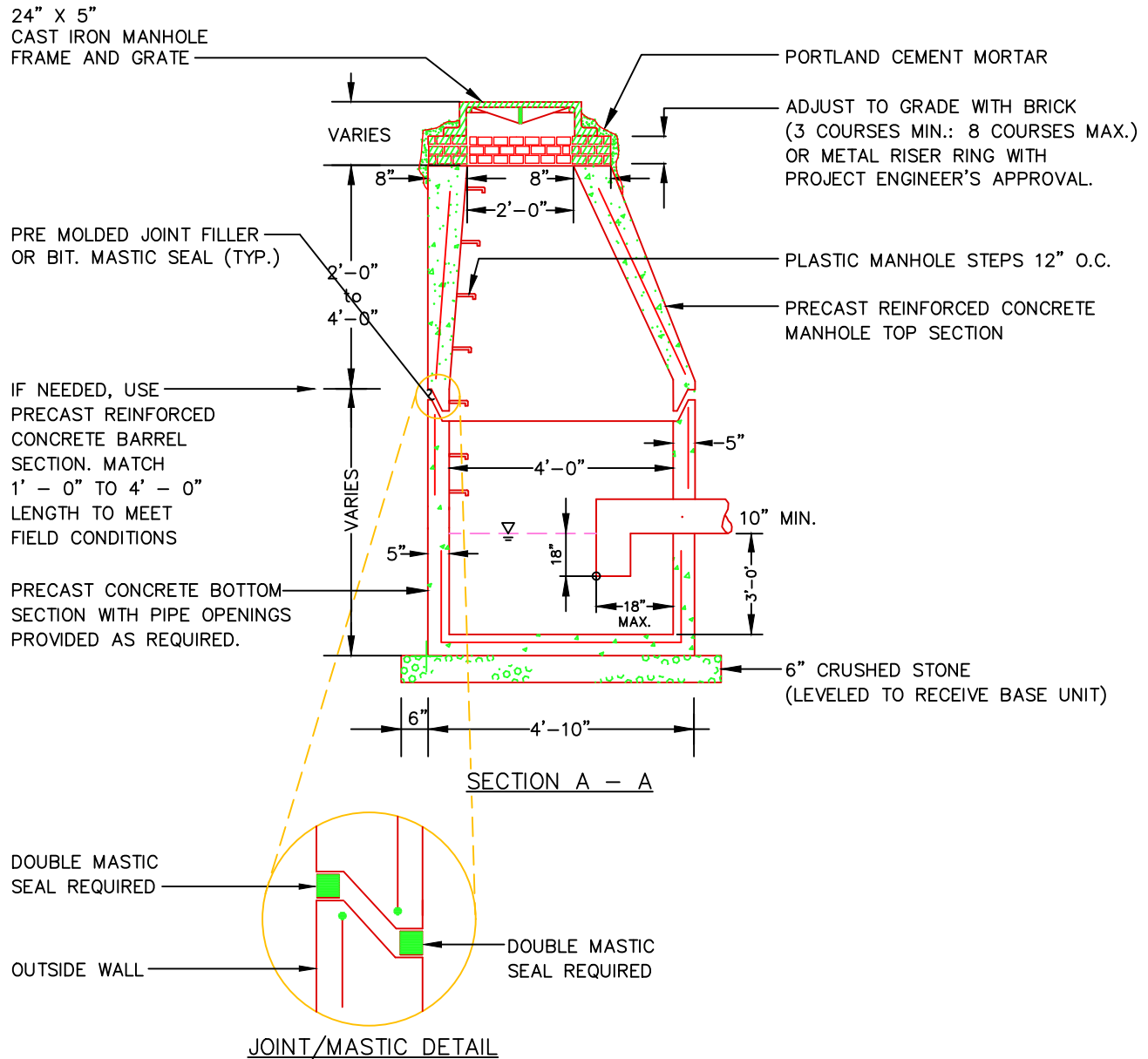


1000 GALLON GREASE INTERCEPTOR

DATE: APRIL 2014	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE:
REVISED:	EXTERNAL GREASE TRAP DESIGN		II-19

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.



OIL / GRIT SEPARATOR

NOT TO SCALE

DATE:
FEB 2015

REVISED:
AUG 2022

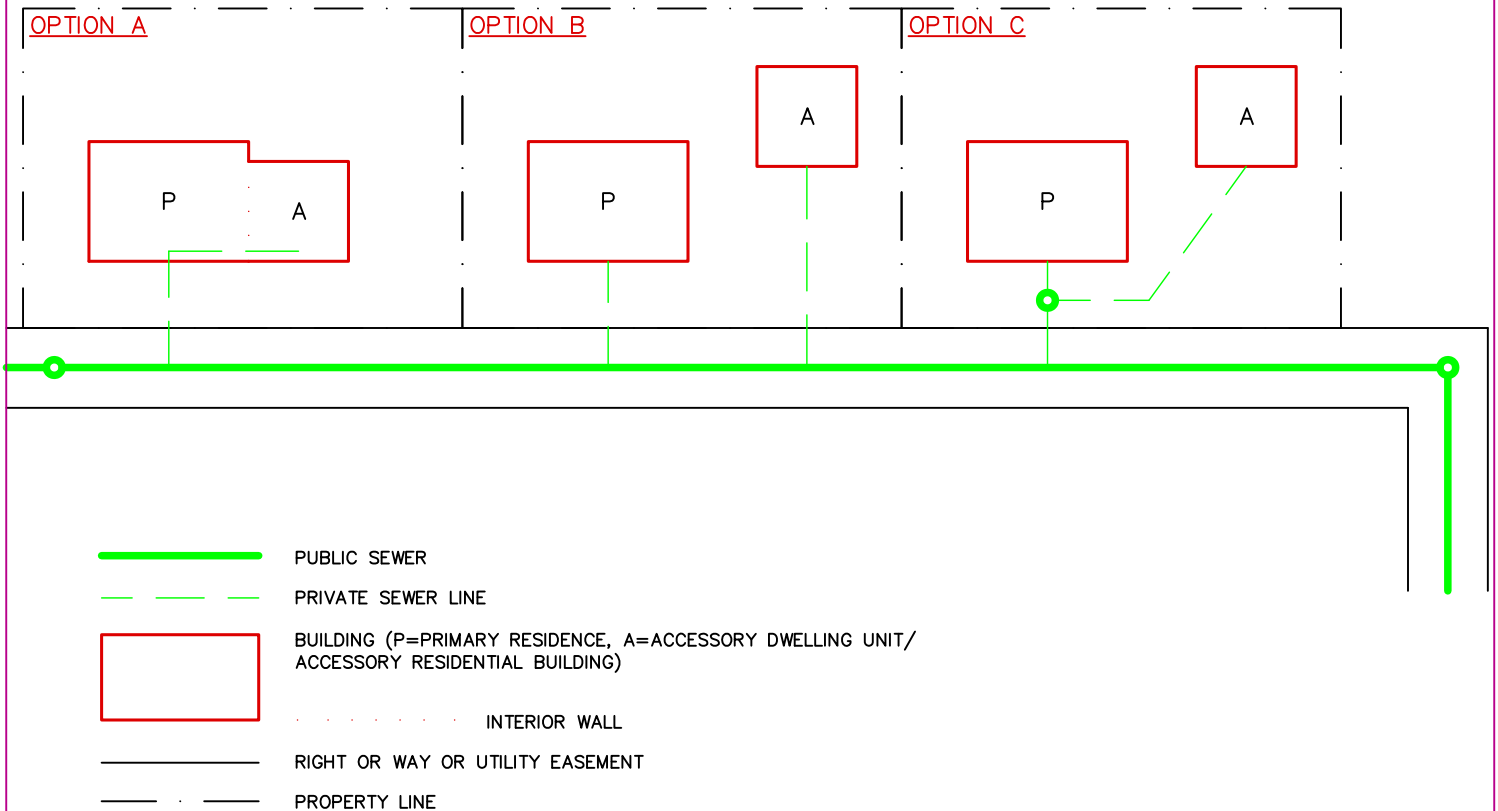
CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

**SANITARY SEWER AND STORM
DRAIN DESIGN STANDARDS**
SECTION II

FIGURE:

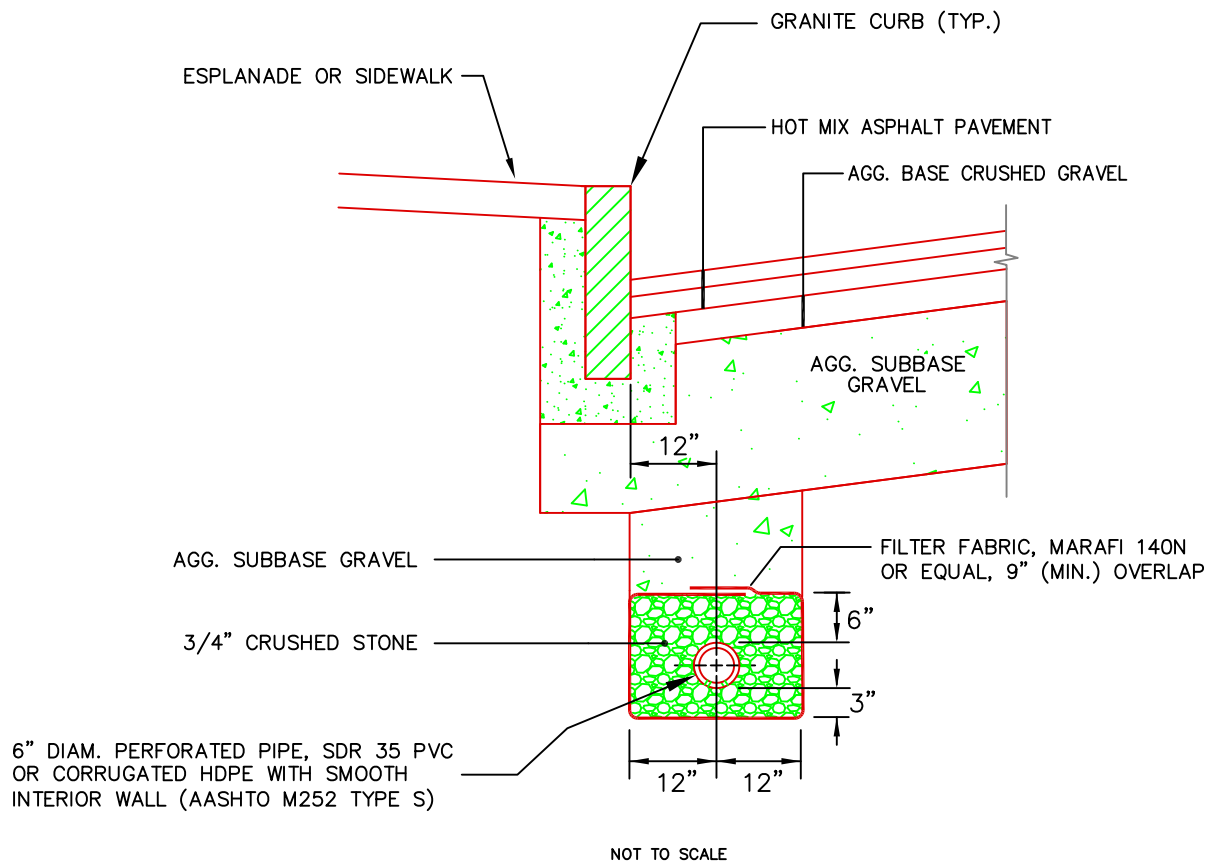
II-20

OIL / GRIT SEPARATOR



POTENTIAL SEWER LINE CONFIGURATION FOR PRIMARY RESIDENCES WITH AN ACCESSORY DWELLING UNIT
NOT TO SCALE

DATE: APRIL 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE: II-21
	SEWER LINE CONFIGURATIONS FOR PRIMARY RESIDENCES WITH AN ACCESSORY DWELLING UNIT		



NOTES

1. UNDERDRAIN PIPE INVERT ELEVATIONS SHALL BE AT LEAST 42 INCHES BELOW GUTTER GRADES.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.

DATE:
AUGUST 2009

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AUG 2022

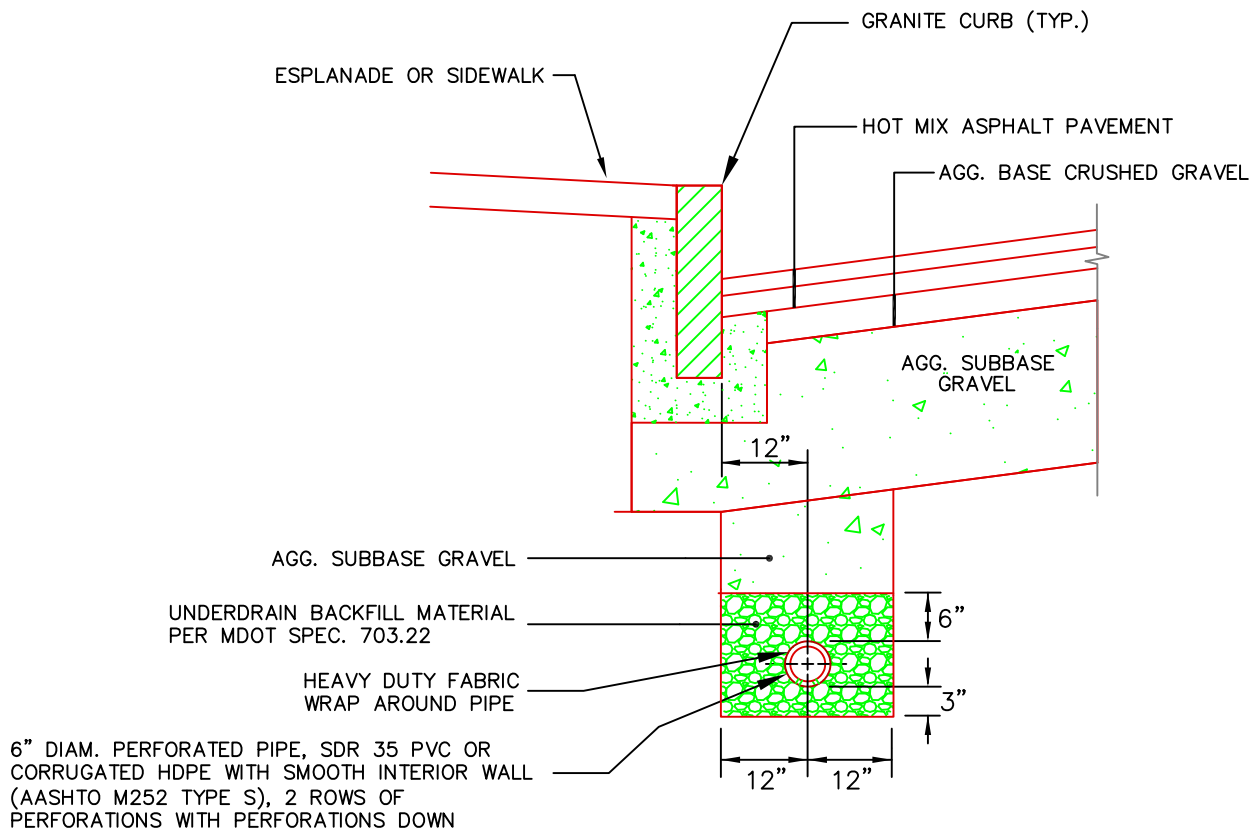
CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

**SANITARY SEWER AND STORM
DRAIN DESIGN STANDARDS**
SECTION II

FIGURE:

II-22

**TYPE "B" UNDERDRAIN INSTALLATION
ALTERNATIVE A**



NOT TO SCALE

NOTES

1. UNDERDRAIN PIPE INVERT ELEVATIONS SHALL BE AT LEAST 42 INCHES BELOW GUTTER GRADES.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN. THE PIPE SHALL BE FURNISHED WITH A HEAVY DUTY FABRIC WRAP, SUCH AS "FILTER SOCK" BY ADS.

DATE:
AUGUST 2009

REVISED:
AUG 2022

CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

**SANITARY SEWER AND STORM
DRAIN DESIGN STANDARDS**
SECTION II

FIGURE:

II-23

**TYPE "B" UNDERDRAIN INSTALLATION
ALTERNATIVE B**



6. SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS

6.1. TECHNICAL REFERENCE

6.1.1. The following technical publications are recognized by the City of Portland for use in the design, construction and testing of sanitary and stormwater systems:

- A. *Technical Report #16 (TR-16): Guides for the Design of Wastewater Treatment Works*, Prepared by the New England Interstate Water Pollution Control Commission available for review at the Department of Public Works or online at www.neiwpcc.org/tr16guides.asp; and
- B. *Maine Department of Transportation (MDOT) Standard Specifications for Highways and Bridges*, Current Edition.

6.2. SANITARY STANDARDS AND SPECIFICATIONS

6.2.1. Sewer and storm drain systems shall be planned and constructed in accordance with the regulations contained in Chapter 24 of the City Code of Ordinances.

6.2.2. The information presented below are City of Portland exceptions to *TR-16* or additional required standards:

- A. The introduction of non-contaminated water such as rain water, non-contact cooling water, groundwater from foundation drains, sump pumps, surface drains, or any other sources of inflow shall not be allowed to discharge into a sewer which conveys sanitary waste unless approved by the Department of Public Works Water Resources Manager or their designee;
- B. Appeals will be considered by the Director of Public Works. Refer to §24-44 of the City Code (Public sewer connection limitations);
- C. It is not permissible to backfill any excavation with frozen materials, organic materials, clay or blasted ledge. The maximum size of backfill material shall not exceed six inches (6"). Please refer to Division 2 (Street Opening Permits) in the City Code;
- D. The Department of Public Works shall be responsible for televising all new sewer construction for acceptability as soon as backfilling has been completed and access is available. The permittee will be invoiced for these services. Information on current rates is available in Chapter 24 (Sewer Ordinance);
- E. Permits to connect to the municipal stormwater and sanitary sewer system are required and may be obtained from the Department of Public Works; and
- F. Covered or enclosed parking areas, mechanical rooms, garages (parking areas not exposed to rain and snow) shall direct surface drainage to a sanitary sewer. Storm water from outside of these areas shall be directed away from this covered area so that additional storm water is not directed to the sewer. Drainage from these areas shall be collected by an oil/grit separator, as shown in Figure [VIII-20](#) or an approved equivalent.

6.3. SANITARY MANHOLES

6.3.1. All manholes shall be designed in conformance with City of Portland standards as illustrated in Figure [HVI-02](#).

6.3.2. When constructing sanitary manhole channels, if the vertical difference between the invert elevation of the manhole channel and the invert elevation of the sewer pipe connecting to such manhole is two vertical feet (2') or greater, a standard City of Portland internal drop manhole shall be provided. Such drop manholes shall conform to the engineering specifications illustrated in Figure [VIII-03](#). A minimum of two stainless steel pipe anchors shall be used and the manhole diameter shall be five feet (5') minimum.

6.3.3. Sanitary service laterals that are four inches (4") or 6 inches (6") shall not be connected into a sanitary manhole and only into a sanitary sewer main.

6.3.4. Sanitary manholes shall include frames and covers as shown in Figure [VIII-05](#) or an approved equivalent. Both the frame and riser shall be machined to assure a proper fit.

6.3.5. Manhole covers shall be marked "SEWER".

6.3.6. Manhole frames shall be raised to grade using only brick and mortar as shown in Figure [VIII-02](#) or approved equal.

6.3.7. Riser rings without tabs as shown in Figure [VIII-06](#) may be used to adjust manholes to grade with approval of the Department of Public Works.

6.3.8. All new sanitary manholes shall be vacuum tested before backfilling. Refer to *TR-16* for testing standards.

6.3.9. Steps are not required in sewer manholes. Any structures delivered to the site with step "holes" shall be filled with mortar.

6.4. SANITARY GRAVITY PIPES

6.4.1. The types of allowable pipe used for purposes of sanitary sewers shall be:

- A. PVC ring type sewer pipe (SDR 35 or equivalent, minimum PS-46 rating);
- B. PVC ring type sewer pipe meeting ASTM F 789 or equal to SDR;
- C. Ductile Iron Pipe (DIP);
- D. High performance polypropylene dual wall sewer pipe (ADS SaniTite HP or equal) meeting ASTM F2736 and have a minimum pipe stiffness of 46 psi with pipes sizes twelve through thirty inches (12"-30"); or
- E. High performance polypropylene dual wall sewer pipe (ADS SaniTite HP or equal) meeting ASTM F2764 and have a minimum pipe stiffness of 46 psi with pipes sizes thirty through sixty inches (30"-60").

6.4.2. Minimum velocities for sanitary pipes shall not be less than two feet per second (2 ft./sec.).



6.4.3. All PVC connections shall be made with Solid PVC couplings.

6.4.4. The classes of pipe indicated shall be minimum, however the actual class of pipe used shall be determined by soil weight and compaction loads applied to such pipe in accordance with standard engineering design criteria and subject to the approval of the Department of Public Works.

6.5. FORCE MAINS

6.5.1. Force mains four inches (4") or greater shall terminate at a transition manhole and flow by gravity within a minimum sized eight-inch (8") pipe to a City manhole.

6.5.2. Force mains less than four inches (4") may terminate to the nearest precast concrete manhole as directed by the City.

6.5.3. Cores into existing manholes shall be made with coring machines and have link seal or equivalent wall penetration seals.

6.5.4. Termination of force mains three inches (3") or less may be permitted into existing City-owned manholes if reconstruction or replacement is performed, depending on the material and condition of the existing manhole as determined by the Department of Public Works.

6.5.5. All force mains shall be at a minimum HDPE SDR-21 made with fully restrained connections or equal. Piping pressure ratings shall be at least two (2) times the operating pressure of the system.

6.5.6. Force main discharge shall be directed into the channel in the direction of gravity flow.

6.6. BUILDING SEWER LATERALS

6.6.1. Construction of building sewers and drains shall conform to Chapter 24 (Sewers) of the City Code of Ordinance.

6.6.2. All building sewer laterals shall have a minimum diameter of four inches (4") and a minimum slope of one eighth-inch per foot (1/8 in./ft.) installed, as shown in Figure [VIH-12](#).

6.6.3. Typical pipe installation. Where a building sewer lateral is to be installed from the sewer main in the street to a property or building to be served, the lateral shall either extend to the building or to the street line of each lot to be served and the pipe shall be capped air-tight.

6.6.4. An accurate record of each building sewer, its location and its depth at the street line shall be kept by the developer's engineer and a copy of the same shall be provided to the Department of Public Works.

6.6.5. For new construction, the location of the building sewer at the street line shall be physically marked by the placement of a two-inch by four-inch (2" x 4") wooden stake placed at the end of the lateral end-cap and extending one foot (1') above finished grade.

6.6.6. Each stake shall be painted with a fluorescent paint and marked as storm or sanitary sewer with the depth indicated from grade to end-cap. A one-quarter-inch (1/4") thick by six-inch (6") square ferrous metal plate or equivalent shall be placed horizontally one foot (1') below grade over the end of the storm drain.

6.6.7. Building sewers and drains shall be connected to the main sanitary sewer line by the use of wyes, tee/woyes, Inserta-Tees or similar approved methods as determined by the Department of Public Works. A manhole shall be installed at the sewer main to connect building laterals when the building lateral is eight inches (8") or larger in diameter. The lateral connections shall be installed from the main toward the lot where possible. Inserta-Tees can be installed on pipes where the main receiving pipe is at least twelve inches (12") in size and the lateral is not more than half the size of the main receiving pipe in order to use a coring tee-type connection.

6.6.8. Before connecting new pipes into an existing sewer line, the contractor shall obtain a sewer connection permit from the Department of Public Works.

6.6.9. Accessory dwelling unit (ADU) sewer laterals. Per Chapter 24 of the City Code of Ordinance "A separate and independent building sewer shall be provided for every new building, and a separate connection shall be made for each building sewer." The Department of Public Works recognizes the following scenarios in Table 6.6.9. for the successful connection of the proposed ADU to the public sewer system (See Figure VII-21 for additional information):

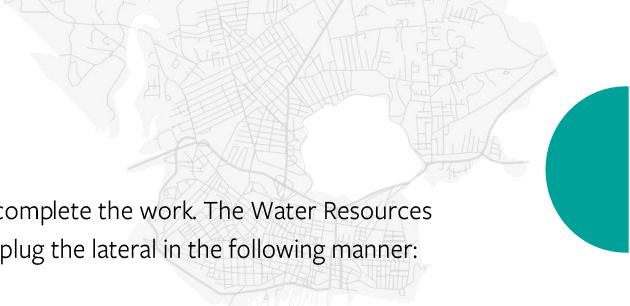
TABLE 6-A. PERMITTED SEWER CONNECTIONS FOR ACCESSORY DWELLING UNITS (ADU)

Type of ADU	Permitted Connection Strategy	Option in Figure VII-21
Internal or Attached ADU	ADU can connect to the primary residence sewer lateral internal to the primary residence	Option A
	A separate and independent sewer lateral will be provided from both buildings with independent connections to the sewer	Option B
Detached ADU	A separate and independent sewer lateral is provided from both buildings with a connection into a sewer manhole at the property line. The sewer manhole will be a minimum two-foot size providing access to each sewer lateral. The sewer manhole may be placed on the existing sewer lateral from the primary residence with the ADU sewer lateral being fed into it.	Option C

6.6.10. Backflow protection. Fixtures installed on a floor level that is lower than the next upstream manhole cover of the public, or private sewer shall be protected from backflow of sewage by installing an approved type of backwater valve. Fixtures on such floor level that are not below the next upstream manhole cover shall not be required to be protected by a backwater valve. Fixtures on floor levels above such elevation shall not discharge through the backwater valve. Cleanouts from drains that pass through a backwater valve shall be clearly identified with a permanent label stating "backwater valve downstream".

6.6.11. All building floor drains shall discharge to the sanitary sewer system.

6.6.12. Plugging of abandoned sewer laterals. Prior to abandoning any storm water or sanitary sewer lateral, the applicant shall acquire a permit from the Department of Public Works. The applicant shall provide a 48-hour notice



the Public Works Dispatch stating the date and time the applicant wishes to complete the work. The Water Resources Division will mobilize to the site and allow one hour to assist the applicant to plug the lateral in the following manner:

- A. The location of the lateral to be plugged shall be televised by the applicant and witnessed by Water Resources staff on site;
- B. The applicant shall excavate or other means plug the lateral at the main where the lateral connects to the street sewer, as determined by City staff; and
- C. The lateral must be filled with pumped grout starting at the plug and filling out to the points of excavation.

6.7. STORM WATER MANHOLES

6.7.1. Storm water manholes shall include frames and covers as shown in Figure [HVI-o5](#) or an approved equivalent. Both the frame and riser shall be machined to assure a proper fit.

6.7.2. Manhole frames shall be raised to grade using only brick and mortar, as shown in Figure [HVI-o2](#).

6.7.3. Riser rings without tabs as shown in Figure [HVI-o6](#) may be used to adjust manholes to grade with approval of the Department of Public Works.

6.7.4. Manhole covers shall be marked “DRAIN”.

6.7.5. Steps are not required in storm manholes. Any structures delivered to the site with step “holes” shall be filled with mortar.

6.8. STORM DRAINS

6.8.1. The types of allowable pipe and fittings shall be used for purposes of storm drains are included below:

- A. All pipes listed for sanitary sewers;
- B. Reinforced Concrete Pipe (RCP) with a minimum strength of Class III; or
- C. Smooth Bore Height Performance Polypropylene Dual Wall Storm Drain Pipe (ADS HP Storm or equal) meeting a minimum PS-46.

6.8.2. Storm drain lateral may be connected into storm drain mains without the use of a manhole when the lateral is less than half the diameter of the receiving pipe.

6.8.3. Minimum velocities of surface water drains shall not be less than three feet per second (3 ft./sec.).

6.8.4. Ribbed corrugated polyethylene pipe material, smooth wall interior, is not permitted except for underdrain installation. Underdrain diameter shall be no larger than six inches (6”).

6.8.5. The classes of pipe indicated shall be minimums, however the actual class of pipe used shall be determined by soil weight and compaction loads applied to such pipe in accordance with standard engineering design criteria and subject to the approval of the Department of Public Works.

6.8.6. Pre-fabricated tees are allowable on storm drains. A pre-fabricated tee connection shall be used and installed in accordance with manufacturer specifications.

6.8.7. Connection of catch basin/storm drain lateral leads to storm drain larger than an eighteen-inch (18") diameter may be performed with the use of a coring machine and suitable connection device. The connecting pipe shall not be more than half the size of the main receiving pipe in order to use a coring tee-type connection.

6.8.8. Underdrains shall be a six-inch (6") diameter perforated pipe SDR 35 PVC or corrugated ADPE with smooth interior wall (AASHTO M252 Type S). They shall have a minimum of two rows of perforations.

6.9. CATCH BASINS

6.9.1. All catch basins and catch basin inlets shall be designed and constructed in accordance with Figures [HVI-o7](#) through [HVI-11](#).

6.9.2. Catch basin drain pipes of less than ten inches (10") in diameter are not permitted.

6.9.3. All catch basins shall have a four-foot (4') granite headstone of catch basin inlets conforming to City standards as shown in Figure [HVI-11](#).

6.9.4. No radius catch basin stones shall be permitted.

6.9.5. All catch basins shall be constructed with a minimum sump of three feet (3').

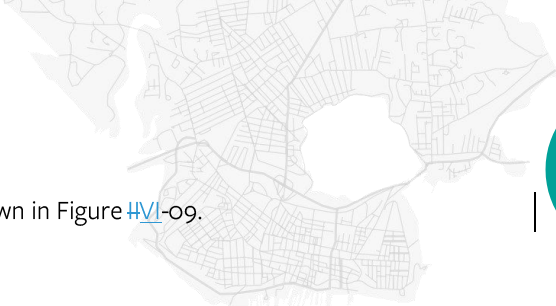
6.9.6. Catch basins shall not be located in driveway openings.

6.9.7. No storm drains or storm drain laterals, with the exception of street underdrains, shall be connected into a catch basin structure.

6.9.8. Catch basin drains and catch basin inlet drain pipe slopes shall be such that minimum flow velocities shall not be less than three feet per second (3 ft./sec.).

6.9.9. Bee hive casting shall be used on drainage structures located at low points in grassed off-road locations.

6.9.10. Field inlets or Type-F catch basins may be used when outside of City street rights-of-way within lawn areas, with Department of Public Works approval. They must have a minimum of a twelve-inch (12") sump and can be plastic or concrete.



6.9.11. All catch basins are required to have a hood on the outlet pipe as shown in Figure #VI-09.

6.10. SUBSURFACE WASTEWATER DISPOSAL

6.10.1. To ensure that adequate provisions have been made for subsurface wastewater disposal, developers are required to locate, design, and install septic systems in accordance with the latest version of the *Maine Subsurface Wastewater Disposal Rules*, 144 CMR minimum 241, as described in Chapter 6, §6-18(A) of the City Code.

6.10.2. Developers are required to obtain a permit through the City of Portland Inspections Division prior to the installation of any subsurface wastewater disposal system identified on an approved site plan.

6.11. GREASE INTERCEPTORS

6.11.1. Grease control equipment is required for all food establishments based on the City of Portland's Fats, Oils, and Grease Program found in the Rules and Regulations for Use of the Sewer System.

6.11.2. Concrete grease interceptors must have two chambers. Chamber A, where influent enters, must be two-thirds (2/3) of the tank volume.

6.11.3. Concrete grease interceptors must have three (3) twenty-four-inch (24") access points.

6.11.4. Tanks must be designed for H-20 traffic wheel load and a concrete strength of 5,000 PSI at 28 days.

6.11.5. Joints must be sealed with butyl rubber joint sealant such as CS-102 Butyl Rubber Sealant.

6.11.6. Tees inside grease interceptors must be supported. Galvanized riser clamps on drop must be rodded to tank wall with galvanized fasteners six inches (6") below service weight tee. Tees must be accessible via an unobstructed view for cleaning through the top of the grease interceptor.

6.11.7. High density polyethylene grease interceptors are accepted as an equivalent to concrete grease interceptors. Polyethylene units shall be properly anchored to prevent floatation.

6.11.8. A control manhole must be installed downstream of the interceptor before it enters the city sewer system.

6.12. SANITARY STANDARDS AND SPECIFICATIONS

6.12.1. The provisions of Section 703 of the State of Maine Department of Transportation (MDOT) *Standard Specifications for Highways and Bridges* shall apply with the following additions and modifications:

- A. **§703.13 Crushed Stone $\frac{3}{4}$ " for Pipe Bedding and Underdrain.** "Crushed Stone" shall be defined as rock of uniform quality and shall consist of clean, angular fragments of quarried rock, free from soft disintegrated pieces or other objectionable matter. Crushed stone used as a bedding material for pipe and underdrain shall be uniformly graded and shall meet the gradations in Table 6.12.1. The stone shall be free from vegetable matter, lumps or balls of clay, and other inappropriate substances.
- B. **§703.18 Common Borrow.** Common borrow shall not contain any particle of bituminous material.

- C. **§703.19 Granular Borrow.** Granular borrow shall contain no particles which will not pass a three-inch (3") square mesh sieve.
- D. **§703.20 Gravel Borrow.** Gravel borrow shall not contain particles of rock which will not pass a three-inch (3") square mesh sieve.

TABLE 6-B. AGGREGATE GRADING REQUIREMENTS

Sieve Designation	City of Portland Percentage by Weight Passing Square Mesh Sieve
1 inch	100
¾ inch	90-100
½ inch	20-55
⅜ inch	0-15
No. 4	0-5

7. WATER SUPPLY STANDARDS

7.1. APPLICABILITY

All applications for approval of proposed developments shall include evidence that demonstrates that the developer has made adequate provisions for securing and maintaining a sufficient and healthful water supply.

7.21. STANDARDS

7.12.1. Documentation.

- A. If water is to be supplied from an off-site source, applicants must provide a letter from the appropriate utility or water district stating that a sufficient and healthful water supply exists and may be utilized by the development.
- B. For on-site water supply wells, provide evidence in the form of well inventory and water quality data on existing water supplies located within one thousand (1,000) feet of any property boundary of the proposed development. The well inventory data must show a probability that proposed wells will produce a safe and adequate water supply. Positive findings by a Maine Certified Geologist must be supported by a report which summarizes and interprets hydrogeologic and groundwater data for the region, with emphasis on the project site. It should include information such as:
 - 1. The number of wells established in the vicinity of the proposed project;
 - 2. Identification and locations of these wells on a site map, such as a USGS topographic map;
 - 3. The type and depths of the wells;
 - 4. The types and depths of soil and bedrock encountered at the well sites; and
 - 5. Water quality data from these wells (if applicable).

7.1.2. Development on islands in Casco Bay shall be designed to prioritize protection of existing aquifers as identified in the City of Portland Island Groundwater Management Study and/or by the Maine Geological Survey.

Unless the development is to be entirely served by public water and secondary treatment sewer systems, the determination of compliance with this provision shall be based upon one or more comprehensive groundwater analyses and reports prepared by qualified professionals and including assessment of current groundwater aquifer conditions, the impact of the proposed development on the groundwater aquifer, and recommendations for mitigation of potential impacts caused by the development.

7.12.3. A common water supply will be required if there is a reasonable doubt that sufficient water quality or quantity will be available from individual wells. A common water supply must have adequate safe yield and storage to supply a minimum of seventy-five (75) gallons per day per person. For a single-family home, the well must be able to supply a minimum of three hundred (300) gallons per day, per household.

7.12.4. The Maine Center for Disease Control (MeCDC), Division of Environmental Health's Drinking Water Program must review and approve of any public drinking water system (if such a system serves an average of at least twenty-five (25) individuals daily at least sixty (60) days out of the year, or has fifteen (15) service connections.

7.12.5. If the water supply wells and subsurface wastewater disposal systems are on-site and any proposed lots are less than 2 acres in area, locations of the wells and subsurface disposal systems must be identified on the site plan.

7.12.6. A water supply report must be submitted, if any well service five (5) or more homes, or any development uses greater than 1,500 gallons per day.

7.12.7. If there is a reasonable doubt that sufficient and healthful water supply can be provided by on-site wells, the following are required:

- A. A potability test of water from the development site;
- B. Establishment of one or more test wells on the development site;
- C. Pump tests of the well(s);
- D. A report by a Maine Certified Geologist discussing the yield and potability of water obtained; and
- E. A complete hydrogeological assessment of groundwater quality and quantity may also be required.

7.21.8. For developments with shallow to bedrock soils, wells must be cased 20 feet into the solid bedrock surface and the annular space cement/bentonite grouted.

7.32. SUBMISSIONS

7.32.1. For developments to be serviced by individual wells, evidence must be submitted from a Certified Geologist knowledgeable about the project, indicating a sufficient and healthful water supply is likely to be available as follows:

- A. Well inventory data indicating number of wells, depth, yield, and approximate locations shown on a USGS topographic map. This data may be available upon request from the inventory database at the Maine Geological Survey;
- B. Water quality data from an area well or wells showing potability; and
- C. If a common well or wells are to service any portion of a development, submit a detailed water supply report prepared by a Maine Certified Geologist. The report must indicate that the water supply conforms to Maine State Drinking Water Regulations, Title 22 M.R.S.A. Section 601 and it must contain the following information:
 - 1. Determination of the long-term safe yield of each well including a prediction of operating levels;
 - 2. Determination of the cone of influence (cone of depression) for the well or wells;
 - 3. Water quality analysis results in accordance with requirements of the Maine State Drinking Water Regulations, Title 22 M.R.S.A. Section 601;
 - 4. Delineation of well head protection zones A, B, and C;
 - 5. Well head protection plans for each zone;
 - 6. Determination of any off-site wells which may be at risk due to groundwater withdrawal;
 - 7. Storage, treatment and distribution system that is designed, signed, stamped, and dated by a Maine Registered Professional Engineer; andEvidence that adequate provisions will be made for the establishment of an entity to provide long-term maintenance and operation of the water supply system.

8. LIGHTING STANDARDS

8.1. SITE LIGHTING STANDARDS

8.1.1. Purpose. The requirements set forth in this section are intended to promote and protect public health, safety and general welfare, and encourage the preservation of the natural nighttime outdoor environment. Specifically, the intent of this section is to limit light trespass, glare and light pollution to safeguard adequate safety, night vision, and comfort of the neighboring properties.

8.1.12. Applicability. The following types of development proposals are required to submit a lighting management plan for review and approval:

- A. All developments subject to site lighting standards of §14.6.4 of the Land Use Code, and
- B. Other projects where the Reviewing Authority determines that special conditions warrant a lighting management plan.

8.1.21. General standards. Outdoor lighting standards listed below apply to all new developments:

- A. **Uniformity.** As measured in foot candles at grade, maximum to minimum illumination levels shall not exceed a ratio of twenty to 1 (20:1).
- B. **General Illumination levels.** Minimum, maximum, and average illumination levels for areas intended to be lighted as measured at grade, shall meet the standards in Table 8-A.

TABLE 8-A. ILLUMINATION STANDARDS IN FOOT CANDLES (FC)

Minimum	0.2
Maximum	5.0
Average	1.25

- C. **Use-specific illumination levels.** Average illuminance levels for exterior areas specified below, measured in foot candles (fc) at ground level unless noted, shall not exceed the levels listed in Table 8-B:

TABLE 8-B. USE-SPECIFIC ILLUMINATION STANDARDS

Uses	Average (fc)	Uniformity ratio (Average-to- minimum)	Maximum (fc)
ATMs (within 10 ft. perimeter)	10.0	3:1	20.0
Drive-through canopy			
Auto service station			
• Approaches & Drives	1.5	3:1	3.0
• Service Areas	2.0		4.0
• Pump Island Areas	10.0		20.0
Parking Lot			
• Surface	0.5	3:1	4.0
• Structured	0.8		2.0

- D. **General and Use-Specific Lumens Standards.** No fixture shall exceed 20,000 lumens ($\pm 3\%$) and shall meet the following lighting type maximums listed in Table 8-C:

TABLE 8-C. LIGHTING TYPE MAXIMUMS (IN LUMENS)

Types of Lighting	Maximum Lumens Allowed
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Path lighting	1,500
Building entrance	3,500
Residential/Commercial pole at 20 feet	15,000
Industrial pole at 30 feet	20,000
Auto service station	
• Approaches and drives	4,000
• Service areas	6,000
• Pump island areas	8,000 per fuel pump

- E. **Lighting trespass.** The maximum illumination level at a property line shall not exceed 0.1-foot candle, as measured at grade, except where abutting industrial, or other non-sensitive uses. When a commercial or industrial use abuts a public right-of-way, or another commercial or industrial use, lighting must be designed so that the illumination at the property boundary line does not exceed 1.0-foot candles.

All residential uses and natural resource protection areas are to be considered sensitive to light trespass. In certain instances where a proposed development is adjacent to a sensitive use, house-side shielding may be necessary to comply with this standard.

- F. **Luminaire types.** All fixtures must be LED and shall not exceed 3,000K Correlated Color Temperature (CCT). Screw-in light fixtures must have LED lamps specified to be maximum of 3,000K CCT.
- G. **Full cut-off fixtures and shielding required.** All outdoor lighting fixtures, including pole-mounted and wall-mounted luminaires, shall be constructed full “cut-off” or with full shielding, type where lenses, refractors or lamp sources do not extend below the surface of the fixture housing and no direct light shall be directed at or above the horizontal plane.

Where the light source from an outdoor light fixture is visible beyond the property line, shielding shall be required to reduce glare so that the light source is not visible from within any residential dwelling unit.

Light fixtures mounted under a canopy shall be recessed so that the lens cover is recessed into, or flush with, the underside (ceiling) of the canopy.

- H. **Pedestrian walkway lighting.** Pedestrian walkway light fixtures can be a combination of freestanding pole. Bollard, in-place step or building-mounted fixtures. For building-mounted fixtures, the proposed fixture type will be in scale with the building elevation on which it is to be installed and meet the fixture height provisions of Table 8-D. Pedestrian lighting (bollards) shall meet the Technical Manual standards for full cut-off or an exception may be considered in §8.1.3.L and §8.1.3.M.
- I. **Fixture height.** Fixtures shall be mounted at the lowest height necessary to meet City standards and the height is measured from grade to the bottom of the lighting fixture. Fixtures shall meet the fixture height standards of Table 8-D. below.

TABLE 8-D. MAXIMUM FIXTURE HEIGHT BY TYPE OF LIGHTING

Types of Lighting	Maximum Fixture Height
Residential (Pedestrian) uses	20 feet
Commercial/Office uses	
Large industrial uses (≥50,000 SF of gross floor area)	30 feet
Building mounted/entrances	Below the roof eave or 20 feet, whichever is lower
Bollard fixtures	3.5 feet

- 
- J. **Lighting curfew.** For surface and structured parking, lighting in-vehicle parking areas containing twenty or more (≥ 20) parking spaces shall be reduced to 50% of permitted levels from one hour after the business closing to one hour before business opening. If lighting levels are already below 50% of permitted levels, no curfew adjustment is required. Motion sensor activated lighting shall be permitted during closed hours to activate additional lighting above the 50% permitted, for the purposes of public safety.
 - K. **Continued maintenance.** Lighting installations must be maintained in good repair to meet the provision of this ordinance on an on-going basis.
 - L. **General exceptions.** Proposed uses that demonstrate a need to exceed the specific site lighting limits shown below for safe and reasonable exercise of the proposed use must provide a professionally produced lighting plan which adheres to the current Illuminating Engineering Society of North America (IESNA) recommendations for the proposed use. The Planning Authority may grant exceptions to the lighting standards with the finding that the light impacts do not create a public nuisance for abutting residential property. Unless otherwise specified below, exterior lighting shall conform to the recommendations put forth in *Lighting for Exterior Environments RP-33-14*, or its successor, published by the IESNA. Lighting fixtures other than full cut-off fixtures may be allowed only if acceptable luminaires shall include internal and/or external glare control louvers and installed so as to minimize uplight and offsite light trespass.
 - M. **Historic District, Architectural and Pedestrian Walkway Exception.** Sites which are part of a historic district or require specific decorative lighting fixtures as means to achieve compatibility within an existing architectural context must meet the following standards:
 - 1. Lighting fixtures other than full cut-off fixtures may be allowed only if acceptable luminaires shall include internal and/or external glare control louvers and installed so as to minimize uplight and offsite light trespass, and
 - 2. Low-pressure sodium and metal halide lamps are prohibited.

8.1.3. Lighting safety standards.

- A. The lighting of the site and if applicable, building(s), shall enable users to observe movement and activities on the site during the day and at night.
- B. Lighting plans should create nighttime illumination of pedestrian travel paths and gathering areas, entrances and exits, and parking lots and garages by achieving the following:
 - 1. Provide a clear view of an area from a distance and enable anyone moving in or immediately around it to be easily seen;
 - 2. Place lighting fixtures to clearly guide users to and from the facility;
 - 3. Prevent potential hiding spaces adjacent to existing and proposed pedestrian travel routes; and
 - 4. Permit facial identification at a distance of at least thirty feet (30') and create the perception of being identified.

8.1.4. Uplighting and architectural and specialty lighting.

- A. Lighting shall be designed to minimize lighting of night sky and shall accentuate individual architectural or aesthetic elements, not the entire structure.
- B. Lighting shall be directed downward unless the development is located in an area of the City where uplighting is permitted as described in §14.6.4. of the Land Use Code. Where permitted, upward aimed lighting (uplighting) shall:
 - 1. Not exceed 4,000 mean lumens per accent feature;
 - 2. Be placed as close as possible to the base of the building or feature that is being illuminated;
 - 3. Be fully shielded from view off-site, and
 - 4. Use a narrow cone of light for the purpose of confining the light to the object.
- C. **Building façade lighting.** The exterior of a building may be lighted provided the following standards are met:
 - 1. The lighting is done to accentuate an architectural or aesthetic element of the building, not the entire building;
 - 2. The light must only be directed onto the building façade and not spillover beyond the plane of the building;

3. Upward aimed lighting must not exceed 4,000 mean lumens per accent feature, must be fully shielded, and mounted as flush to the wall as possible;
 4. Lighting exceeding 4,000 mean lumens per accent feature must be aimed downward, fully shielded, and mounted as flush to the wall as possible; and
 5. Stripe lighting. Stripe lighting along building structures as articulation may be approved as specialty architectural lighting, provided that it does not create nuisance.
- D. **Flag poles, statues, and similar monuments.** A flag pole bearing a state flag, a flag of the United States or a flag of a foreign nation may be illuminated provided the following standards are met:
1. The luminaires must be fully shielded;
 2. Upward aiming luminaires must be placed as close to the base as possible, and
 3. The luminaires must not collectively exceed 20,000 mean lumens. Public statutes, memorials or other similar monuments may also be lighted upon approval by the Planning Authority, provided the above standards are met.

8.1.4. Submission requirements and photometric plans.

- ~~A. The lighting plan shall be depicted on a site plan, indicating the location of each current and proposed outdoor lighting fixture with projected hours of use. This plan will need to be stamped and certified by a licensed professional, such as an architect or engineer. The lighting plan may include a key to the proposed lighting that provides the following information:~~
- ~~1. Type and number of luminaire equipment (fixtures), including the “cut off characteristics”, indicating manufacturer and model number(s);~~
 - ~~2. Lamp source type (bulb type, i.e., LED), lumen output, and wattage);~~
 - ~~3. Mounting height with distance noted to the nearest property line for each luminaire;~~
 - ~~4. Types of timing devices used to control the hours set for illumination, as well as the proposed hours when each fixture will be operated; and~~
 - ~~5. Lighting manufacturer supplied specifications (“cut sheets”) that include photographs of the fixtures, indicating the certified “cut off characteristics” of the fixture.~~
- ~~B. A photometric plan shall be provided at 20 scale or larger which shall show the extent of the areas designed and intended for lighting, and within those specific areas show a photometric grid of maximum 10’ point spacing, and within those areas provide foot candle calculations of maximum, average, minimum, maximum to minimum ratio, and average to minimum ratio. On the same or additional plan, a photometric plot shall extend to all lot lines and as necessary to reach illumination levels of zero (0) foot candles. Additionally, the applicant shall provide descriptive information, including manufacturer’s catalog excerpts, for all proposed light fixtures, lamps, and poles.~~

8.2. MUNICIPAL STREET LIGHTING STANDARDS

8.2.1. Applicability.

Street lighting on City streets and public rights-of-way not subject to decorative street lighting shall follow the General Standards under 8.2.2. of this section.

In addition to the General Standards for lighting applicable throughout the City, the City of Portland has established special street lighting standards for decorative lighting in the following areas and according to the table and figures in this section:

- A. Downtown (including portions of Cumberland Avenue)
- B. Old Port
- C. Peninsula -Eastern Waterfront and Bayside
- D. Waterfront – Commercial & Thames Streets
- E. Off-Peninsula/Forest Avenue

- F. Historic Landscape Districts (including Baxter Boulevard, the Eastern and Western Promenades, Lincoln Park, and Deering Oaks Park)
- G. Trails and pathways (including Eastern Promenade Trail, Fore River Trail, and Bayside Trail)

Decorative street lighting specifications include, but are not limited to, fixture type, pole and base type, pole height to top of fixture, pole spacing, and color. Please refer to Section 8.2.4. (Standards for Decorative Lighting) and Figure X-4 for the map of Portland's decorative lighting locations.

Developments subject to site plan review, with the exception of minor residential projects, that are on an existing or proposed street that is not currently illuminated with street lighting meeting City standards shall install the requisite type and number of street lights along all frontages.

Where lighting is being installed in the public right-of-way as part of a private development, developers are responsible for purchasing and installing all street lighting, including light poles, brackets, slip fitters, bases, and all electrical wiring and conduit. The new street lighting shall be connected to an existing metered service, unless otherwise directed by the City. Once installed, operational, and accepted by the city, street lighting located in the City right-of-way shall become the property of the City of Portland.

8.2.2. General standards.

- A. **Location.** For areas not designated with decorative lighting, street lighting may be placed on only one side of the street within the furnishing zone. However, when deemed necessary for traffic safety, the Reviewing Authority may require some street lights to be placed on the opposite side of a street.
- B. **Specification.** For areas not designated with decorative lighting, the City of Portland has adopted the following typical street light pole and fixture standards in Table 8.E.

TABLE 8.E. STANDARD STREET LIGHT POLE AND FIXTURE STANDARDS BY STREET TYPE

Light Pole Standards	Arterial	Collector	Local/Minor
A. Height (ft.)	20 or 30		14-15
B. Maximum Spacing (ft.)	160	130	120
C. Mounting	Reinforced concrete pole base with 2"-4" reveal above grade, with 4 bolts per pole.*		
D. Selection and Finish	• ≤ ½ mile from shoreline: Beacon RSA-B-SHO-S AA-10 Cobra [Figure X-2F] • ≥ ½ mile from shoreline: Hubbell RTA Upsweep Style [Figure X-2G]		Black aluminum
E. Color	Grey (Manufacturer's Specification)		
E. Minimum Average Foot Candles (fc)	2.0	1.2	0.4
F. Cutoff and Bulb Temperature	Full cutoff, using cost-effective and innovative technologies and shall seek to match uniformity, lumen output, and color of existing streetlights along roadway, where applicable		Full cutoff, using LEDs at a 3,000 Kelvin color temperature, and shall seek to match uniformity, lumen output, and color of existing streetlights along roadway, where applicable

* Local/Minor Street light pole design, mounting bolt pattern, bolt spacing, and bolt size shall be approved by the Department of Public Works.

- C. **Standard cobrahead design.** Standard cobraheads shall meet the following design standards in Table 8.F.
- D. **New metered services for light fixtures.**

1. New light fixtures shall:
 - a. Not be tied to the existing power utility leased lighting system;
 - b. Be provided with a NEMA 7-pin receptacle for future connection to the City of Portland lighting control system, with coordination with the City of Portland for final connection and control testing; and
 - c. Be specified with a color temperature of 3,000K.
2. The developer is to provide a new metered electrical service in an APX outdoor rated enclosure (See §8.2.3. for unit specification), preventing any new fixtures from being directly connected to the power utility; and
3. The developer will be required to:
 - a. Provide an astronomical timeclock inside the electrical enclosure (See §8.2.3. for unit specification) to control light fixtures; or
 - b. Provide a standard photocell for each fixture, to be used until lighting control module is installed.

TABLE 8.F. STANDARD COBRAHEAD FIXTURE STANDARDS

Location	Cobrahead Type	Fixture Height	Spacing & Layout
One-lane roadways: Without on-street parking with low traffic	A	20'	One side: 65' – 70' Alt. 125' – 135'
One-lane roadways: With on-street parking with low traffic	A	30'	One side: 70' – 80' Alt. 120' – 130'
Two-lane roadways: With on-street parking with low traffic	B	30'	One side: 80' – 90' Alt. 175' – 185'
Two-lane roadways: With on-street parking with medium traffic	B	20'	One side: 75' – 80' Alt. 145' – 155'
	C	20'	One side: 90' – 100' Alt. 180' – 190'
		30'	One side: 100' – 110' Alt. 200' – 210'
Two or more lane roadways: With on-street parking with high/ medium traffic	D	20'	One side: 95' – 105' Alt. 195' – 210'
Two or more lane roadways: With on-street parking with high traffic	D	30'	One side: 115' – 125' Alt. 245' – 255'
	E	20'	One side: 100' – 110' Alt. 200' – 215'
		30'	One side: 115' – 130' Alt. 240' – 255'

8.2.3. Accessories & bollards.

- A. **Cabinets.** The City standard cabinet specifications are included below in Table 8.G.

TABLE 8.G. STANDARD COBRAHEAD FIXTURE STANDARDS

Location	Fixture Type	Fixture Height	Layout	Color
Public right-of-way	APX Enclosures, Inc. Cabinet APX NEMA 3R Pedestal Enclosure APXPE401615	Per Manufacturer's Specification	Mounted on the back side of the sidewalk with door facing street, meter facing building street wall. If site constraints require box to be mounted within sidewalk furnishing zone, then door should face building/private property and meter should be mounted on the opposite side of the travel direction.	Grey/Silver or Clear Coat (Manufacturer's Specification)

- B. Cabinet base can be stand-alone type other than above, provided it is not in a sidewalk or on the edge of a plowed pathway, street, or parking lot. Circuits may also be wired into existing traffic signal boxes or other light circuit boxes. This will be determined on a case-by-case basis.
- C. Additional specifications for multiuse box with external power for festivals and special events (not required - determined by the Department of Public Works). Square D power panel QO816L100DF/S or QO112L125G with cover QO16US. Circuits required are:
 - 1. 1=125/250V 50 Amp NEMA 14-50 Receptacle;
 - 2. 1=125/250V 30 Amp NEMA 14-30 Receptacle; or
 - 3. 2=125V 20A Standard Receptacle.
- D. **Wiring & Electrical.**
 - 1. 2" inch conduit (minimum) underground in light pole bases and cabinet base.
 - 2. Each light fused individually at base Fuse holder type is a (Buchanan 65 kit Cat #65U)
 - 3. Regular outlet on each pole just below the fixture to be fused at the bottom of the pole base with the same fuse kit as listed above.
 - 4. Any single photo cell control for all lights shall be in the cabinet, rated for the circuit. This may require an all-purpose contactor.
 - 5. Wire size and circuit size shall be calculated by the design engineer and inspected by the City inspector to make sure it is correct. This would be done on a case-by-case basis because not all circuits, lights, and systems are the same.
- E. **Bollards.**
 - 1. This section includes standards for typical lighted bollards. Non-lighted bollards appear in Section 1 (Transportation Systems and Street Design Standards).
 - 2. Location: Bollards may be used in areas such as underpasses and similar conditions where height is restricted for pedestrian lighting. Spacing and number to be determined by Department of Public works. Locations must be approved by the Department of Public Works and the Planning Authority. The City may approve additional bollard types for streetscape or special projects such as parks or as use for security bollards. Any additional bollard selection must be of equivalent structural strength as approved bollards.
 - 3. Specification: The City of Portland has adopted the following typical lighted bollard standards in Table 8.H. below:

TABLE 8.H. LIGHTED BOLLARD STANDARDS

Location (including but not limited to)	Fixture Type	Fixture Height (ft.)	Spacing & Layout	Color	Mounting
Underpasses: Park Avenue, St. James Street, St. John Street, Forest Avenue, Preble Street, Franklin Street, Commercial Street, Harborview Park, Tukey's Bridge, Veranda Street Waterfront piers	Holophane Freeport Series	45	To be determined by the Department of Public Works	Black (Manufacturer's Specification)	Concrete bases with 2" to 4" reveal above grade, with 4 bolts per pole

8.3.4. Standards for decorative lighting. Figure X-4 identifies the decorative street light locations. The following tables and Figures X-5 through X-12 illustrate the requirements for fixture type, height, layout, and finish for each decorative light fixture, according to street. All light poles shall be mounted on reinforced concrete pole bases with 2" to 4" reveal above grade, with 4 bolts per pole.

TABLE 8.I. OLD PORT DECORATIVE LIGHT STANDARDS

Map – Figure X-6A

Fixtures – Figure X-6B

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Exchange Street: Congress to Fore Street Fore Street: Center Street to Franklin Avenue Streets between Spring/Middle to Commercial Street: Center Street, Cotton Street, Cross Street, Union Street, Dana Street, Patton Court, Moulton Street, Market Street, Silver Street, Pearl Street, Custom House Street, Portland Square, Milk Street, Wharf Street, Gold Street Federal Street W, Middle street,	STREET [Figure X-6B]	14' 3"	Alt. sides: 60'-80'	Black (Manufacturer's Specification)

Newbury Street
W: Temple/Union
to Franklin Avenue

Church Street

Parks: Post
Office, Tommy's



TABLE 8.J. DOWNTOWN DECORATIVE LIGHT STANDARDS

Map – Figures X-5A, X-5D

Fixtures – Fixtures X-5B, X-5C, X-5E, X-5F

The Technical Manual supersedes the previously adopted City of Portland Downtown Sidewalk and Street Lighting Plan (1994); that Plan may be used for reference or clarification of the standards of this manual.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Oak Street, Casco Street, Brown Street, Chestnut Street, Shepley Street, Center Street: Congress to Free Street Cross Street: Free to Spring Street Monument Square and Monument Way: Pedestrian ways	PEDESTRIAN 1- Single or Double Arm [Figure X-5B]	12.5'	One side: 60'-80' Alt. sides: 100'-175' Single-arm fixture placed in furnishing zone with luminaire oriented over sidewalk. Double-arm fixture placed with bracket arms parallel to sidewalk. If sidewalk space is limited, Planning Authority may approve lights within private property or attached to building.	Dark Green – Tiger Drylac RAL 6012
	PEDESTRIAN 2 [Figure X-5C]	25'	One side: 90'-100' Alt. sides: 175'-225' Double-arm fixture placed with bracket arms parallel to sidewalk	
Congress Street Other locations on a case-by-case basis	STREET – Single or Double Arm [Figure X-5E]	30'	One side: 90'-100' Alt. sides: 175'-225' Double-arm fixture used in median conditions with luminaire overhanging street.	
Congress Street: St. John to Franklin Street Cumberland Avenue: High to Franklin Street Spring Street: High to Temple/Union Street Free Street: High to Temple Street Forest Avenue: Congress Street to Cumberland Avenue Center Street: Free to Spring Street Temple Street: Congress to Spring/Middle Street	STREET/PED COMBO [Figure X-5F]	30'	One side: 90'-100' Alt. sides: 175'-225'	

Myrtle, Chestnut, Elm and Preble Streets: Congress Street to Cumberland Avenue Federal Street: Congress to Temple Street			One side: 90'-100'	
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TABLE 8.K. PENINSULA DECORATIVE LIGHT STANDARDS

Map – Figures X-7A, X-7C

Fixture – Figure X-6B

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Wilmot, Chapel, Stone, and Cedar Streets Alder, Hanover, Parris, Brattle, Mechanic Streets Mountfort, Hancock, Hampshire, Newbury East, Federal East Streets Preble and Elm Street: Cumberland Avenue to Marginal Way Pearl, Chestnut, Myrtle Streets: Cumberland Avenue to Marginal Way Oxford West, Lancaster, Kennebec, Somerset Streets Portland, Fox, India Streets Anderson Street: Everett to Plowman Street Washington Avenue: Congress Street to I-295 Middle Street: Franklin to Hancock Street Fore Street: Franklin to Waterville Street	MEDIUM STREET [Figure X-7B]	19' 3"	One side: 80' – 100' Use Type 2 IES distribution. Fixture placed in furnishing zone overhang towards the street; where fixture conflicts with overhead utilities, may be placed on back of sidewalk with light overhanging sidewalk. Where street lighting is provided by existing cobrahead fixtures, decorative fixtures are not needed on that side of street. If a project includes placing utilities underground, street/pedestrian lighting provided by decorative fixtures.	Black (Manufacturer's Specification)
Marginal Way Forest Avenue: Cumberland Avenue to Park/Portland Street	LARGE STREET [Figure X-7D]	24' 3"	One side: 90'-100' Alt. sides: 175'-225'	
* No streets shall use PEDESTRIAN scale light unless site conditions such as sidewalk width or overhead utilities prevent installation of MEDIUM STREET fixture (Figure X-7D)	PEDESTRIAN [Figure X-7E]	14' 6"	One side: 60'-80' Alt. sides: 100'-175' Fixture shall be oriented to overhang sidewalk. Fixture placed in furnishing zone unless space is limited. Placement on back of sidewalk or private property overhanging sidewalk may be	

accommodated where space is a constraint.

TABLE 8.L. TRAILS & WATERFRONT DECORATIVE LIGHT STANDARDS

Map – Figure X-8A

Fixture – Fixture X-8B

Trails – This fixture is appropriate for any City trail installation. Standard lighted bollard may also be used in appropriate circumstances.

Bayside Trail – This fixture should only be used on the Bayside Trail if replacing six or more of the existing fixtures.

Waterfront – Commercial/Thames Street, this fixture is suitable to supplement standard cobrahead lighting.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Fore River Trail: Casco Bay Bridge to US-1; Harborview Park trail path	TRAIL – Single Arm	18'4"	One side: 90'-125' Alt. sides: 175'-225'	Black (Manufacturer's Specification)
Commercial Street: Fore River Parkway to India Street			Supplemental pedestrian lighting as-needed.	
Thames Street: India Street to Eastern Promenade Trail			One side: 90'-125' Alt. sides: 175'-225'	
Eastern Promenade Trail	TRAIL – Single or Double Arm		One side: 90'-125' Alt. sides: 175'-225' Single arm fixture oriented to overhang trail; Double arm fixture for medians or similar.	

TABLE 8.M. OFF-PENINSULA DECORATIVE LIGHT STANDARDS

Map – Figure X-9A

Fixture – Fixture X-9B

In addition to the specific locations indicated below, this fixture is suitable for off-peninsula, commercial corridors to supplement standard cobrahead lighting.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Forest Avenue: Marginal Way to Woodlawn Avenue	PEDESTRIAN - Single or Double Arm	18' 6"	One side: 60'-80' Alt. sides: 100'-175' Placement on back of sidewalk with single arm fixture oriented to overhang sidewalk; Where site constraints require placement in furnishing zone, use double arm fixture parallel to sidewalk.	Graphite (Manufacturer's Specification)

TABLE 8.N. HISTORIC LANDSCAPE STREET DECORATIVE LIGHT STANDARDS

Map – Figure X-10A

Fixture – Fixture X-10B

Fixture placement should comply with adopted master plans.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Eastern Promenade (park side of street only): North Street to Vesper Street	STREET – with shield	21’	One side: 90’-100’ Alt. sides: 175’ – 225’	Black (Manufacturer’s Specification)
Western Promenade (park side of street only): Bramhall Street to Vaughan Street				
Baxter Boulevard (both sides of street): Forest Avenue to Bates Street				
Deering Oaks Park (Abutting Streets, park side only): Deering Avenue, Park Avenue, Forest Avenue	STREET – without shield		One side: 90’-100’ Park side of street only	
Deering Oaks Park (within park): High Street, State Street			One side: 90’-100’ Alt. sides: 175’ – 225’	

TABLE 8.O. HISTORIC LANDSCAPE PEDESTRIAN DECORATIVE LIGHT STANDARDS

Map – Figure X-11A

Fixture – Fixture X-11B

Fixture placement should comply with adopted master plans.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Eastern Promenade: Pedestrian paths	Pedestrian	14'6"	One side: 60'-80'	Black (Manufacturer's Specification)
Western Promenade: Pedestrian paths				
Deering Oaks Park (Interior): Pedestrian paths, High Street, State Street			Use existing light locations or refer to the Deering Oaks Master Plan (2003) for revised locations	

TABLE 8.P. DEERING OAKS BRIDGE DECORATIVE LIGHT STANDARDS

Map – Figure X-12

Fixture placement should comply with adopted master plans.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Deering Oaks Park (Bridge)	Bridge Light	6' (match existing)	One side: 60'-80'	Match existing

8.3.5. City of Portland versus construction contractor responsibilities. For projects where the construction contractor is required by the City to provide new street lighting, the new street lighting shall be connected to an existing metered service, unless otherwise directed by the City (see §8.2.2(D) for new metered services for lighting).

- A. Construction contractor responsibilities.** The responsibilities of the construction contractor are as follows:
1. The construction contractor shall furnish and install the following as part of the construction scope as stipulated by the City according to City standards for the given project location:
 - a. Street lighting luminaires;

- 
- b. Street lighting poles;
 - c. Bracket arms;
 - d. Pole accessories; and
 - e. Decorative base enclosures;

- 2. Concrete foundation bases for new street lighting poles. Poles shall be mounted on reinforced concrete pole bases with 2" to 4" reveal above grade, with 4 bolts per pole. The installation of the foundation bases shall be coordinated with sidewalk details and requirements as stipulated by the City of Portland Department of Public Works;
- 3. **Underground conduit and wire between street lighting pole foundation bases.** In addition, underground conduit and wire shall be provided to an electrical service panelboard and meter, as well as to an existing service connection;
- 4. Wiring to be installed within each street lighting pole and shall be extended at the pole top (or bracket arm), with connection to the street lighting luminaire(s);
- 5. Upon completion of the erection of the street lighting fixtures, including the installation of all lighting poles and conduit/wire, the construction contractor shall notify the City that the system is ready for operation. **The luminaires shall be energized prior to the construction contractor's request for a City Certificate of Occupancy;** and
- 6. It shall be the construction contractor's responsibility to pay all costs associated with the provision of required street lighting including costs associated with street lighting luminaires, street lighting poles, brackets, bases, conduit and wire, panelboards, and metering equipment.

B. City of Portland responsibilities. The responsibilities of the City of Portland are as follows:

- 1. To approve the proposed point of connection for electrical service for new municipal street lighting where a new metered service is provided;
- 2. Connection of the construction contractor's secondary service conductors at an existing service point, where a new service is provided; and
- 3. To review and approve the location of the street light fixtures within the public right-of-way.

~~8.3.6. Submission requirements.~~ ~~A lighting plan shall be provided which shall show the quantity and location of all existing and proposed street lights. This shall be incorporated into the site plan or presented on an individual lighting plan. Descriptive information including engineering detail drawings depicting the entire proposed fixture (luminaire, bracket arm, slip fitter) along with the proposed finish shall be included on the individual lighting plan.~~

8. LIGHTING STANDARDS

8.1. SITE LIGHTING STANDARDS

8.1.1. Purpose. The requirements set forth in this section are intended to promote and protect public health, safety and general welfare, and encourage the preservation of the natural nighttime outdoor environment. Specifically, the intent of this section is to limit light trespass, glare and light pollution to safeguard adequate safety, night vision, and comfort of the neighboring properties.

8.1.12. Applicability. The following types of development proposals are required to submit a lighting management plan for review and approval:

- A. All developments subject to site lighting standards of §13.6.4 of the Land Use Code, and
- B. Other projects where the Reviewing Authority determines that special conditions warrant a lighting management plan.

8.1.21. General standards. Outdoor lighting standards listed below apply to all new developments:

- A. **Uniformity.** As measured in foot candles at grade, maximum to minimum illumination levels shall not exceed a ratio of twenty to 1 (20:1).
- B. **General Illumination levels.** Minimum, maximum, and average illumination levels for areas intended to be lighted as measured at grade, shall meet the standards in Table 8-A.

TABLE 8-A. ILLUMINATION STANDARDS IN FOOT CANDLES (FC)

Minimum	0.2
Maximum	5.0
Average	1.25

- C. **Use-specific illumination levels.** Average illuminance levels for exterior areas specified below, measured in foot candles (fc) at ground level unless noted, shall not exceed the levels listed in Table 8-B:

TABLE 8-B. USE-SPECIFIC ILLUMINATION STANDARDS

Uses	Average (fc)	Uniformity ratio (Average-to- minimum)	Maximum (fc)
ATMs (within 10 ft. perimeter)	10.0	3:1	20.0
Drive-through canopy			
Auto service station			
• Approaches & Drives	1.5	3:1	3.0
• Service Areas	2.0		4.0
• Pump Island Areas	10.0		20.0
Parking Lot			
• Surface	0.5	3:1	4.0
• Structured	0.8		2.0

- D. **General and Use-Specific Lumens Standards.** No fixture shall exceed 20,000 lumens ($\pm 3\%$) and shall meet the following lighting type maximums listed in Table 8-C:

TABLE 8-C. LIGHTING TYPE MAXIMUMS (IN LUMENS)

Types of Lighting	Maximum Lumens Allowed
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Path lighting	1,500
Building entrance	3,500
Residential/Commercial pole at 20 feet	15,000
Industrial pole at 30 feet	20,000
Auto service station	
• Approaches and drives	4,000
• Service areas	6,000
• Pump island areas	8,000 per fuel pump

- E. **Lighting trespass.** The maximum illumination level at a property line shall not exceed 0.1-foot candle, as measured at grade, except where abutting industrial, or other non-sensitive uses. When a commercial or industrial use abuts a public right-of-way, or another commercial or industrial use, lighting must be designed so that the illumination at the property boundary line does not exceed 1.0-foot candles.

All residential uses and natural resource protection areas are to be considered sensitive to light trespass. In certain instances where a proposed development is adjacent to a sensitive use, house-side shielding may be necessary to comply with this standard.

- F. **Luminaire types.** All fixtures must be LED and shall not exceed 3,000K Correlated Color Temperature (CCT). Screw-in light fixtures must have LED lamps specified to be maximum of 3,000K CCT.
- G. **Full cut-off fixtures and shielding required.** All outdoor lighting fixtures, including pole-mounted and wall-mounted luminaires, shall be constructed full “cut-off” or with full shielding, type where lenses, refractors or lamp sources do not extend below the surface of the fixture housing and no direct light shall be directed at or above the horizontal plane.

Where the light source from an outdoor light fixture is visible beyond the property line, shielding shall be required to reduce glare so that the light source is not visible from within any residential dwelling unit.

Light fixtures mounted under a canopy shall be recessed so that the lens cover is recessed into, or flush with, the underside (ceiling) of the canopy.

- H. **Pedestrian walkway lighting.** Pedestrian walkway light fixtures can be a combination of freestanding pole. Bollard, in-place step or building-mounted fixtures. For building-mounted fixtures, the proposed fixture type will be in scale with the building elevation on which it is to be installed and meet the fixture height provisions of Table 8-D. Pedestrian lighting (bollards) shall meet the Technical Manual standards for full cut-off or an exception may be considered in §8.1.3.L and §8.1.3.M.
- I. **Fixture height.** Fixtures shall be mounted at the lowest height necessary to meet City standards and the height is measured from grade to the bottom of the lighting fixture. Fixtures shall meet the fixture height standards of Table 8-D. below.

TABLE 8-D. MAXIMUM FIXTURE HEIGHT BY TYPE OF LIGHTING

Types of Lighting	Maximum Fixture Height
Residential (Pedestrian) uses	20 feet
Commercial/Office uses	
Large industrial uses (≥50,000 SF of gross floor area)	30 feet
Building mounted/entrances	Below the roof eave or 20 feet, whichever is lower
Bollard fixtures	3.5 feet

- 
- J. **Lighting curfew.** For surface and structured parking, lighting in-vehicle parking areas containing twenty or more (≥ 20) parking spaces shall be reduced to 50% of permitted levels from one hour after the business closing to one hour before business opening. If lighting levels are already below 50% of permitted levels, no curfew adjustment is required. Motion sensor activated lighting shall be permitted during closed hours to activate additional lighting above the 50% permitted, for the purposes of public safety.
 - K. **Continued maintenance.** Lighting installations must be maintained in good repair to meet the provision of this ordinance on an on-going basis.
 - L. **General exceptions.** Proposed uses that demonstrate a need to exceed the specific site lighting limits shown below for safe and reasonable exercise of the proposed use must provide a professionally produced lighting plan which adheres to the current Illuminating Engineering Society of North America (IESNA) recommendations for the proposed use. The Planning Authority may grant exceptions to the lighting standards with the finding that the light impacts do not create a public nuisance for abutting residential property. Unless otherwise specified below, exterior lighting shall conform to the recommendations put forth in *Lighting for Exterior Environments RP-33-14*, or its successor, published by the IESNA. Lighting fixtures other than full cut-off fixtures may be allowed only if acceptable luminaires shall include internal and/or external glare control louvers and installed so as to minimize uplight and offsite light trespass.
 - M. **Historic District, Architectural and Pedestrian Walkway Exception.** Sites which are part of a historic district or require specific decorative lighting fixtures as means to achieve compatibility within an existing architectural context must meet the following standards:
 - 1. Lighting fixtures other than full cut-off fixtures may be allowed only if acceptable luminaires shall include internal and/or external glare control louvers and installed so as to minimize uplight and offsite light trespass, and
 - 2. Low-pressure sodium and metal halide lamps are prohibited.

8.1.3. Lighting safety standards.

- A. The lighting of the site and if applicable, building(s), shall enable users to observe movement and activities on the site during the day and at night.
- B. Lighting plans should create nighttime illumination of pedestrian travel paths and gathering areas, entrances and exits, and parking lots and garages by achieving the following:
 - 1. Provide a clear view of an area from a distance and enable anyone moving in or immediately around it to be easily seen;
 - 2. Place lighting fixtures to clearly guide users to and from the facility;
 - 3. Prevent potential hiding spaces adjacent to existing and proposed pedestrian travel routes; and
 - 4. Permit facial identification at a distance of at least thirty feet (30') and create the perception of being identified.

8.1.4. Uplighting and architectural and specialty lighting.

- A. Lighting shall be designed to minimize lighting of night sky and shall accentuate individual architectural or aesthetic elements, not the entire structure.
- B. Lighting shall be directed downward unless the development is located in an area of the City where uplighting is permitted as described in §14.6.4. of the Land Use Code. Where permitted, upward aimed lighting (uplighting) shall:
 - 1. Not exceed 4,000 mean lumens per accent feature;
 - 2. Be placed as close as possible to the base of the building or feature that is being illuminated;
 - 3. Be fully shielded from view off-site, and
 - 4. Use a narrow cone of light for the purpose of confining the light to the object.
- C. **Building façade lighting.** The exterior of a building may be lighted provided the following standards are met:
 - 1. The lighting is done to accentuate an architectural or aesthetic element of the building, not the entire building;
 - 2. The light must only be directed onto the building façade and not spillover beyond the plane of the building;

3. Upward aimed lighting must not exceed 4,000 mean lumens per accent feature, must be fully shielded, and mounted as flush to the wall as possible;
 4. Lighting exceeding 4,000 mean lumens per accent feature must be aimed downward, fully shielded, and mounted as flush to the wall as possible; and
 5. Stripe lighting. Stripe lighting along building structures as articulation may be approved as specialty architectural lighting, provided that it does not create nuisance.
- D. **Flag poles, statues, and similar monuments.** A flag pole bearing a state flag, a flag of the United States or a flag of a foreign nation may be illuminated provided the following standards are met:
1. The luminaires must be fully shielded;
 2. Upward aiming luminaires must be placed as close to the base as possible, and
 3. The luminaires must not collectively exceed 20,000 mean lumens. Public statutes, memorials or other similar monuments may also be lighted upon approval by the Planning Authority, provided the above standards are met.

8.1.4. Submission requirements and photometric plans.

- ~~A. The lighting plan shall be depicted on a site plan, indicating the location of each current and proposed outdoor lighting fixture with projected hours of use. This plan will need to be stamped and certified by a licensed professional, such as an architect or engineer. The lighting plan may include a key to the proposed lighting that provides the following information:~~
- ~~1. Type and number of luminaire equipment (fixtures), including the “cut off characteristics”, indicating manufacturer and model number(s);~~
 - ~~2. Lamp source type (bulb type, i.e., LED), lumen output, and wattage);~~
 - ~~3. Mounting height with distance noted to the nearest property line for each luminaire;~~
 - ~~4. Types of timing devices used to control the hours set for illumination, as well as the proposed hours when each fixture will be operated; and~~
 - ~~5. Lighting manufacturer supplied specifications (“cut sheets”) that include photographs of the fixtures, indicating the certified “cut off characteristics” of the fixture.~~
- ~~B. A photometric plan shall be provided at 20 scale or larger which shall show the extent of the areas designed and intended for lighting, and within those specific areas show a photometric grid of maximum 10’ point spacing, and within those areas provide foot candle calculations of maximum, average, minimum, maximum to minimum ratio, and average to minimum ratio. On the same or additional plan, a photometric plot shall extend to all lot lines and as necessary to reach illumination levels of zero (0) foot candles. Additionally, the applicant shall provide descriptive information, including manufacturer’s catalog excerpts, for all proposed light fixtures, lamps, and poles.~~

8.2. MUNICIPAL STREET LIGHTING STANDARDS

8.2.1. Applicability.

Street lighting on City streets and public rights-of-way not subject to decorative street lighting shall follow the General Standards under 8.2.2. of this section.

In addition to the General Standards for lighting applicable throughout the City, the City of Portland has established special street lighting standards for decorative lighting in the following areas and according to the table and figures in this section:

- A. Downtown (including portions of Cumberland Avenue)
- B. Old Port
- C. Peninsula -Eastern Waterfront and Bayside
- D. Waterfront – Commercial & Thames Streets
- E. Off-Peninsula/Forest Avenue

- F. Historic Landscape Districts (including Baxter Boulevard, the Eastern and Western Promenades, Lincoln Park, and Deering Oaks Park)
- G. Trails and pathways (including Eastern Promenade Trail, Fore River Trail, and Bayside Trail)

Decorative street lighting specifications include, but are not limited to, fixture type, pole and base type, pole height to top of fixture, pole spacing, and color. Please refer to Section 8.2.4. (Standards for Decorative Lighting) and Figure X-4 for the map of Portland's decorative lighting locations.

Developments subject to site plan review, with the exception of minor residential projects, that are on an existing or proposed street that is not currently illuminated with street lighting meeting City standards shall install the requisite type and number of street lights along all frontages.

Where lighting is being installed in the public right-of-way as part of a private development, developers are responsible for purchasing and installing all street lighting, including light poles, brackets, slip fitters, bases, and all electrical wiring and conduit. The new street lighting shall be connected to an existing metered service, unless otherwise directed by the City. Once installed, operational, and accepted by the city, street lighting located in the City right-of-way shall become the property of the City of Portland.

8.2.2. General standards.

- A. **Location.** For areas not designated with decorative lighting, street lighting may be placed on only one side of the street within the furnishing zone. However, when deemed necessary for traffic safety, the Reviewing Authority may require some street lights to be placed on the opposite side of a street.
- B. **Specification.** For areas not designated with decorative lighting, the City of Portland has adopted the following typical street light pole and fixture standards in Table 8.E.

TABLE 8.E. STANDARD STREET LIGHT POLE AND FIXTURE STANDARDS BY STREET TYPE

Light Pole Standards	Arterial	Collector	Local/Minor
A. Height (ft.)	20 or 30		14-15
B. Maximum Spacing (ft.)	160	130	120
C. Mounting	Reinforced concrete pole base with 2"-4" reveal above grade, with 4 bolts per pole.*		
D. Selection and Finish	≤ ½ mile from shoreline: Beacon RSA-B-SHO-S AA-10 Cobra [Figure X-2F] ≥ ½ mile from shoreline: Hubbell RTA Upsweep Style [Figure X-2G]		Black aluminum
E. Color	Grey (Manufacturer's Specification)		
E. Minimum Average Foot Candles (fc)	2.0	1.2	0.4
F. Cutoff and Bulb Temperature	Full cutoff, using cost-effective and innovative technologies and shall seek to match uniformity, lumen output, and color of existing streetlights along roadway, where applicable		Full cutoff, using LEDs at a 3,000 Kelvin color temperature, and shall seek to match uniformity, lumen output, and color of existing streetlights along roadway, where applicable

* Local/Minor Street light pole design, mounting bolt pattern, bolt spacing, and bolt size shall be approved by the Department of Public Works.

- C. **Standard cobrahead design.** Standard cobraheads shall meet the following design standards in Table 8.F.
- D. **New metered services for light fixtures.**

1. New light fixtures shall:
 - a. Not be tied to the existing power utility leased lighting system;
 - b. Be provided with a NEMA 7-pin receptacle for future connection to the City of Portland lighting control system, with coordination with the City of Portland for final connection and control testing; and
 - c. Be specified with a color temperature of 3,000K.
2. The developer is to provide a new metered electrical service in an APX outdoor rated enclosure (See §8.2.3. for unit specification), preventing any new fixtures from being directly connected to the power utility; and
3. The developer will be required to:
 - a. Provide an astronomical timeclock inside the electrical enclosure (See §8.2.3. for unit specification) to control light fixtures; or
 - b. Provide a standard photocell for each fixture, to be used until lighting control module is installed.

TABLE 8.F. STANDARD COBRAHEAD FIXTURE STANDARDS

Location	Cobrahead Type	Fixture Height	Spacing & Layout
One-lane roadways: Without on-street parking with low traffic	A	20'	One side: 65' – 70' Alt. 125' – 135'
One-lane roadways: With on-street parking with low traffic	A	30'	One side: 70' – 80' Alt. 120' – 130'
Two-lane roadways: With on-street parking with low traffic	B	30'	One side: 80' – 90' Alt. 175' – 185'
Two-lane roadways: With on-street parking with medium traffic	B	20'	One side: 75' – 80' Alt. 145' – 155'
	C	20'	One side: 90' – 100' Alt. 180' – 190'
		30'	One side: 100' – 110' Alt. 200' – 210'
Two or more lane roadways: With on-street parking with high/ medium traffic	D	20'	One side: 95' – 105' Alt. 195' – 210'
Two or more lane roadways: With on-street parking with high traffic	D	30'	One side: 115' – 125' Alt. 245' – 255'
	E	20'	One side: 100' – 110' Alt. 200' – 215'
		30'	One side: 115' – 130' Alt. 240' – 255'

8.2.3. Accessories & bollards.

- A. **Cabinets.** The City standard cabinet specifications are included below in Table 8.G.

TABLE 8.G. STANDARD COBRAHEAD FIXTURE STANDARDS

Location	Fixture Type	Fixture Height	Layout	Color
Public right-of-way	APX Enclosures, Inc. Cabinet APX NEMA 3R Pedestal Enclosure APXPE401615	Per Manufacturer's Specification	Mounted on the back side of the sidewalk with door facing street, meter facing building street wall. If site constraints require box to be mounted within sidewalk furnishing zone, then door should face building/private property and meter should be mounted on the opposite side of the travel direction.	Grey/Silver or Clear Coat (Manufacturer's Specification)

- B. Cabinet base can be stand-alone type other than above, provided it is not in a sidewalk or on the edge of a plowed pathway, street, or parking lot. Circuits may also be wired into existing traffic signal boxes or other light circuit boxes. This will be determined on a case-by-case basis.
- C. Additional specifications for multiuse box with external power for festivals and special events (not required - determined by the Department of Public Works). Square D power panel QO816L100DF/S or QO112L125G with cover QO16US. Circuits required are:
 - 1. 1=125/250V 50 Amp NEMA 14-50 Receptacle;
 - 2. 1=125/250V 30 Amp NEMA 14-30 Receptacle; or
 - 3. 2=125V 20A Standard Receptacle.
- D. **Wiring & Electrical.**
 - 1. 2" inch conduit (minimum) underground in light pole bases and cabinet base.
 - 2. Each light fused individually at base Fuse holder type is a (Buchanan 65 kit Cat #65U)
 - 3. Regular outlet on each pole just below the fixture to be fused at the bottom of the pole base with the same fuse kit as listed above.
 - 4. Any single photo cell control for all lights shall be in the cabinet, rated for the circuit. This may require an all-purpose contactor.
 - 5. Wire size and circuit size shall be calculated by the design engineer and inspected by the City inspector to make sure it is correct. This would be done on a case-by-case basis because not all circuits, lights, and systems are the same.
- E. **Bollards.**
 - 1. This section includes standards for typical lighted bollards. Non-lighted bollards appear in Section 1 (Transportation Systems and Street Design Standards).
 - 2. Location: Bollards may be used in areas such as underpasses and similar conditions where height is restricted for pedestrian lighting. Spacing and number to be determined by Department of Public works. Locations must be approved by the Department of Public Works and the Planning Authority. The City may approve additional bollard types for streetscape or special projects such as parks or as use for security bollards. Any additional bollard selection must be of equivalent structural strength as approved bollards.
 - 3. Specification: The City of Portland has adopted the following typical lighted bollard standards in Table 8.H. below:

TABLE 8.H. LIGHTED BOLLARD STANDARDS

Location (including but not limited to)	Fixture Type	Fixture Height (ft.)	Spacing & Layout	Color	Mounting
Underpasses: Park Avenue, St. James Street, St. John Street, Forest Avenue, Preble Street, Franklin Street, Commercial Street, Harborview Park, Tukey's Bridge, Veranda Street Waterfront piers	Holophane Freeport Series	45	To be determined by the Department of Public Works	Black (Manufacturer's Specification)	Concrete bases with 2" to 4" reveal above grade, with 4 bolts per pole

8.3.4. Standards for decorative lighting. Figure X-4 identifies the decorative street light locations. The following tables and Figures X-5 through X-12 illustrate the requirements for fixture type, height, layout, and finish for each decorative light fixture, according to street. All light poles shall be mounted on reinforced concrete pole bases with 2" to 4" reveal above grade, with 4 bolts per pole.

TABLE 8.I. OLD PORT DECORATIVE LIGHT STANDARDS

Map – Figure X-6A

Fixtures – Figure X-6B

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Exchange Street: Congress to Fore Street Fore Street: Center Street to Franklin Avenue Streets between Spring/Middle to Commercial Street: Center Street, Cotton Street, Cross Street, Union Street, Dana Street, Patton Court, Moulton Street, Market Street, Silver Street, Pearl Street, Custom House Street, Portland Square, Milk Street, Wharf Street, Gold Street Federal Street W, Middle street,	STREET [Figure X-6B]	14' 3"	Alt. sides: 60'-80'	Black (Manufacturer's Specification)

Newbury Street
W: Temple/Union
to Franklin Avenue

Church Street

Parks: Post
Office, Tommy's



TABLE 8.J. DOWNTOWN DECORATIVE LIGHT STANDARDS

Map – Figures X-5A, X-5D

Fixtures – Fixtures X-5B, X-5C, X-5E, X-5F

The Technical Manual supersedes the previously adopted City of Portland Downtown Sidewalk and Street Lighting Plan (1994); that Plan may be used for reference or clarification of the standards of this manual.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Oak Street, Casco Street, Brown Street, Chestnut Street, Shepley Street, Center Street: Congress to Free Street Cross Street: Free to Spring Street Monument Square and Monument Way: Pedestrian ways	PEDESTRIAN 1- Single or Double Arm [Figure X-5B]	12.5'	One side: 60'-80' Alt. sides: 100'-175' Single-arm fixture placed in furnishing zone with luminaire oriented over sidewalk. Double-arm fixture placed with bracket arms parallel to sidewalk. If sidewalk space is limited, Planning Authority may approve lights within private property or attached to building.	Dark Green – Tiger Drylac RAL 6012
	PEDESTRIAN 2 [Figure X-5C]	25'	One side: 90'-100' Alt. sides: 175'-225' Double-arm fixture placed with bracket arms parallel to sidewalk	
Congress Street Other locations on a case-by-case basis	STREET – Single or Double Arm [Figure X-5E]	30'	One side: 90'-100' Alt. sides: 175'-225' Double-arm fixture used in median conditions with luminaire overhanging street.	
Congress Street: St. John to Franklin Street Cumberland Avenue: High to Franklin Street Spring Street: High to Temple/Union Street Free Street: High to Temple Street Forest Avenue: Congress Street to Cumberland Avenue Center Street: Free to Spring Street Temple Street: Congress to Spring/Middle Street	STREET/PED COMBO [Figure X-5F]	30'	One side: 90'-100' Alt. sides: 175'-225'	

Myrtle, Chestnut, Elm and Preble Streets: Congress Street to Cumberland Avenue Federal Street: Congress to Temple Street			One side: 90'-100'	
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TABLE 8.K. PENINSULA DECORATIVE LIGHT STANDARDS

Map – Figures X-7A, X-7C

Fixture – Figure X-6B

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Wilmot, Chapel, Stone, and Cedar Streets Alder, Hanover, Parris, Brattle, Mechanic Streets Mountfort, Hancock, Hampshire, Newbury East, Federal East Streets Preble and Elm Street: Cumberland Avenue to Marginal Way Pearl, Chestnut, Myrtle Streets: Cumberland Avenue to Marginal Way Oxford West, Lancaster, Kennebec, Somerset Streets Portland, Fox, India Streets Anderson Street: Everett to Plowman Street Washington Avenue: Congress Street to I-295 Middle Street: Franklin to Hancock Street Fore Street: Franklin to Waterville Street	MEDIUM STREET [Figure X-7B]	19' 3"	One side: 80' – 100' Use Type 2 IES distribution. Fixture placed in furnishing zone overhang towards the street; where fixture conflicts with overhead utilities, may be placed on back of sidewalk with light overhanging sidewalk. Where street lighting is provided by existing cobrahead fixtures, decorative fixtures are not needed on that side of street. If a project includes placing utilities underground, street/pedestrian lighting provided by decorative fixtures.	Black (Manufacturer's Specification)
Marginal Way Forest Avenue: Cumberland Avenue to Park/Portland Street	LARGE STREET [Figure X-7D]	24' 3"	One side: 90'-100' Alt. sides: 175'-225'	
* No streets shall use PEDESTRIAN scale light unless site conditions such as sidewalk width or overhead utilities prevent installation of MEDIUM STREET fixture (Figure X-7D)	PEDESTRIAN [Figure X-7E]	14' 6"	One side: 60'-80' Alt. sides: 100'-175' Fixture shall be oriented to overhang sidewalk. Fixture placed in furnishing zone unless space is limited. Placement on back of sidewalk or private property overhanging sidewalk may be	

accommodated where space is a constraint.

TABLE 8.L. TRAILS & WATERFRONT DECORATIVE LIGHT STANDARDS

Map – Figure X-8A

Fixture – Fixture X-8B

Trails – This fixture is appropriate for any City trail installation. Standard lighted bollard may also be used in appropriate circumstances.

Bayside Trail – This fixture should only be used on the Bayside Trail if replacing six or more of the existing fixtures.

Waterfront – Commercial/Thames Street, this fixture is suitable to supplement standard cobrahead lighting.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Fore River Trail: Casco Bay Bridge to US-1; Harborview Park trail path	TRAIL – Single Arm	18'4"	One side: 90'-125' Alt. sides: 175'-225'	Black (Manufacturer's Specification)
Commercial Street: Fore River Parkway to India Street			Supplemental pedestrian lighting as-needed.	
Thames Street: India Street to Eastern Promenade Trail			One side: 90'-125' Alt. sides: 175'-225'	
Eastern Promenade Trail	TRAIL – Single or Double Arm		One side: 90'-125' Alt. sides: 175'-225' Single arm fixture oriented to overhang trail; Double arm fixture for medians or similar.	

TABLE 8.M. OFF-PENINSULA DECORATIVE LIGHT STANDARDS

Map – Figure X-9A

Fixture – Fixture X-9B

In addition to the specific locations indicated below, this fixture is suitable for off-peninsula, commercial corridors to supplement standard cobrahead lighting.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Forest Avenue: Marginal Way to Woodlawn Avenue	PEDESTRIAN - Single or Double Arm	18' 6"	One side: 60'-80' Alt. sides: 100'-175' Placement on back of sidewalk with single arm fixture oriented to overhang sidewalk; Where site constraints require placement in furnishing zone, use double arm fixture parallel to sidewalk.	Graphite (Manufacturer's Specification)

TABLE 8.N. HISTORIC LANDSCAPE STREET DECORATIVE LIGHT STANDARDS

Map – Figure X-10A

Fixture – Fixture X-10B

Fixture placement should comply with adopted master plans.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Eastern Promenade (park side of street only): North Street to Vesper Street	STREET – with shield	21’	One side: 90’-100’ Alt. sides: 175’ – 225’	Black (Manufacturer’s Specification)
Western Promenade (park side of street only): Bramhall Street to Vaughan Street				
Baxter Boulevard (both sides of street): Forest Avenue to Bates Street				
Deering Oaks Park (Abutting Streets, park side only): Deering Avenue, Park Avenue, Forest Avenue	STREET – without shield		One side: 90’-100’ Park side of street only	
Deering Oaks Park (within park): High Street, State Street			One side: 90’-100’ Alt. sides: 175’ – 225’	

TABLE 8.O. HISTORIC LANDSCAPE PEDESTRIAN DECORATIVE LIGHT STANDARDS

Map – Figure X-11A

Fixture – Fixture X-11B

Fixture placement should comply with adopted master plans.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Eastern Promenade: Pedestrian paths	Pedestrian	14'6"	One side: 60'-80'	Black (Manufacturer's Specification)
Western Promenade: Pedestrian paths				
Deering Oaks Park (Interior): Pedestrian paths, High Street, State Street			Use existing light locations or refer to the Deering Oaks Master Plan (2003) for revised locations	

TABLE 8.P. DEERING OAKS BRIDGE DECORATIVE LIGHT STANDARDS

Map – Figure X-12

Fixture placement should comply with adopted master plans.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Deering Oaks Park (Bridge)	Bridge Light	6' (match existing)	One side: 60'-80'	Match existing

8.3.5. City of Portland versus construction contractor responsibilities. For projects where the construction contractor is required by the City to provide new street lighting, the new street lighting shall be connected to an existing metered service, unless otherwise directed by the City (see §8.2.2(D) for new metered services for lighting).

- A. Construction contractor responsibilities.** The responsibilities of the construction contractor are as follows:
1. The construction contractor shall furnish and install the following as part of the construction scope as stipulated by the City according to City standards for the given project location:
 - a. Street lighting luminaires;

- 
- b. Street lighting poles;
 - c. Bracket arms;
 - d. Pole accessories; and
 - e. Decorative base enclosures;

- 2. Concrete foundation bases for new street lighting poles. Poles shall be mounted on reinforced concrete pole bases with 2" to 4" reveal above grade, with 4 bolts per pole. The installation of the foundation bases shall be coordinated with sidewalk details and requirements as stipulated by the City of Portland Department of Public Works;
- 3. **Underground conduit and wire between street lighting pole foundation bases.** In addition, underground conduit and wire shall be provided to an electrical service panelboard and meter, as well as to an existing service connection;
- 4. Wiring to be installed within each street lighting pole and shall be extended at the pole top (or bracket arm), with connection to the street lighting luminaire(s);
- 5. Upon completion of the erection of the street lighting fixtures, including the installation of all lighting poles and conduit/wire, the construction contractor shall notify the City that the system is ready for operation. **The luminaires shall be energized prior to the construction contractor's request for a City Certificate of Occupancy;** and
- 6. It shall be the construction contractor's responsibility to pay all costs associated with the provision of required street lighting including costs associated with street lighting luminaires, street lighting poles, brackets, bases, conduit and wire, panelboards, and metering equipment.

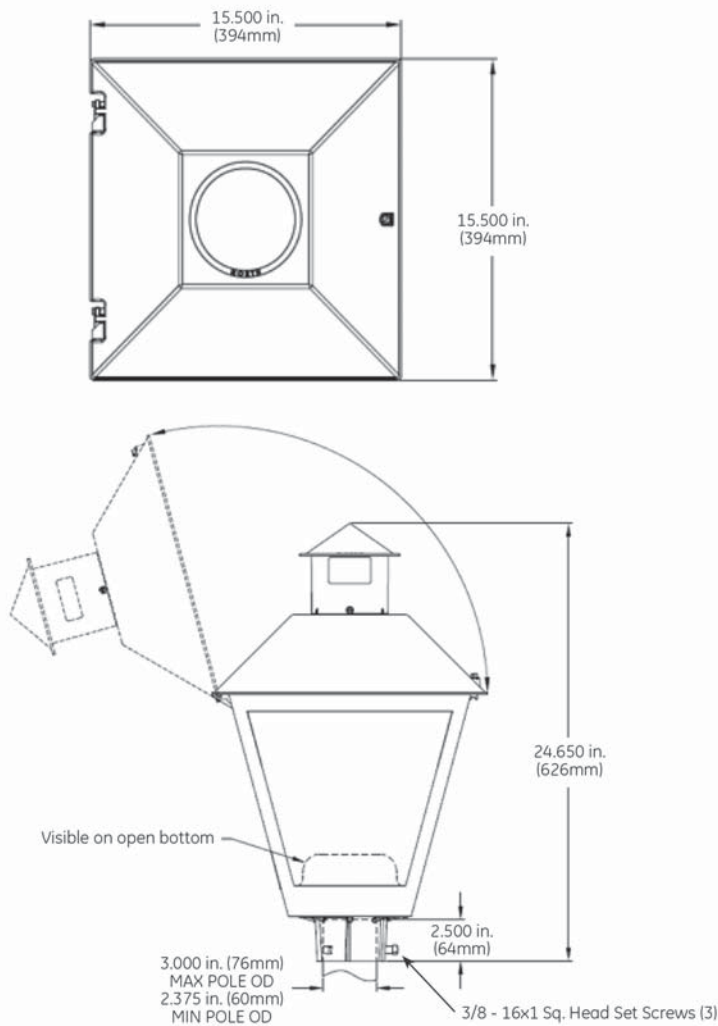
B. City of Portland responsibilities. The responsibilities of the City of Portland are as follows:

- 1. To approve the proposed point of connection for electrical service for new municipal street lighting where a new metered service is provided;
- 2. Connection of the construction contractor's secondary service conductors at an existing service point, where a new service is provided; and
- 3. To review and approve the location of the street light fixtures within the public right-of-way.

~~8.3.6. Submission requirements.~~ ~~A lighting plan shall be provided which shall show the quantity and location of all existing and proposed street lights. This shall be incorporated into the site plan or presented on an individual lighting plan. Descriptive information including engineering detail drawings depicting the entire proposed fixture (luminaire, bracket arm, slip fitter) along with the proposed finish shall be included on the individual lighting plan.~~



Town & Country Post Top (EPTT)



LUMINAIRE

GE Evolve LED Post Top Town & Country (EPTT)
Model: EPTT-01-0-06-D-A-30-A-P-BLCKR-R

Die-case aluminum housing with acrylic refractor in white opal.

Pole-mounted, secondary surge protection
Voltage (120 through 277V)
Asymmetric HO, 56 watt
LED 3000K color temperature

LIGHTING POLE

Aluminum, smooth tapered pole with 5/32" thickness (.156").

EPA rating from 4.6 to 6.9 (using 110mph wind speed ratings from AAHTO).

Maximum weight capacity = 75-100 lbs.

Base bolt pattern: 10" diagonal.

DIMENSIONS

Pole Height = 15' max.

Pole Diameter = 6" base tapered to 3"

FINISH

Black (standard)

APPLICATION

Standard sidewalk lighting for residential streets not specified for decorative lighting.

Spacing: According to Section 10.2.1

Fixture placed in furnishing zone unless space is limited. Placement on back of sidewalk or private property near sidewalk may be accommodated where space is a constraint.

Date:
March, 2019

**CITY OF PORTLAND, MAINE
TECHNICAL MANUAL**

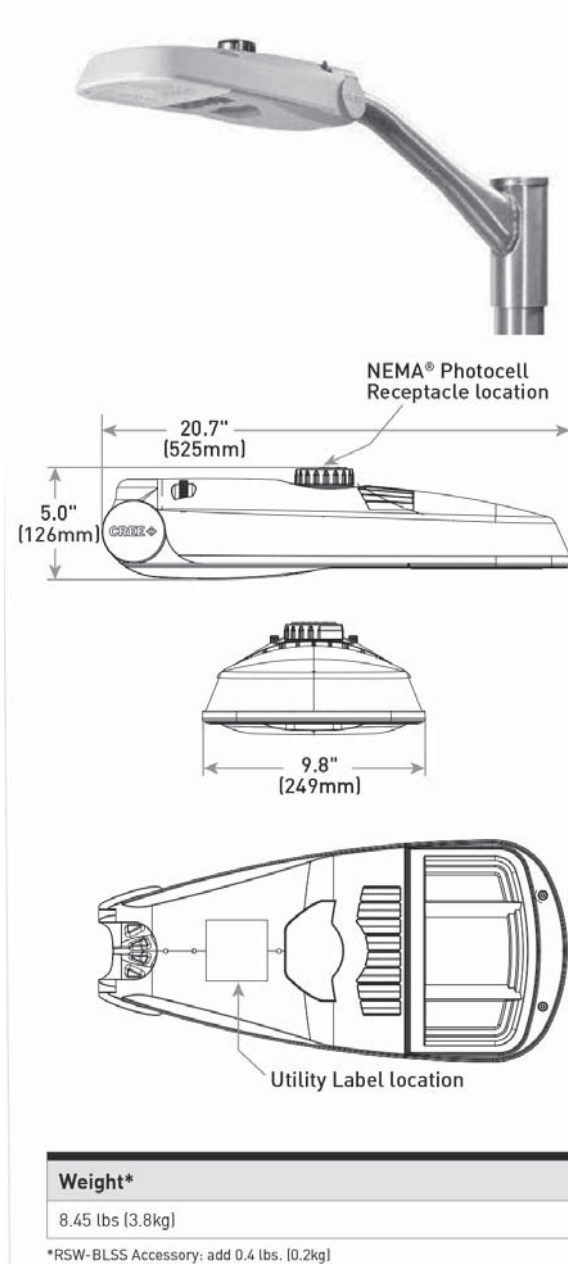
**MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10**

Figure:

X-1

Revised Date:

RESIDENTIAL



LUMINAIRE

Cree RSW series LED streetlight
Model: RSW-A-HT-3ME-3L-30K7-UL-GY-N-X3

Small, horizontal tenon
Optics IES Type III Medium, 2,756 lumens
23 watts
Universal voltage (120-227V)
7-pin photocell receptacle
LED 3000K color temperature

LIGHTING POLE

Mount to existing pole or according to Section 10.2.1

DIMENSIONS

Pole Height = 20' or 30'

FINISH

Grey: GY (standard)

APPLICATION

Standard street lighting for streets not specified for decorative lighting.

Fixture placed in furnishing zone unless space is limited. Placement on back of sidewalk or private property overhanging sidewalk may be accommodated where space is a constraint.

Date:
March, 2019

**CITY OF PORTLAND, MAINE
TECHNICAL MANUAL**

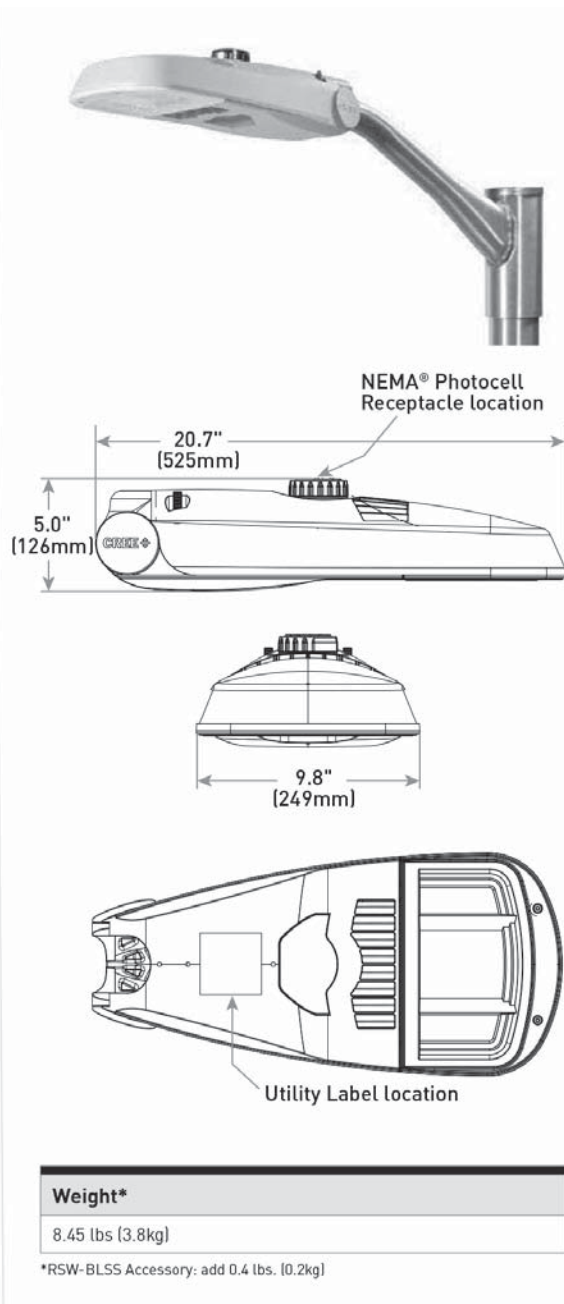
**MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10**

Figure:

X-2A

Revised Date:

COBRAHEAD A



LUMINAIRE

Cree RSW series LED streetlight
Model: RSW-A-HT-3ME-5L-30K7-UL-GY-N-X1

Small, horizontal tenon
Optics IES Type III Medium, 3,617 lumens
30 watts
Universal voltage (120-277V)
7-pin photocell receptacle
LED 3000K color temperature

LIGHTING POLE

Mount to existing pole or according to Section 10.2.1

DIMENSIONS

Pole Height = 20' or 30'

FINISH

Grey: GY (standard)

APPLICATION

Standard street lighting for streets not specified for decorative lighting.

Fixture placed in furnishing zone unless space is limited. Placement on back of sidewalk or private property overhanging sidewalk may be accommodated where space is a constraint.

Date:
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**CITY OF PORTLAND, MAINE
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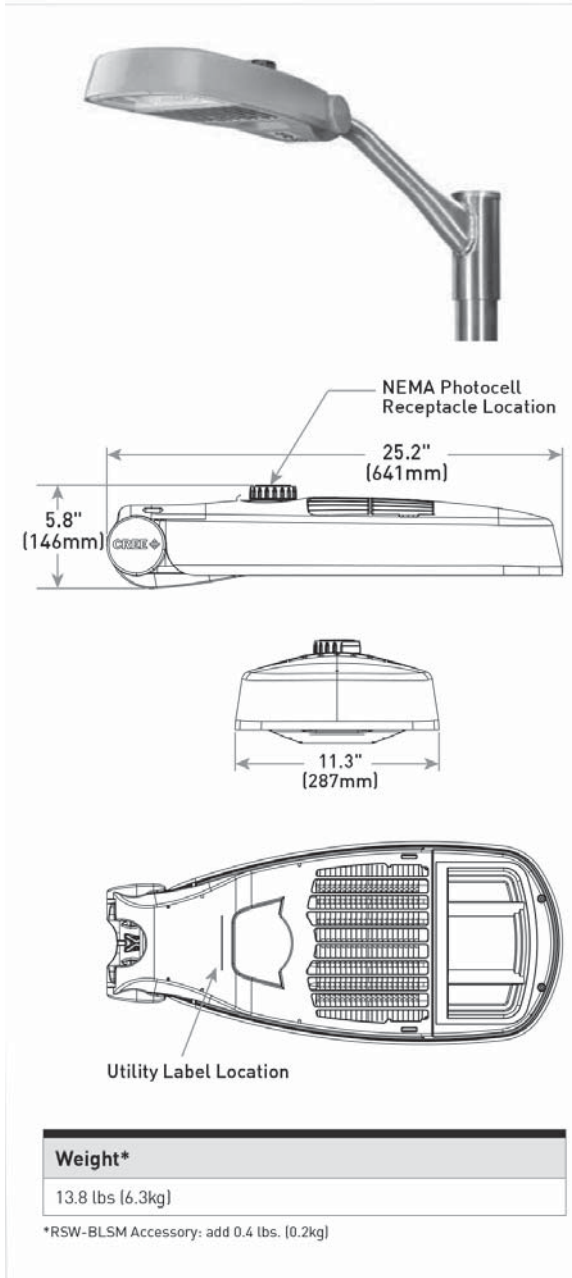
**MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10**

Figure:

X-2B

Revised Date:

COBRAHEAD B



LUMINAIRE

Cree RSW series LED streetlight
Model: RSWM-A-HT-3ME-9L-30K7-UL-GY-N-X1

Medium, horizontal tenon
Optics IES Type III Medium, 6,500 lumens
50 watts
Universal voltage (120-227V)
7-pin photocell receptacle
LED 3000K color temperature

LIGHTING POLE

Mount to existing pole or according to Section 10.2.1

DIMENSIONS

Pole Height = 20' or 30'

FINISH

Grey: GY (standard)

APPLICATION

Standard street lighting for streets not specified for decorative lighting.

Fixture placed in furnishing zone unless space is limited. Placement on back of sidewalk or private property overhanging sidewalk may be accommodated where space is a constraint.

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**CITY OF PORTLAND, MAINE
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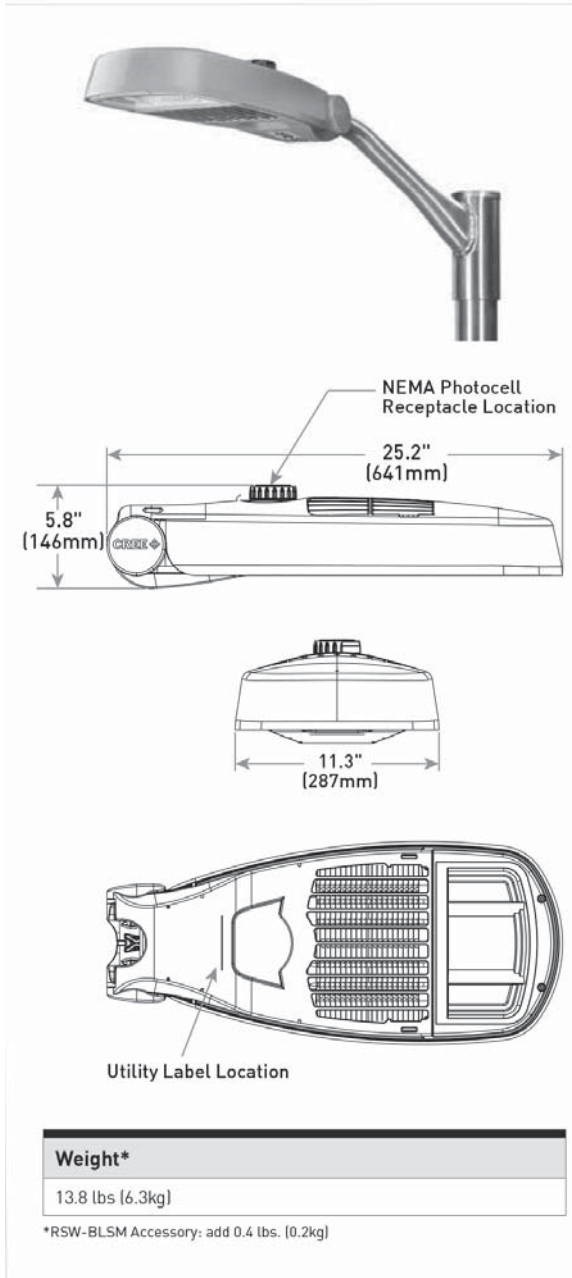
**MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10**

Figure:

X-2C

Revised Date:

COBRAHEAD C



LUMINAIRE

Cree RSW series LED streetlight
Model: RSWM-A-HT-3ME-9L-30K7-UL-GY-N-X6

Medium, horizontal tenon
Optics IES Type III Medium, 8,975 lumens
75 watts
Universal voltage (120-227V)
7-pin photocell receptacle
LED 3000K color temperature

LAMP

Vertical mounted, LED 3000K color temperature

LIGHTING POLE

Mount to existing pole or according to Section 10.2.1

DIMENSIONS

Pole Height = 20' or 30'

FINISH

Grey: GY (standard)

APPLICATION

Standard street lighting for streets not specified for decorative lighting.

Fixture placed in furnishing zone unless space is limited. Placement on back of sidewalk or private property overhanging sidewalk may be accommodated where space is a constraint.

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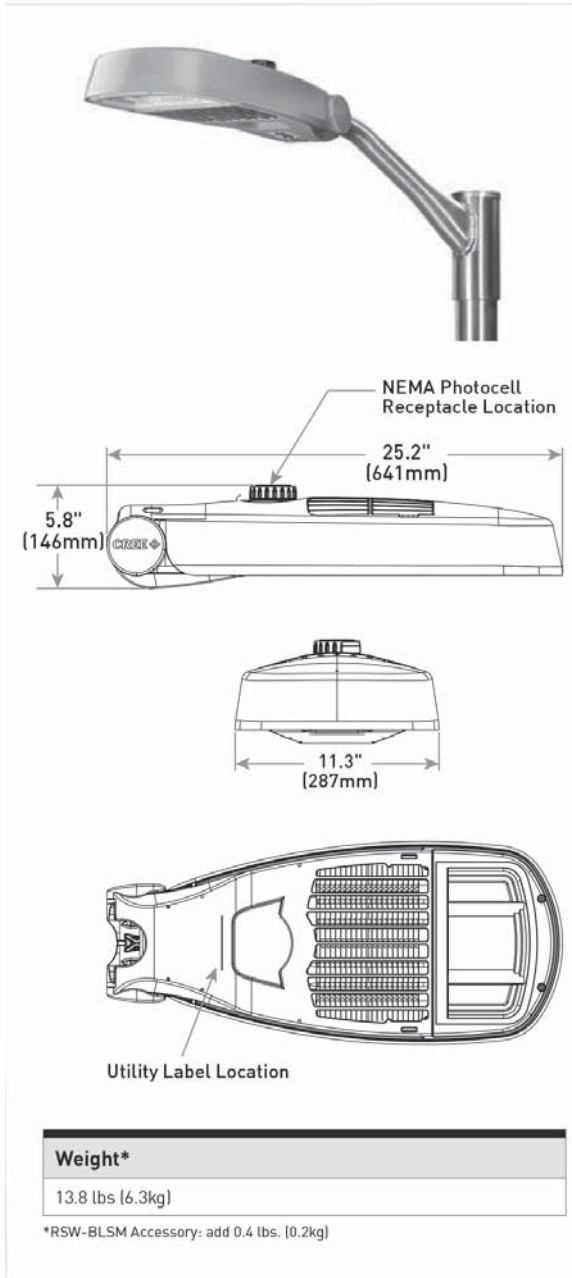
**MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10**

Figure:

X-2D

Revised Date:

COBRAHEAD D



LUMINAIRE

Cree RSW series LED streetlight
Model: RSWM-A-HT-3ME-9L-30K7-UL-GY-N

Medium horizontal tenon
Optics IES Type III Medium, 9,325 lumens
83 watts
Universal voltage (120-227V)
7-pin photocell receptacle
LED 3000K color temperature

LIGHTING POLE

Mount to existing pole or according to Section 10.2.1

DIMENSIONS

Pole Height = 20' or 30'

FINISH

Grey: GY (standard)

APPLICATION

Standard street lighting for streets not specified for decorative lighting.

Fixture placed in furnishing zone unless space is limited. Placement on back of sidewalk or private property overhanging sidewalk may be accommodated where space is a constraint.

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**CITY OF PORTLAND, MAINE
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**MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10**

Figure:

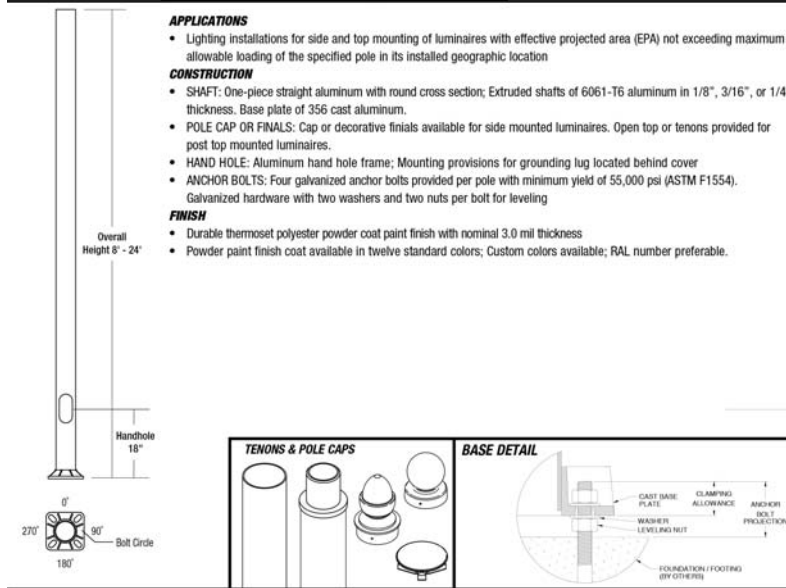
X-2E

Revised Date:

COBRAHEAD E



Street & Sidewalk Lighting STANDARD - COBRAHEAD POLE



LIGHTING POLE (see Section 10.2)

Pole: Beacon RSA-B-SHO-S Series

Model:

RS-B-SHO-S-16-40-A/B/C-CAP-2L-B3-DBT-VM2

Aluminum, smooth tapered pole of 6061-T6 aluminum.

Arm: Beacon AA-10 Cobra

Model: AA-10-S-5-B-P-GYS

Smooth profile on arms with copper alloy A356. All extruded aluminum parts shall be alloy 6061-T6, 6063-T5 or equal.

Performance standards for locations near shoreline (AAMA 2604, ASTM D522, resists surface impacts of up to 160 inch-pounds).

Base bolt pattern: Four galvanized anchor bolts per pole with minimum yield of 55,000 psa (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling.

DIMENSIONS

Pole Height = 20' or 30' (according to Section 10.2.1)

FINISH

Grey: GYS Grey Smooth (standard)

Thermoset polyester powder coat paint finish with nominal 3.0 mil thickness.

Corrosion-resistant polyester powder-coat electrostatically applied meeting AAMA 2604 performance specification.

APPLICATION

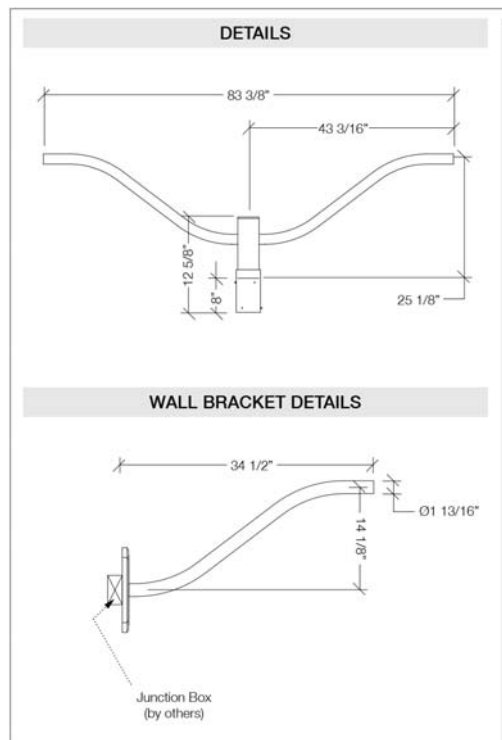
Standard street lighting for streets not specified for decorative lighting.

To be used within .5 mi. of shoreline and where existing poles are not available for mounting cobrahead fixture.

Spacing: According to Section 10.2.1

Follow established pattern and orientation - typically single arm overhanging towards street.

Fixture placed in furnishing zone unless space is limited. Placement on back of sidewalk or private property overhanging sidewalk may be accommodated where space is a constraint.



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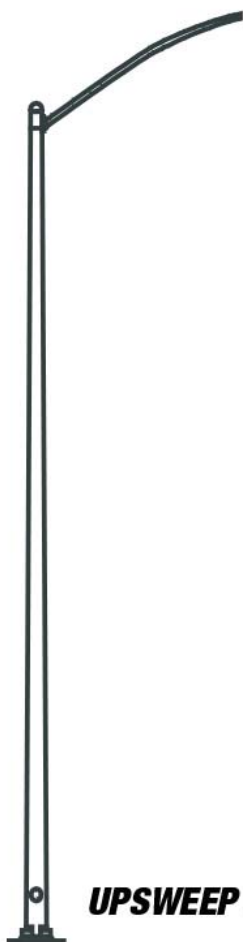
MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10

Figure:

X-2F

Revised Date:

COBRAHEAD POLE - WATERFRONT



UPSWEEP STYLE

LIGHTING POLE (see Section 10.2)

Hubbell FTA Series - Upsweep Style
Model: RTA

Standard aluminum, smooth tapered pole.

DIMENSIONS

Pole Height = 20' or 30' (according to Section 10.2.1)

FINISH

Grey (standard)

APPLICATION

Standard street lighting for streets not specified for decorative lighting.

To be used further than .5 mi. from shoreline and where existing poles are not available for mounting cobrahead fixture.

Spacing: According to Section 10.2.1

Follow established pattern and orientation - typically single arm overhanging towards street.

Fixture placed in furnishing zone unless space is limited. Placement on back of sidewalk or private property overhanging sidewalk may be accommodated where space is a constraint.

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**CITY OF PORTLAND, MAINE
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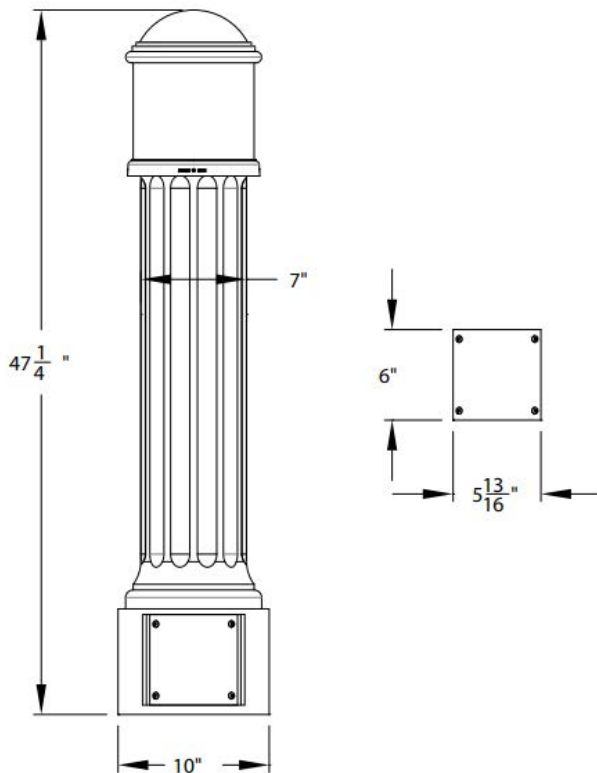
**MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10**

Figure:

X-2G

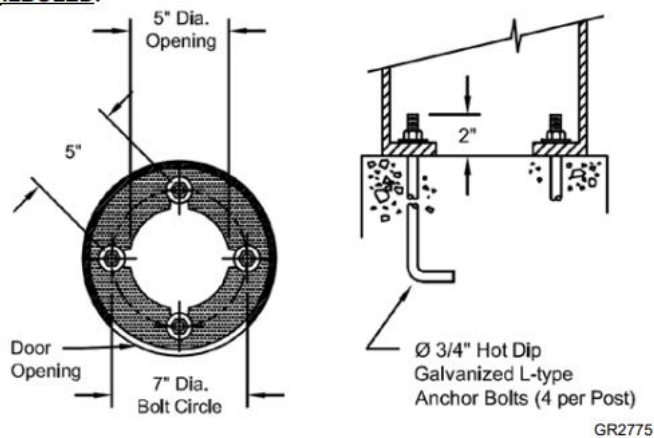
Revised Date:

COBRAHEAD POLE - NON-WATERFRONT



Maximum standard weight - 58 lbs.
Maximum weight with Direct Burial Base Option - 88 lbs.

HLBOLED:



GR2775

LUMINAIRE

Hamilton LED Series Cast Aluminum Bollard
Model: HLBOLED CA P40 30K MVOLT GL5 ACS BK
AO ABG

Mechanical Specifications

Be heavy grade A356.1 cast aluminum (aluminum with <1% copper)
Wet locations listed
One-piece casting with a removable top
All welders shall be certified per Section 5 of ANSI/AWS D1.2-90

Access door opening for anchor bolts and wiring access is 3" x 5" x 4.5"

The finish shall utilize a polyester powder coat paint to ensure maximum durability rigorous multi-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 8 (per ASTM D1654) after over 5000 hours exposure to salt fog chamber (operated per ASTM B117) on standard BLACK.

Optical Specifications

IP65 light engine
Type 5 distribution with prismatic borosilicate glass and a smooth clear acrylic outer lens

Control Options

Field adjustable output to adjust output to luminaire – AO

Electrical Specifications

The driver shall meet the following requirements:

Certified by UL or CSA for wet locations
A factory programmable electronic driver with 0-10V dimming

LEDs shall have a minimum of 70 CRI and available in 3000K CCT

The electrical system shall be designed to meet ANSI/IEEE C62.41.2 and shall offer a 10kV/5kA surge protection, fail off.

FINISH

Black (standard)

APPLICATION

Sidewalk lighting where height is limited - underpasses, parks, piers

Can be used as a security bollard.

Spacing: To be determined by Department of Public Works per specific project

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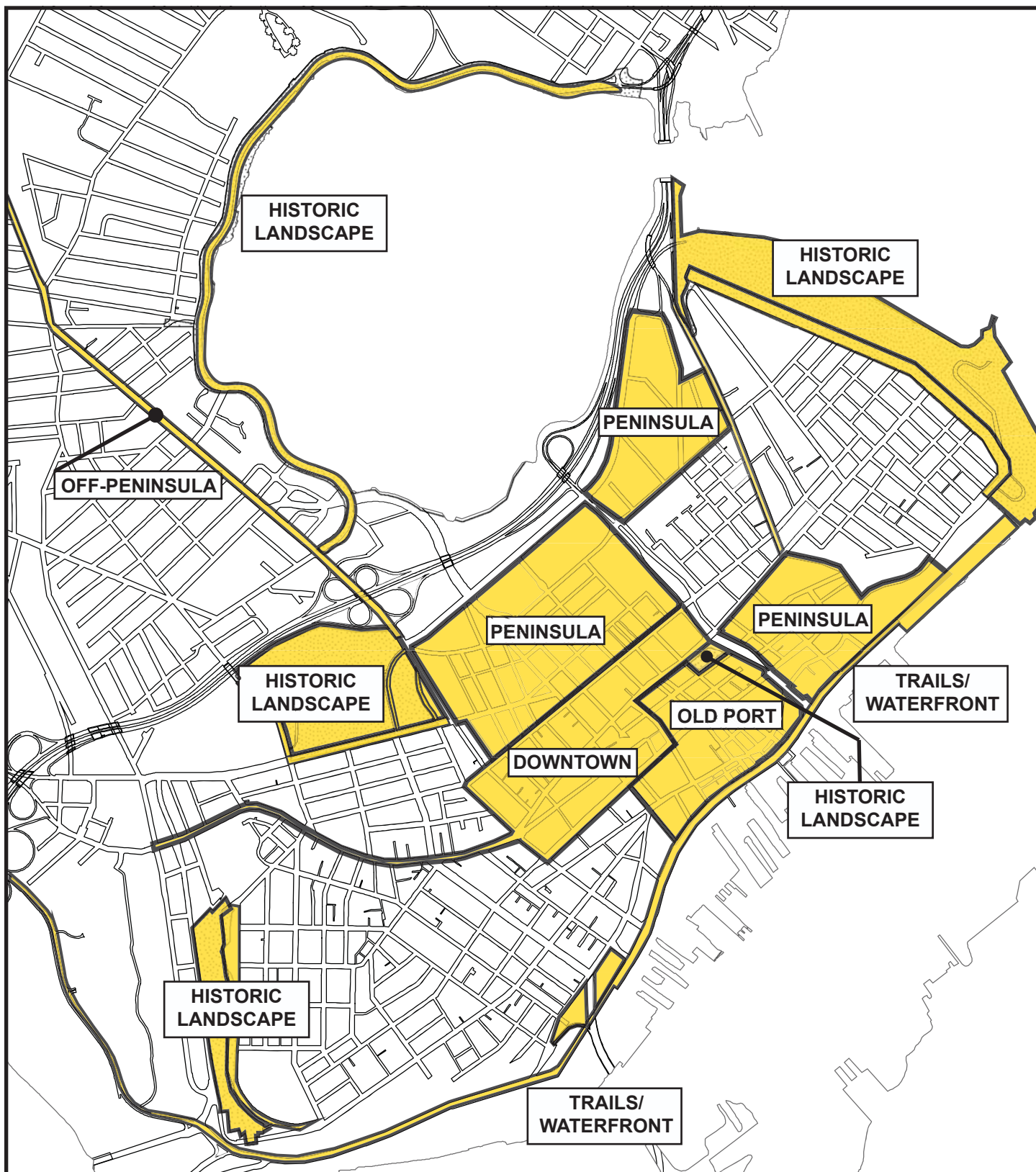
**MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10**

Figure:

X-3

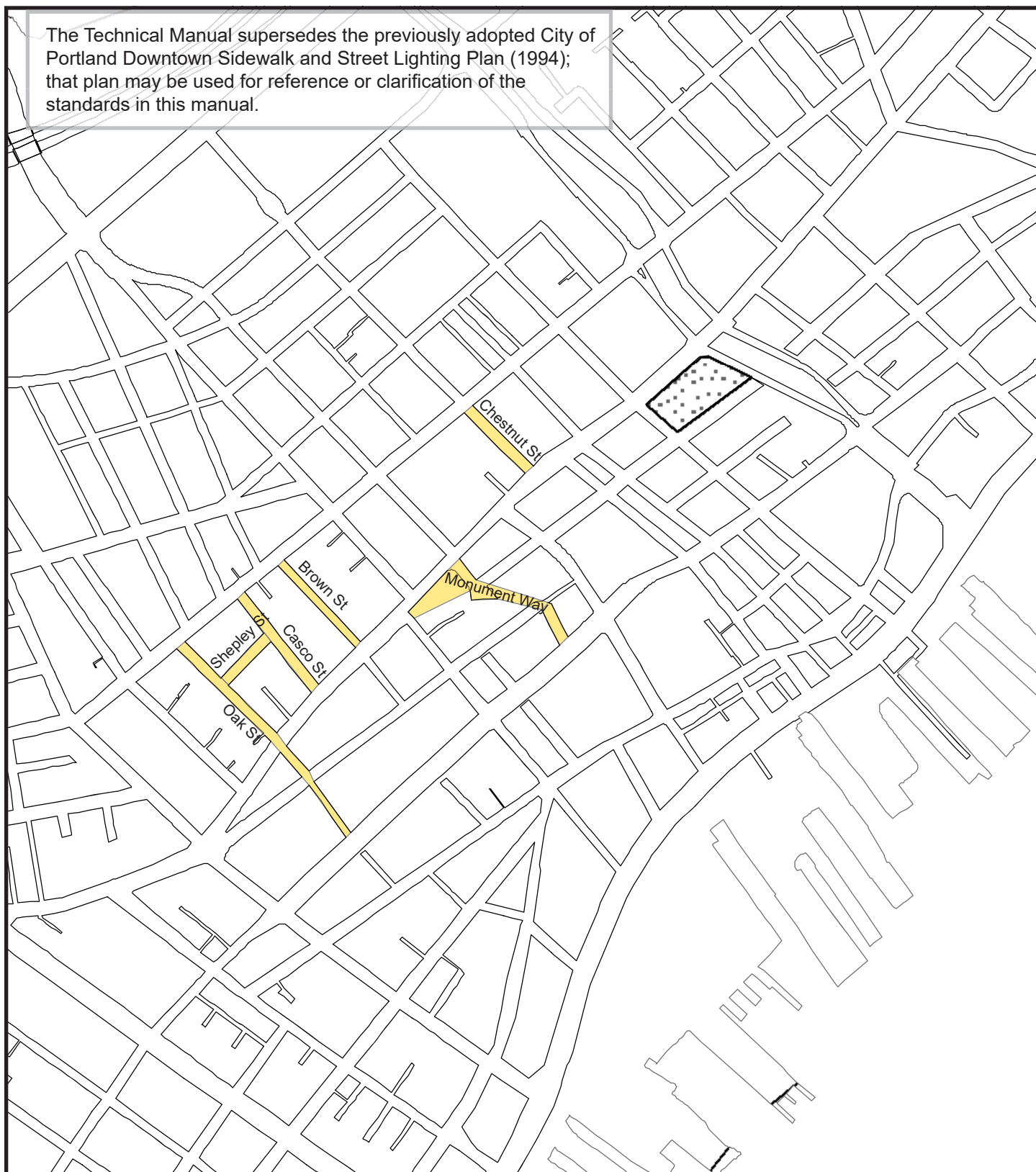
Revised Date:
11/22/22

LIGHTED BOLLARD



Date: March, 2019	CITY OF PORTLAND, MAINE TECHNICAL MANUAL	MUNICIPAL STREET LIGHTING STANDARDS SECTION 10	Figure:
Revised Date:	MAP: DECORATIVE LIGHTING AREAS		X-4

The Technical Manual supersedes the previously adopted City of Portland Downtown Sidewalk and Street Lighting Plan (1994); that plan may be used for reference or clarification of the standards in this manual.



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CITY OF PORTLAND, MAINE
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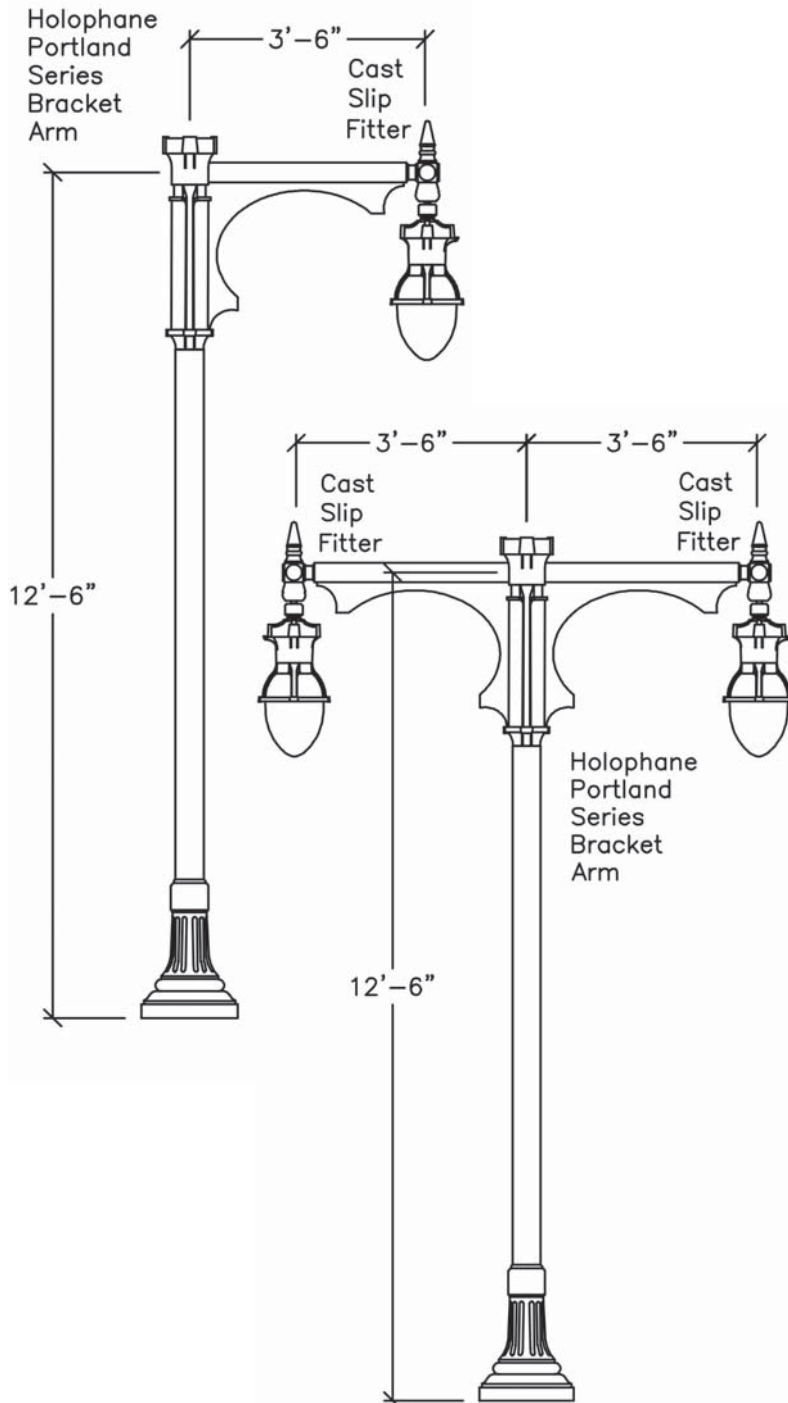
**MUNICIPAL STREET
LIGHTING STANDARDS**
SECTION 10

Figure:

X-5A

Revised Date:

**MAP: Decorative Light - DOWNTOWN
PEDESTRIAN**



LUMINAIRE

Holophane Esplanade LED II

Model:

ESL2-P20S-30K-AS-CMC-TG3-S-P7-NL2X2-BHDF13-200CMC

Cast aluminum housing with stainless steel hardware. Dropped refractor shall be thermal resistant borosilicate glass. Internal reflector and prismatic diffuser shall provide an IES Type IV distribution pattern. Luminaire shall include an integral ballast with modular wiring connectors and multi-voltage taps. Provide an internal receptacle type photocell control. LED 3000K color temperature

BRACKET ARM

Holophane Portland Series (custom)

Model PD42CA-RAL6012

Portland Series steel crossarm with a post-top fitting for a 3-1/2" by 8" tenon.

SLIP FITTER

Holophane

Model :WLLF200SCA-RAL6012

2-3/8" O.D. with swivel cast fitter.

LIGHTING POLE AND BASE

Holophane North Yorkshire Cast Steel

Model NY-S-13-FTB-P13-ABG-RAL6012

Cast steel pole, smooth 5" diameter shaft with integrated base rated for a 90mph wind load with a 1.3 gust factor. Provide four hot-dipped galvanized steel L-type anchor bolts. Lighting pole shall be hot dip galvanized prior to powder coat paint.

DIMENSIONS

Overall Height = 12' 6"

Bracket Arm Length = 3' 6"

Base Diameter = 17"

FINISH

Dark Green: RAL-6012 (custom)

APPLICATION

Sidewalk lighting or pedestrian lighting areas

Spacing:

One side: 60' - 80' on center

Alternating sides: 100' - 175' on center

Single-arm fixture placed in furnishing zone with luminaire oriented over sidewalk. Double-arm fixture placed with bracket arms parallel to sidewalk. If sidewalk space is limited, Planning Authority may approve lights within private property or attached to building.

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**CITY OF PORTLAND, MAINE
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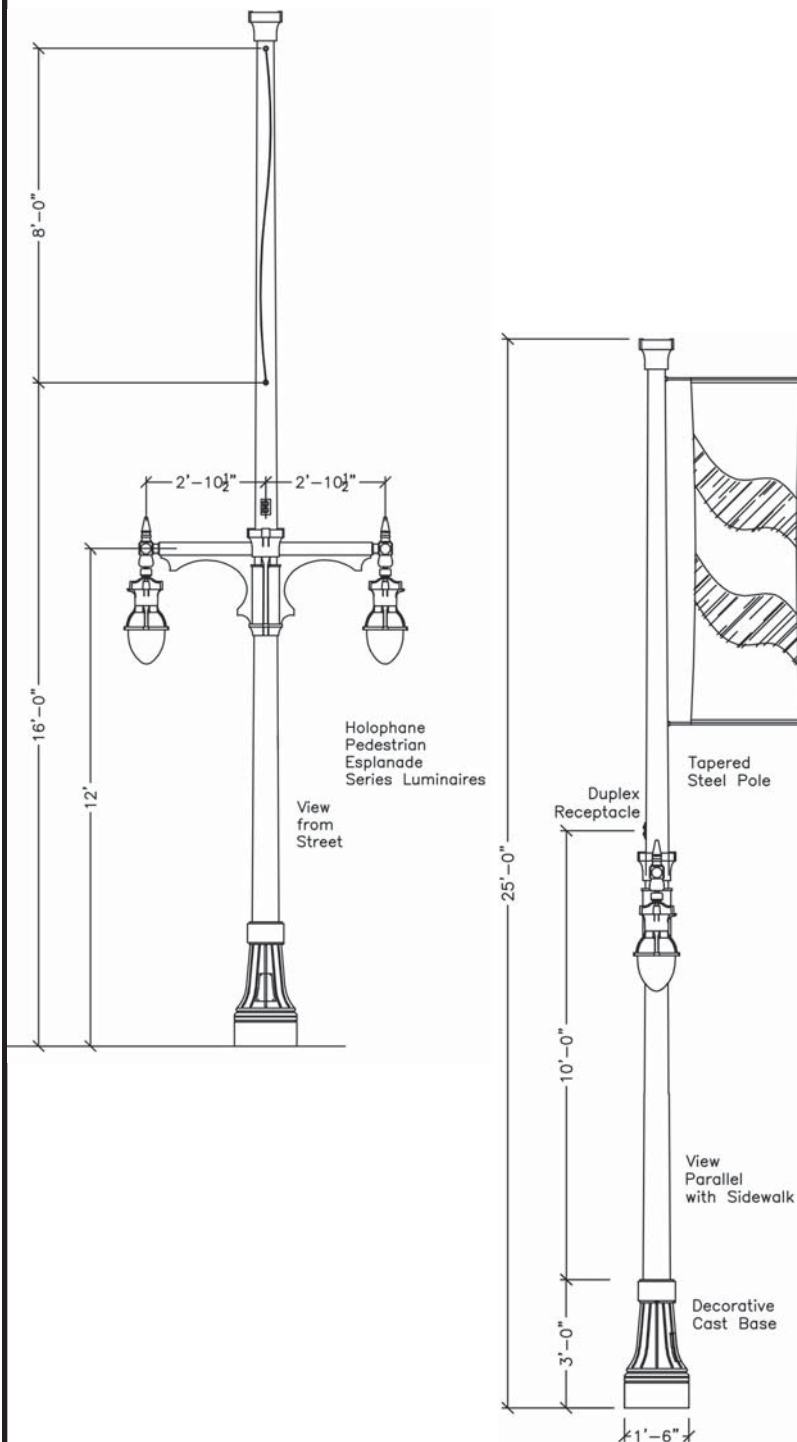
**MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10**

Figure:

X-5B

Revised Date:

DOWNTOWN PED 1



LUMINAIRE

Holophane Esplanade LED II

Model:

ESL2-P20S-30K-AS-CMC-TG3-S-P7-NL2X2-BHDF13-200CMC

Cast aluminum housing with stainless steel hardware. Dropped refractor shall be thermal resistant borosilicate glass. Internal reflector and prismatic diffuser shall provide an IES Type IV distribution pattern. Luminaire shall include an integral ballast with modular wiring connectors and multi-voltage taps. Provide an internal receptacle type photocell control. LED 3000K color temperature.

BRACKET ARM

Holophane Portland Series steel dual crossarm (custom)

Model: PD69-CA-RAL6012

SLIP FITTER

Holophane

Model: WLLF200S-CA-RAL6012

2-3/8" O.D. with swivel cast fitter

LIGHTING POLE

Holophane

Model: PM-18-CSB-CA-RAL6012

Tapered steel pole smooth shaft rated for a 90mph wind load with a 1.3 gust factor. Provide four hot-dipped galvanized steel L-type anchor bolts. Lighting pole shall be hot dip galvanized prior to powder coat paint.

DECORATIVE BASE

Holophane

Model: PM18CSB-CA-RAL6012

Decorative clamshell cast aluminum base. Hardware shall be stainless steel.

DIMENSIONS

Overall Height = 25' 0"

Bracket Arm Length = 2' 10 1/2"

Base Diameter = 18"

FINISH

Dark Green: RAL-6012 (custom)

APPLICATION

Sidewalk lighting or pedestrian lighting areas

Suggested layout:

One side: 90' - 100' on center

Alternating sides: 175' -225' on center

Double-arm fixture placed with bracket arms parallel to sidewalk. If sidewalk space is limited, Planning Authority may approve lights within private property or attached to building.

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**CITY OF PORTLAND, MAINE
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**MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10**

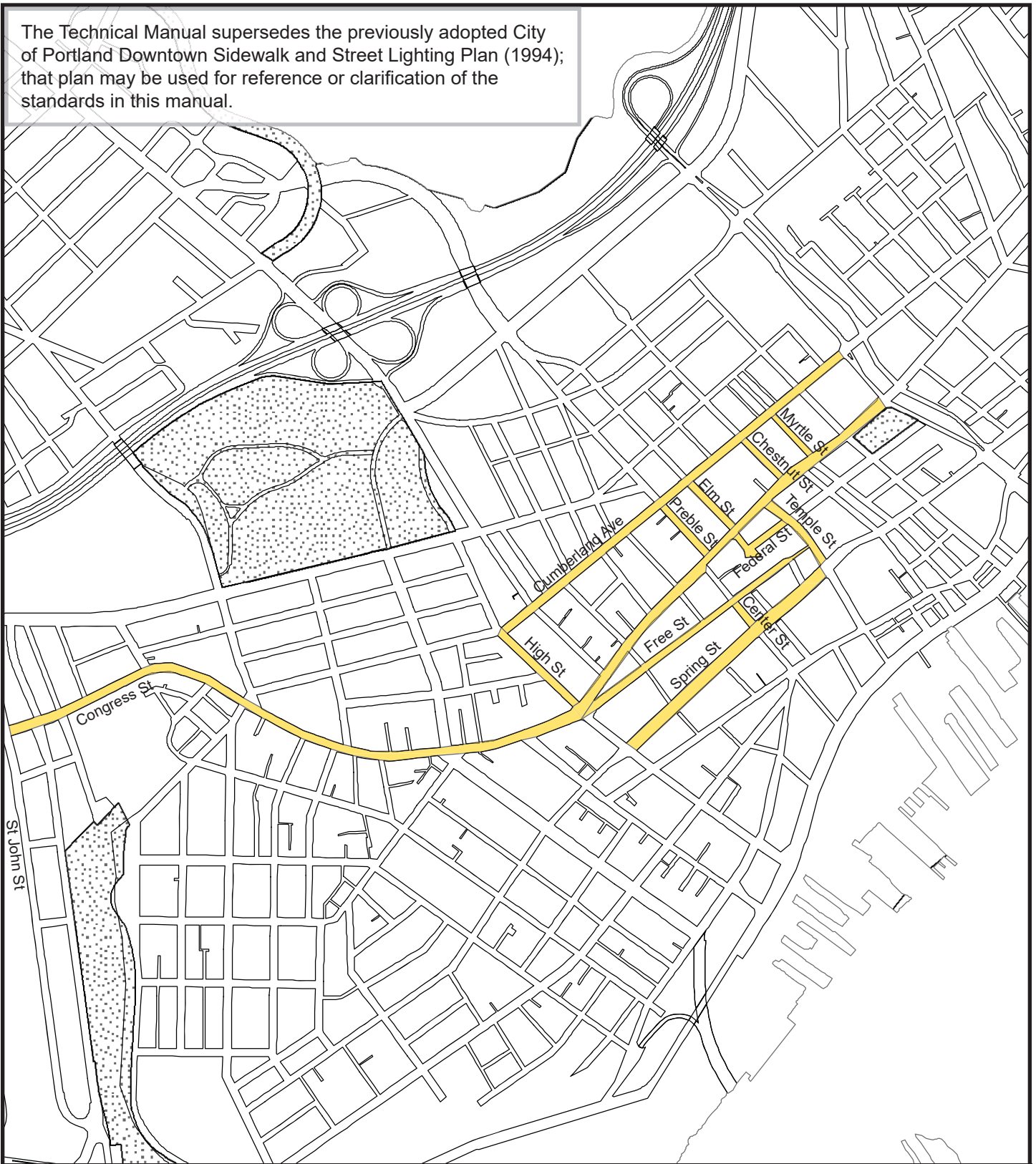
Figure:

X-5C

Revised Date:

DOWNTOWN PED 2

The Technical Manual supersedes the previously adopted City of Portland Downtown Sidewalk and Street Lighting Plan (1994); that plan may be used for reference or clarification of the standards in this manual.



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CITY OF PORTLAND, MAINE
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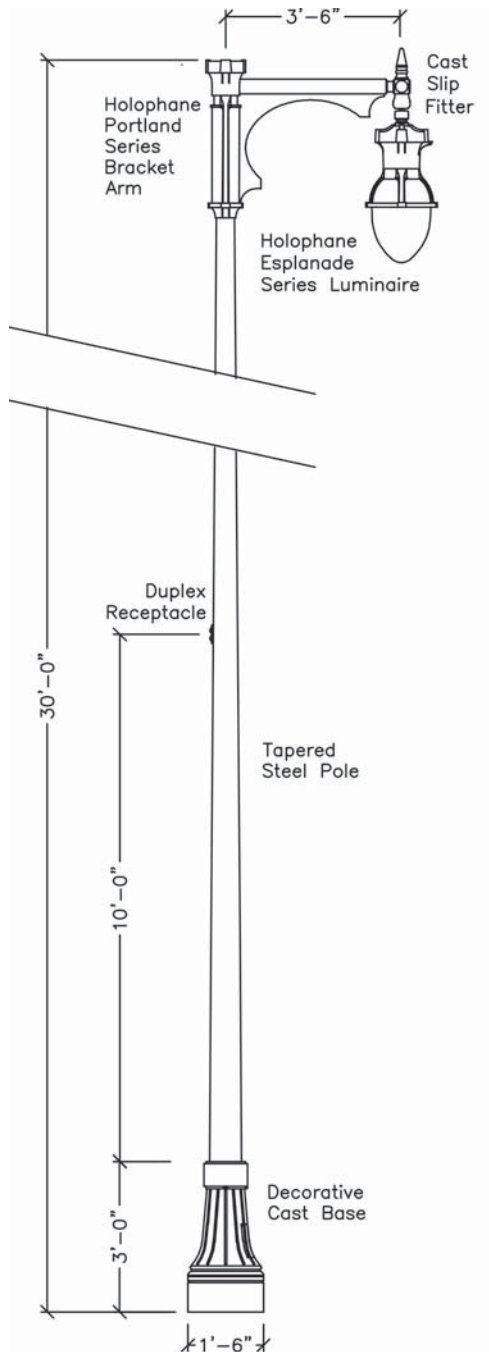
**MUNICIPAL STREET
LIGHTING STANDARDS**
SECTION 10

Figure:

X-5D

Revised Date:

**MAP: Decorative Light - DOWNTOWN
STREET**



LUMINAIRE

Holophane Esplanade LED II

Model:

ESL2-P20S-30K-AS-CMC-TG3-S-P7-NL2X2-BHDF13-200CMC

Cast aluminum housing with stainless steel hardware. Dropped refractor shall be thermal resistant borosilicate glass. Internal reflector and prismatic diffuser shall provide an IES Type IV distribution pattern. Luminaire shall include an integral ballast with modular wiring connectors and multi-voltage taps. Provide an internal receptacle type photocell control. LED 3000K color temperature.

BRACKET ARM

Holophane Portland Series steel crossarm (custom)

Model: PD42-CA-RAL6012

Steel crossarm with a post-top fitting for a 3 1/2" by 8" tenon

SLIP FITTER

Holophane

Model: WLLF200S-CA-RAL6012

2-3/8" O.D. with swivel cast fitter.

LIGHTING POLE

Holophane

Model: PM-18-CSB-CA-RAL6012

Tapered steel pole smooth shaft rated for a 90mph wind load with a 1.3 gust factor. Provide four hot-dipped galvanized steel L-type anchor bolts. Lighting pole shall be hot dip galvanized prior to powder coat paint.

DECORATIVE BASE

Holophane

Model: PM18CSB-CA-RAL6012

Decorative clamshell cast aluminum base. Hardware shall be stainless steel.

DIMENSIONS

Overall Height = 30' 0"

Bracket Arm Length = 3' 6"

Base Diameter = 18"

FINISH

Dark Green: RAL-6012 (custom)

APPLICATION

Street lighting

Spacing:

One side: 90' - 100' on center

Alternating sides: 175' - 225' on center

Single-arm fixture placed in furnishing zone with luminaire oriented over sidewalk. Double-arm fixture placed with bracket arms parallel to sidewalk or in medians. If sidewalk space is limited, Planning Authority may approve lights within private property or attached to building.

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**CITY OF PORTLAND, MAINE
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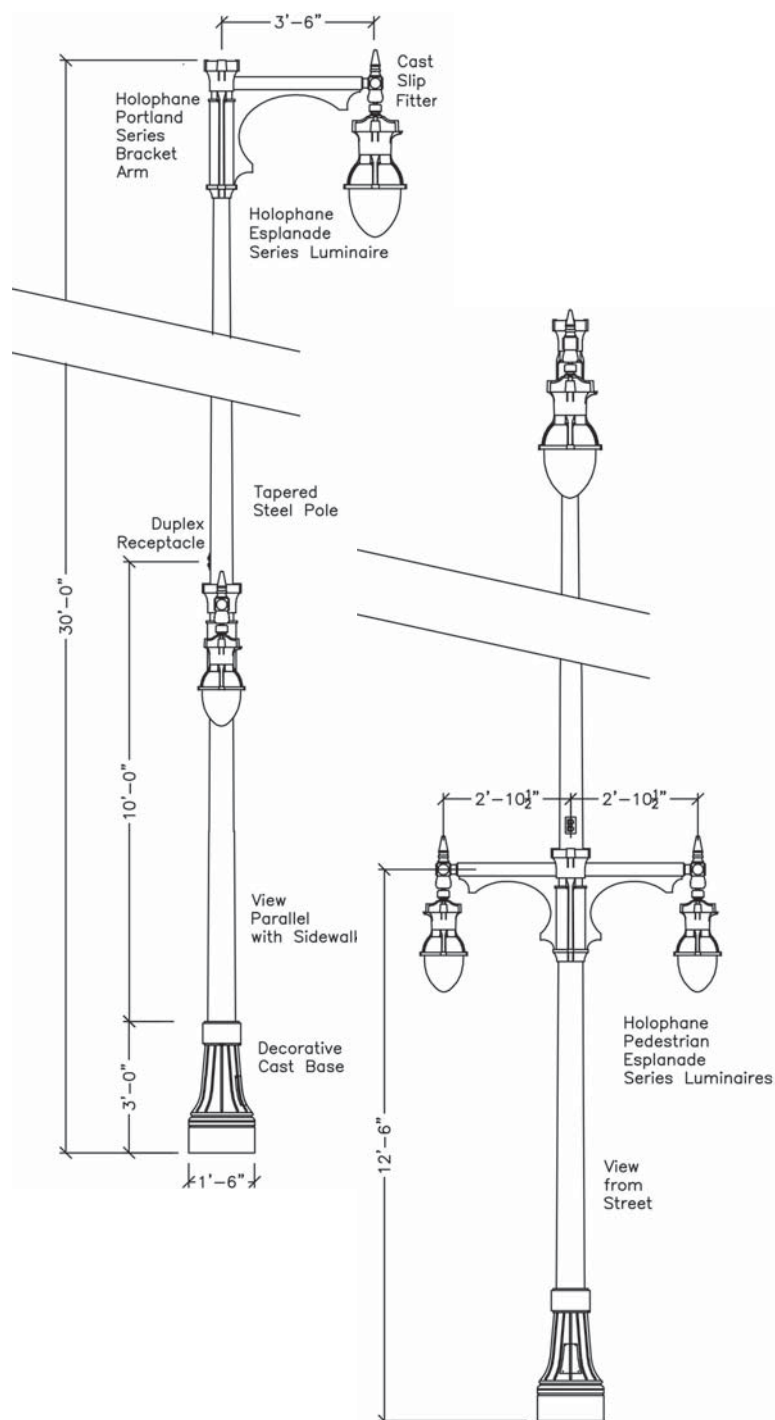
**MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10**

Figure:

X-5E

Revised Date:

DOWNTOWN STREET



LUMINAIRE

Holophane Esplanade LED II

Model:

ESL2-P20S-30K-AS-CMC-TG3-S-P7-NL2X2-BHDF13-200CMC

Cast aluminum housing with stainless steel hardware. Dropped refractor shall be thermal resistant borosilicate glass. Internal reflector and prismatic diffuser shall provide an IES Type IV distribution pattern. Luminaire shall include an integral ballast with modular wiring connectors and multi-voltage taps. Provide an internal receptacle type photocell control. LED 3000K color temperature

BRACKET ARM

Holophane Portland Series steel (custom)

Top Bracket Arm: Steel crossarm with a post-top fitting for a 3 1/2" by 8" tenon

Model: PD42-CA-RAL6012

Lower Bracket Arm: Steel dual crossarm

Model: PD69-CA-RAL6012

SLIP FITTER

Holophane

Model: WLLF200S-CA-RAL6012

2-3/8" O.D. with swivel cast fitter.

LIGHTING POLE

Holophane

Model: PM-18-CSB-CA-RAL6012

Tapered steel pole smooth shaft rated for a 90mph wind load with a 1.3 gust factor. Provide four hot-dipped galvanized steel L-type anchor bolts. Lighting pole shall be hot dip galvanized prior to powder coat paint.

DECORATIVE BASE

Holophane

Model: PM18CSB-CA-RAL6012

Decorative clamshell cast aluminum base. Hardware shall be stainless steel.

DIMENSIONS

Overall Height = 30' 0"

Upper Bracket Arm Length = 3' 6"

Lower Bracket Arm Length = 2' 10 1/2"

Base Diameter = 18"

FINISH

Dark Green: RAL-6012 (custom)

APPLICATION

Street/pedestrian lighting combination.

Spacing:

One side: 90' - 100' on center

Alternating sides: 175' - 225' on center

Double-arm bracket arms parallel to sidewalk.

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**CITY OF PORTLAND, MAINE
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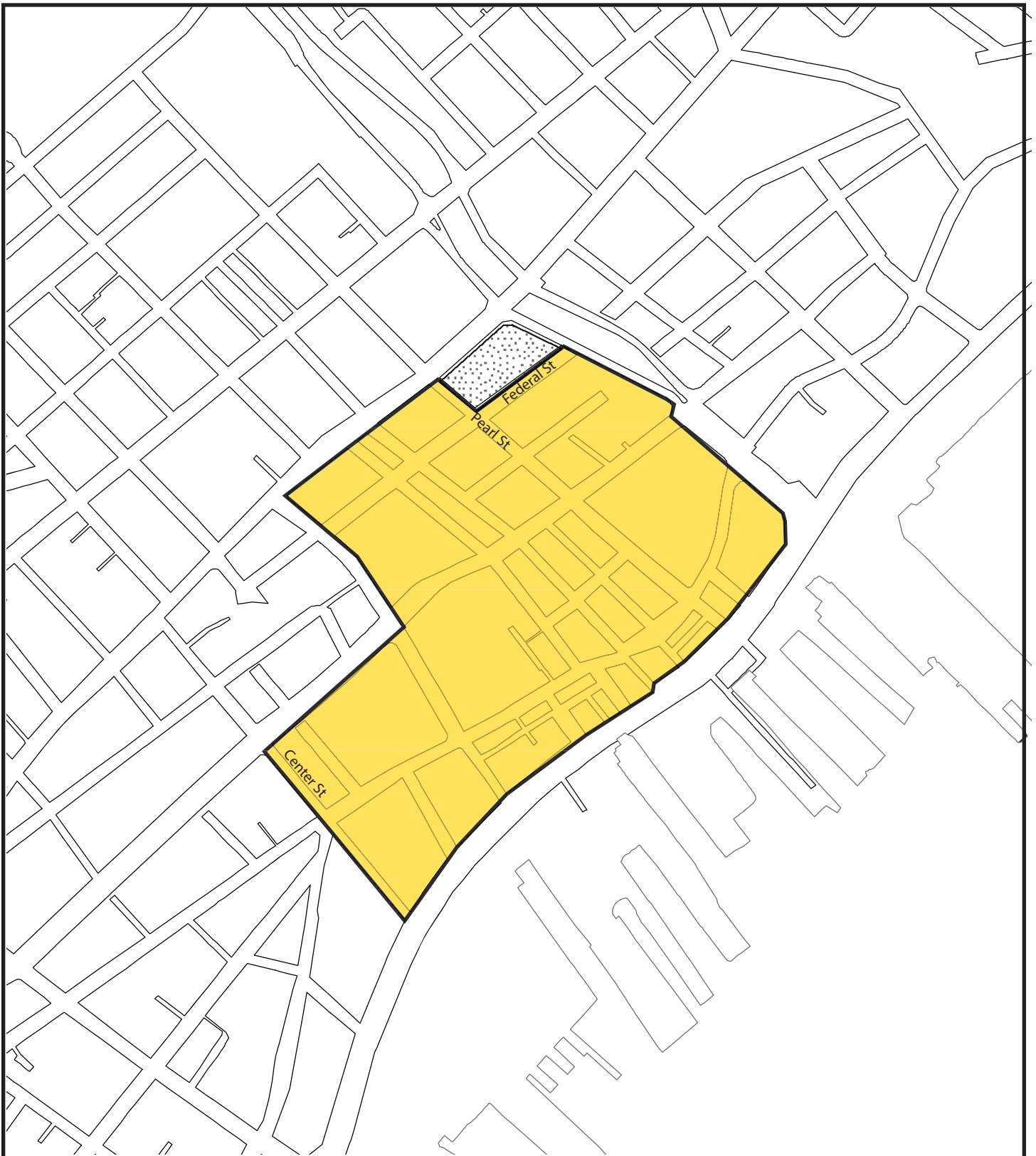
**MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10**

Figure:

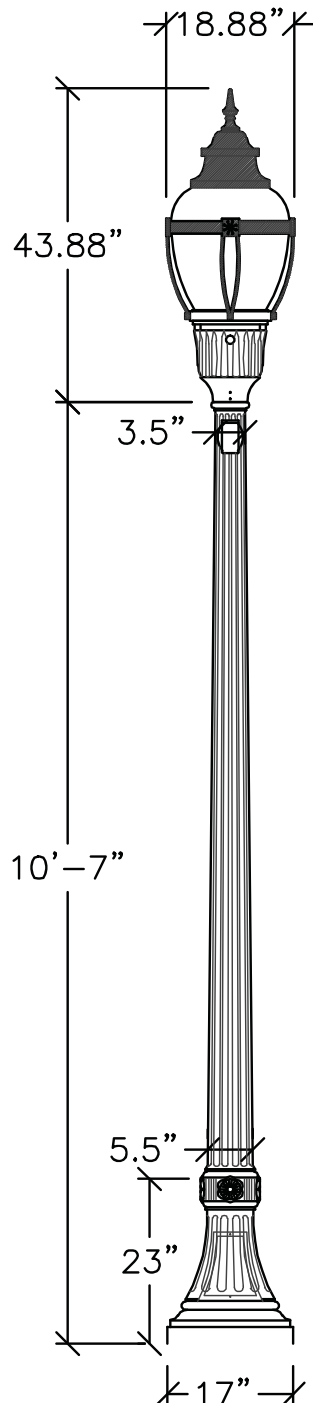
X-5F

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DOWNTOWN COMBO



Date: March, 2019	CITY OF PORTLAND, MAINE TECHNICAL MANUAL	MUNICIPAL STREET LIGHTING STANDARDS SECTION 10	Figure: X-6A
Revised Date:	MAP: Decorative Light - OLD PORT		



LUMINAIRE

Holophane Washington Postlite II LED - Acrylic

Model: WAUE2-P20-30K-AS-BK-3-BK-6-P7-F-PCLL

Cast aluminium housing with stainless steel hardware.

Thermal resistant acorn borosilicate glass refractor with IES Type asymmetric Type IV distribution.

Luminaire shall include decorative ribs, solid band, and spike finial, with internal twist-lock receptacle type photocell control. LED 3000K

LAMP

IES Type asymmetric Type IV distribution

LED 3000K color temperature

LIGHTING POLE

Holophane North Yorkshire - Aluminum pole and base

Model: NYA-11-FTJ-17-P07-ABG-BK-R126A

Tapered, fluted cast aluminum pole shaft rated for a 90mph wind load with a 1.3 gust factor.

Provide four hot-dipped galvanized steel L-type anchor bolts. Provide GFI rated duplex receptacle outlet.

Lighting pole shall be hot dipped galvanized prior powder coat paint.

DIMENSIONS

Overall Height = 14' 3"

Pole Height = 10' 7"

Taper = 5.5" to 3.5"

Base Diameter = 17"

FINISH

Black (standard)

APPLICATION

Street/Sidewalk lighting for two-way streets with parking on both sides.

Spacing: 60' - 80' on center (staggered pattern both sides of street)

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March, 2019

**CITY OF PORTLAND, MAINE
TECHNICAL MANUAL**

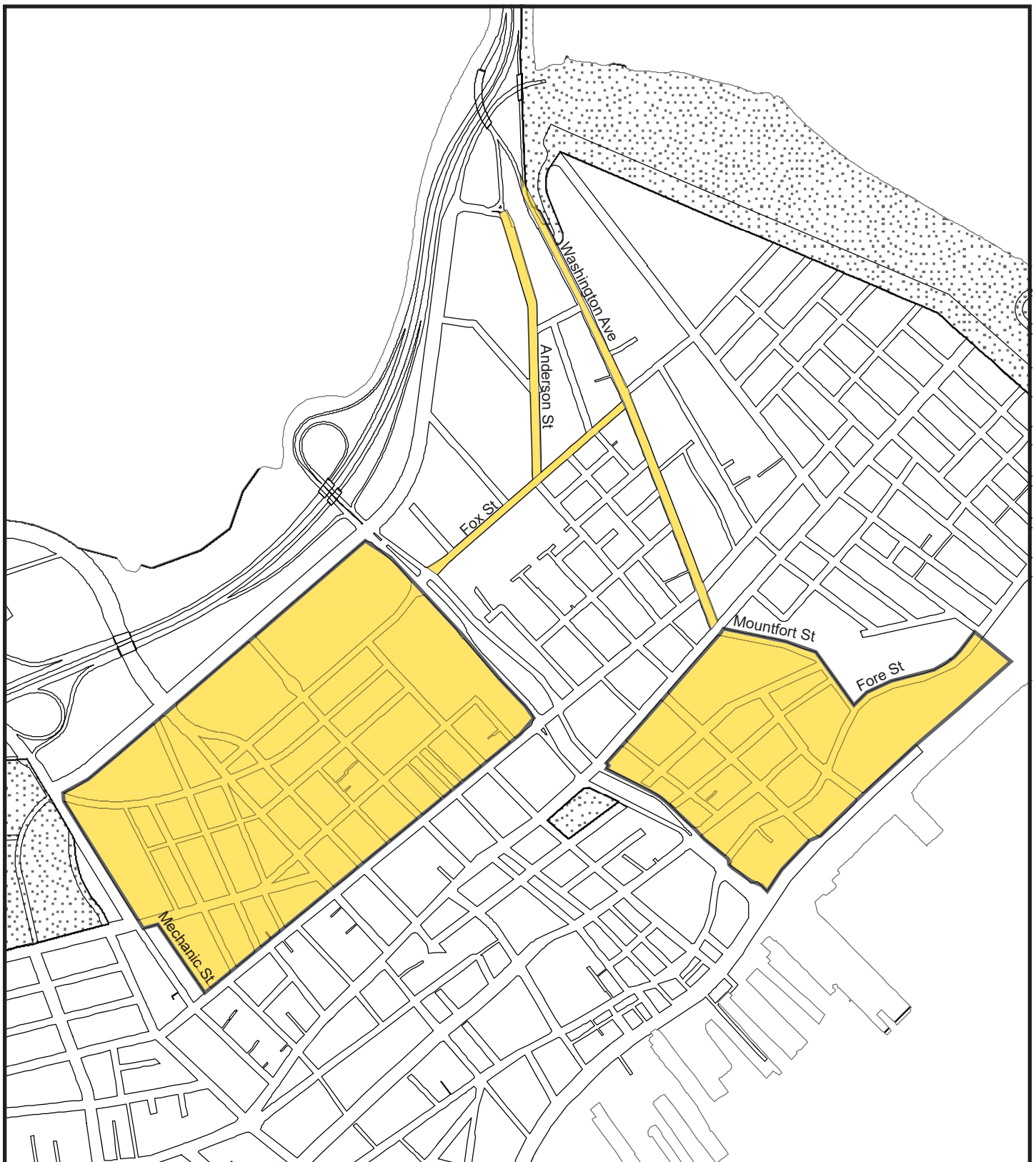
**MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10**

Figure:

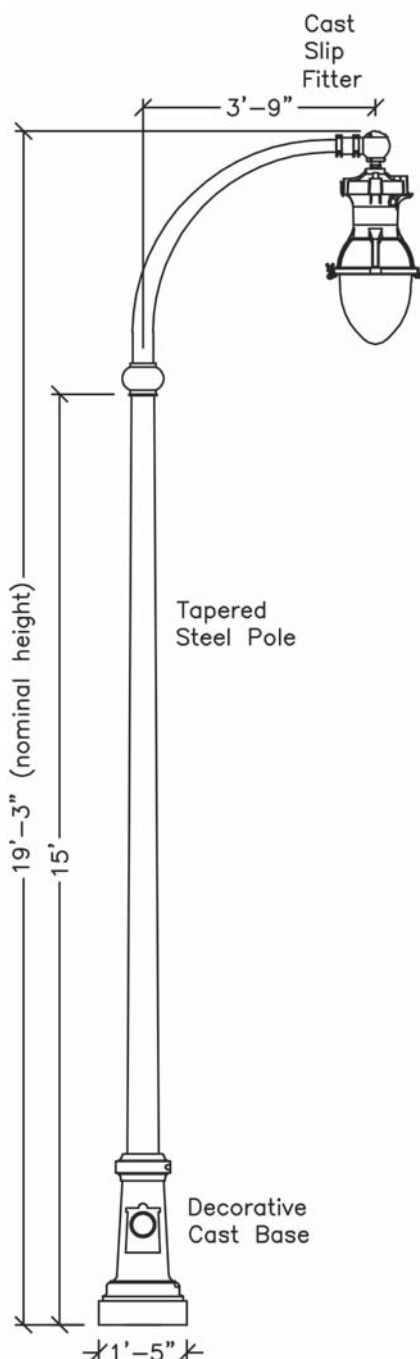
X-6B

Revised Date:

OLD PORT



Date: March, 2019	CITY OF PORTLAND, MAINE TECHNICAL MANUAL	MUNICIPAL STREET LIGHTING STANDARDS SECTION 10	Figure: X-7A
Revised Date:	MAP: Decorative Light - PENINSULA MEDIUM STREET		



LUMINAIRE

Holophane Esplanade LED II
Model:
ESL2-P20S-30K-AS-CMC-TG3-S-P7-NL2X2-BHDF13-200CMC
or Spring City Columbia Series
Model: ALMCLU-LE080/EVX/X2-30-CR3-GR14-LACLB-FED-CU
Pendant mount, cast aluminum housing with stainless steel hardware. Dropped refractor shall be thermal resistant borosilicate glass. Internal reflector and prismatic diffuser shall provide an IES Type IV distribution pattern. LED 3000K color temperature.

BRACKET ARM

Holophane OUC Roadway Arm
Model: OUC 6063-T6
or Spring City Columbia Arm
Model: AARCLA-1S-51-53-TN2.38/7.00-CU
Aluminum crossarm with a post-top fitting for a 3 1/2" by 8" tenon. Single Arm 45" Oriented 180 degrees.

SLIP FITTER

Holophane Boston Harbor Series
Model: BHLF-200-SCA/AS
2 3/8" O.D. with swivel cast fitter.

LIGHTING POLE

Holophane
Model: CM17CSB-CA-RAL6012
or Spring City Cambridge Series
Model: SSHSM-G11-7.00-15.00-TN3.50/8.00-CU
Smooth, tapered steel pole smooth shaft rated for a 90mph wind load with a 1.3 gust factor. Provide four hot-dipped galvanized steel L-type anchor bolts. Lighting pole shall be hot dip galvanized prior to powdercoat paint.

DECORATIVE BASE

Holophane Cambridge Series
Model: CM17CSB
or Spring City Cambridge Series
Model: DWBCMB-17-CU
Decorative clamshell cast aluminum base. Hardware shall be stainless steel.

DIMENSIONS

Overall Height = 19' 3"
Pole Height = 15' 0"
Base Diameter = 17" to 18"

FINISH

Black (standard)

APPLICATION

Street/sidewalk lighting. Decorative fixture not needed on same side of street as existing cobrahead fixtures.
Spacing: 80' - 100' on center
Place in furnishing zone overhang towards street; where fixture conflicts with overhead utilities, may be placed on back of sidewalk.

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**CITY OF PORTLAND, MAINE
TECHNICAL MANUAL**

**MUNICIPAL STREET
LIGHTING STANDARDS
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Figure:

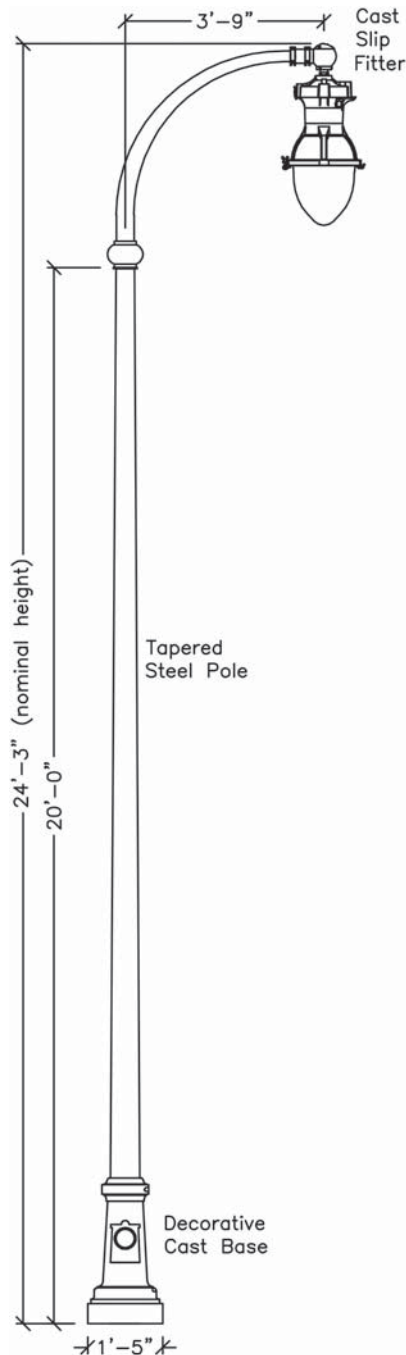
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Revised Date:

PENINSULA MEDIUM STREET



Date: March, 2019	CITY OF PORTLAND, MAINE TECHNICAL MANUAL	MUNICIPAL STREET LIGHTING STANDARDS SECTION 10	Figure: X-7C
Revised Date:	MAP: Decorative Light - PENINSULA LARGE STREET		



LUMINAIRE

Holophane Esplanade LED II

Model:

ESL2-P20S-30K-AS-CMC-TG3-S-P7-NL2X2-BHDF13-200CMC
or Spring City Columbia Series

Model: ALMCLU-LE080/EVX/X2-30-CR3-GR14-LACLB-FED-CU
Pendant mount, cast aluminum housing with stainless steel hardware. Dropped refractor shall be thermal resistant borosilicate glass. Internal reflector and prismatic diffuser shall provide an IES Type IV distribution pattern. LED 3000K color temperature.

BRACKET ARM

Holophane OUC Roadway Arm

Model: OUC 6063-T6

or Spring City Columbia Arm

Model: AARCLA-1S-51-53-TN2.38/7.00-CU

Aluminum crossarm with a post-top fitting for a 3 1/2" by 8" tenon. Single Arm 45" Oriented 180 degrees.

SLIP FITTER

Holophane Boston Harbor Series

Model: BHLF-200-SCA/AS

2 3/8" O.D. with swivel cast fitter.

LIGHTING POLE

Holophane

Model: CM17CSB-CA-RAL6012

or Spring City Cambridge Series

Model: SSHSM-G11-7.00-15.00-TN3.50/8.00-CU

Smooth, tapered steel pole smooth shaft rated for a 90mph wind load with a 1.3 gust factor. Provide four hot-dipped galvanized steel L-type anchor bolts. Lighting pole shall be hot dip galvanized prior to powdercoat paint.

DECORATIVE BASE

Holophane Cambridge Series

Model: CM17CSB

or Spring City Cambridge Series

Model: DWBCMB-17-CU

Decorative clamshell cast aluminum base. Hardware shall be stainless steel.

DIMENSIONS

Overall Height = 24' 3"

Pole Height = 20' 0"

Bracket Arm = 3' 9"

Base Diameter = 18"

FINISH

Black (standard)

APPLICATION

Street/Sidewalk light. Spacing: One side: 90' - 110' o.c.
Alt. sides: 175' - 225' on center

Place in furnishing zone overhang towards street; where fixture conflicts with overhead utilities, may be placed on back of sidewalk.

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**CITY OF PORTLAND, MAINE
TECHNICAL MANUAL**

**MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10**

Figure:

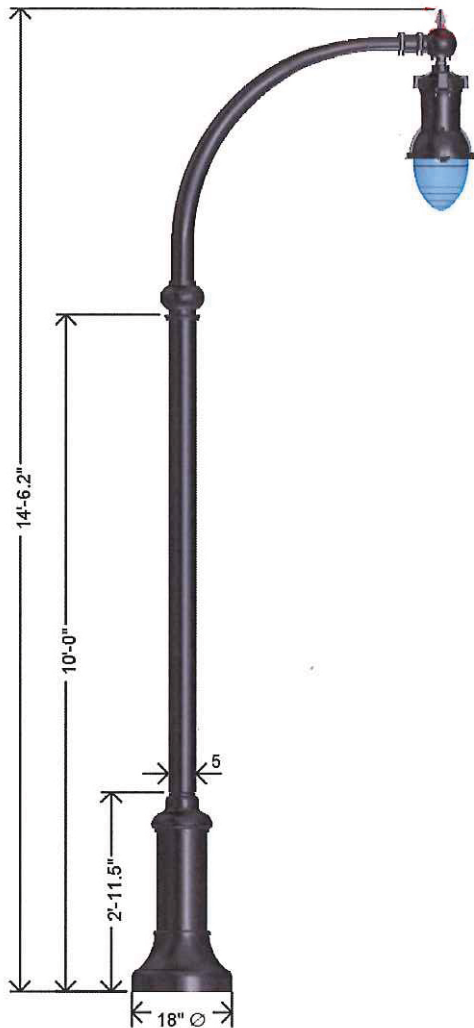
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PENINSULA LARGE STREET



*Waiver required: This fixture to be implemented in special circumstances only.
See 10.4 STANDARDS FOR DECORATIVE LIGHTING.



Anchorage/Orientation Plan

LUMINAIRE

Holophane Esplanade LED II
Model: ESPL2-P20-30L-AS-S-B-4-SS-P7
IES Type IV Distribution

Pendant mount, quick lock stem mount
Auto-sensing 50/60 hz (120-225V), 38 watts
LED 3000K color temperature.

BRACKET ARM

Holophane OUC Roadway Arm
Model: OUC 45/1-CA-BK

Aluminum crossarm with a post-top fitting for a 3 1/2"
by 8" tenon.
Single Arm 45" Oriented 180 degrees.

SLIP FITTER

Holophane Boston Harbor Decorative Arm Fitter
Model: WLLF200S-CA-RAL6012

2 3/8" O.D. with swivel cast fitter.

LIGHTING POLE AND BASE

Holophane Rockford Harbor Aluminum Pole
Model: RHA-10-S5J-18-P15-ABG-BK

Pole is aluminum, smooth 5" diameter, .25 wall
Assembly meets wind load of 90 mph.

DIMENSIONS

Overall Height = 14' 6"
Pole Height = 10' 0"
Pole Diameter = 5"
Base Diameter = 18"
Arm = 45"

FINISH

Black (standard)

APPLICATION

Sidewalk lighting only when MEDIUM STREET fixture
cannot be accommodated.

Spacing:
One side: 60' - 80' on center
Alternating sides: 100' - 175' on center

Fixture shall be oriented to overhang sidewalk.

Place in furnishing zone unless space is limited.
Placement on back of sidewalk or private property
overhanging sidewalk may be accommodated where
space is a constraint.

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March, 2019

**CITY OF PORTLAND, MAINE
TECHNICAL MANUAL**

**MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10**

Figure:

X-7E

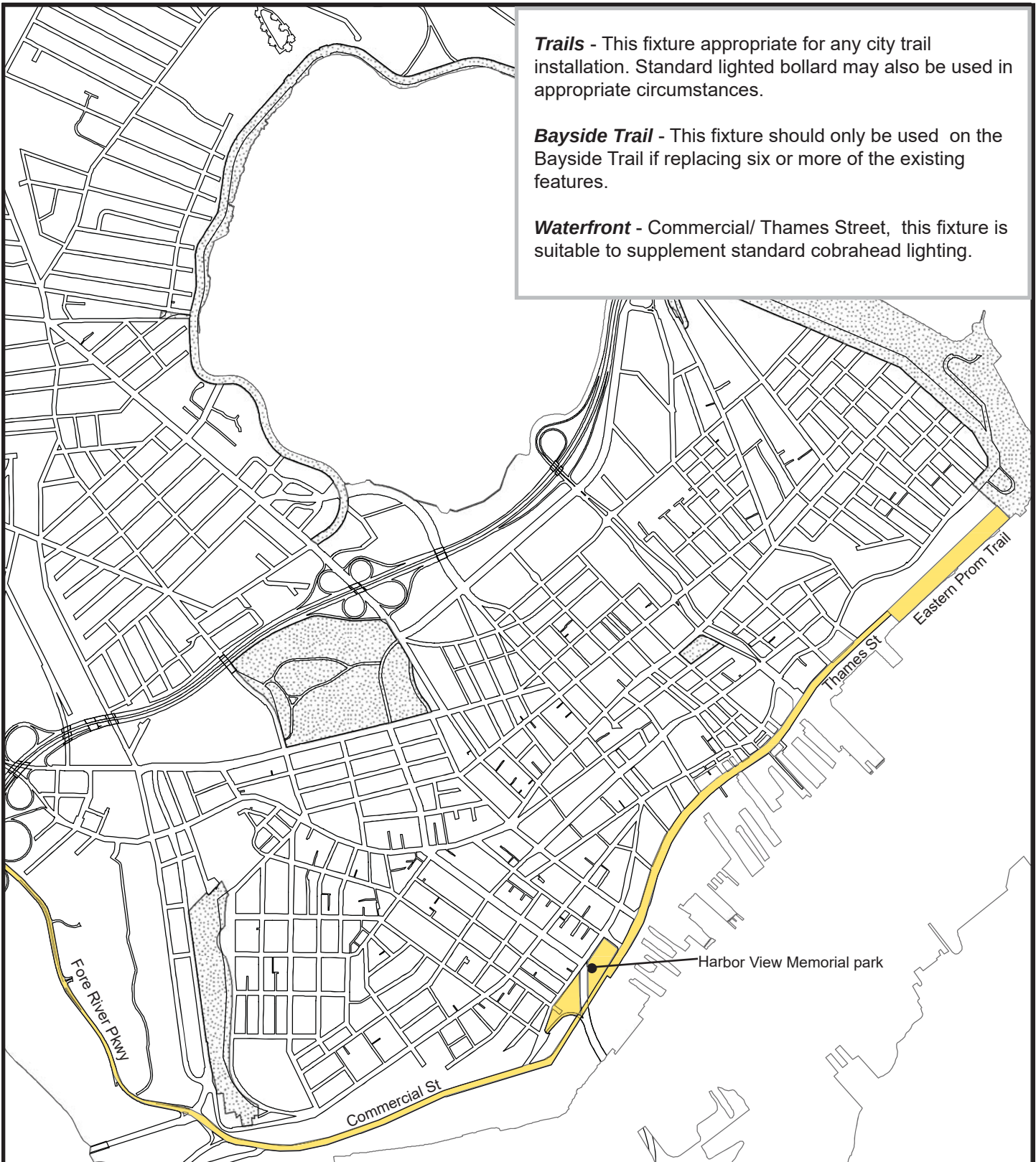
Revised Date:

**PENINSULA PED
*waiver required**

Trails - This fixture appropriate for any city trail installation. Standard lighted bollard may also be used in appropriate circumstances.

Bayside Trail - This fixture should only be used on the Bayside Trail if replacing six or more of the existing features.

Waterfront - Commercial/ Thames Street, this fixture is suitable to supplement standard cobrahead lighting.



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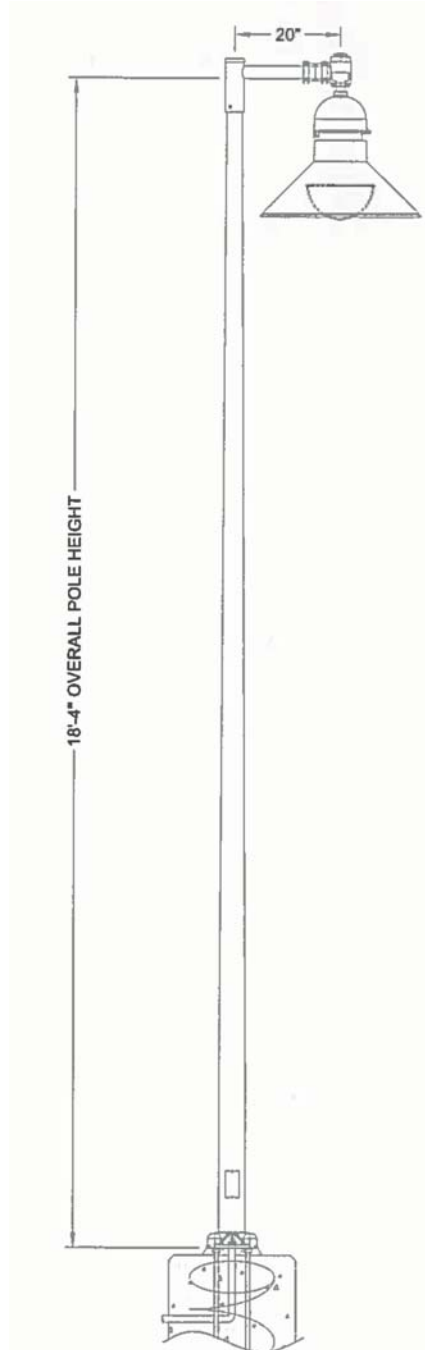
MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10

Figure:

X-8A

Revised Date:

**MAP: Decorative Light - TRAILS/
WATERFRONT**



LUMINAIRE

Holophane GlasWerks LED Hallbrook Series
Model: GELB-050-3K-AS-4-B-3-P7E-DM

Pendant mount
IES Type IV Distribution
Thermal resistant prismatic glass lens held in a formed aluminum door frame.
50 watts
Universal Voltage (120-277V)
Dimming driver with 7-pin photocontrol receptacle
LED 3000K color temperature

BRACKET ARM

Aluminum crossarm with a post-top fitting for a 2-3/8" by 6" tenon.

SLIP FITTER

Holophane Glasswerks Slip Fitter
Model SG20/1-BK

2-3/8" O.D. with swivel cast fitter.

LIGHTING POLE

Holophane
Model: RTA1850E-PL-ND-BK-4

Aluminum pole shaft rated for a 90 mph wind load with a 1.3 gust factor.

Provide four hot-dipped galvanized steel L-type anchor bolts. Lighting pole shall be hot dipped galvanized prior to powder coat paint.

DIMENSIONS

Overall Height = 18' 4"
Bracket Arm = 1' 6"

FINISH

Black (standard) - polyester powder coat

APPLICATION

Trails: Appropriate for any city trail installation.
Waterfront (Commercial/Thames St): Supplemental pedestrian lighting to standard cobrahead lighting.

Spacing:
One side: 90' - 125' on center
Alternating sides: 175' - 225' ft on center

Follow established pattern. Single arm oriented over trail or street; Double-arm used in medians or similar.

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MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10

Figure:

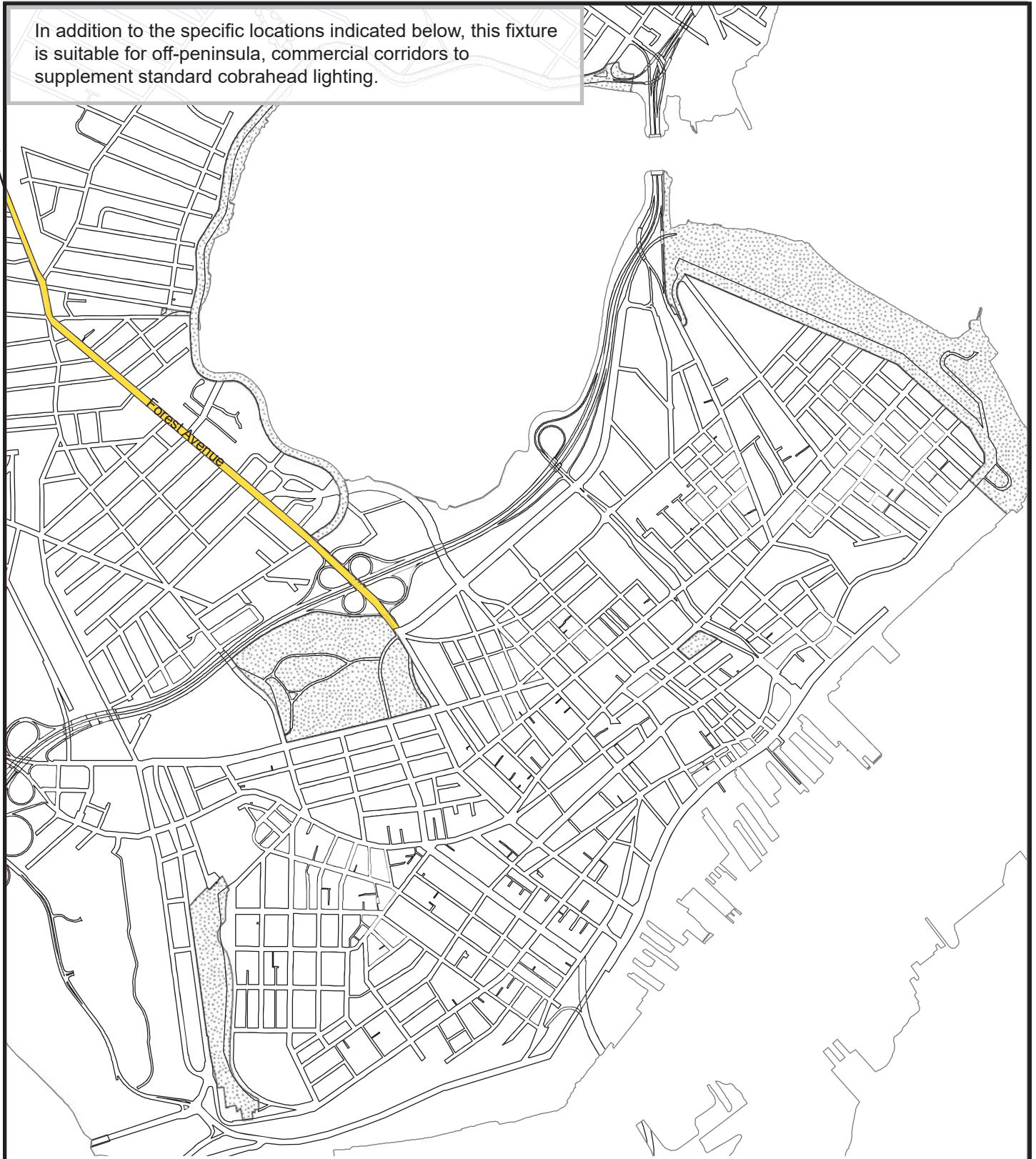
X-8B

Revised Date:

TRAILS / WATERFRONT
(COMMERCIAL/THAMES STREET)

to Morrill's Corner

In addition to the specific locations indicated below, this fixture is suitable for off-peninsula, commercial corridors to supplement standard cobrahead lighting.



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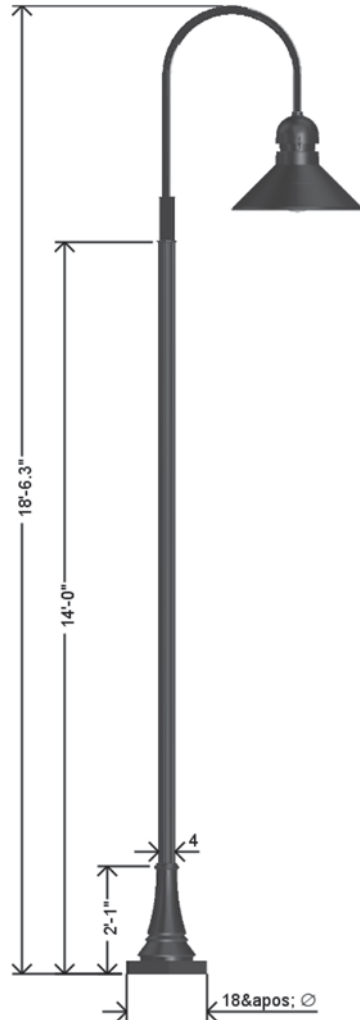
MUNICIPAL STREET
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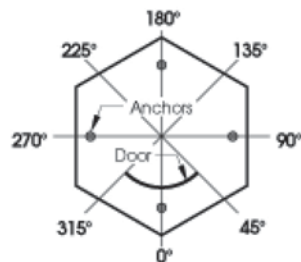
X-9A

Revised Date:

MAP: Decorative Light - OFF-PENINSULA



Anchorage/Orientation Plan



Hand Hole is at 0 deg.

LUMINAIRE

Holophane Hallbrook Ext GalsWerks LED Bowl Glass
Model: GELB-050-3K-AS-H-3
IES Type III Distribution
Pendant mouting (1.5 NPT). Dropped refractor shall be thermal resistant borosilicate glass held in a formed aluminum door frame. Asymmetric bowl glass.
Auto-sensing voltage (120-277V)
50 watt, LED 3000K color temperature

BRACKET ARM

Holophane Bishops Crook Arm
Model : 1-BC-90R-15F-XX (for single arm 90 degree)

Tenon mounted, using a 1 1/2" NPT fitting for luminaire mounting. Arm shall be 1 1/2" sch. 80 aluminum pipe (6061-T6 alloy). Mounting hub for the arm shall be 3" sch. 40 x 10" long aluminum pipe (6061-T6 alloy). All hardware shall be stainless steel. The arm shall be heat-treated to a T6 condition after fabrication.

LIGHTING POLE + BASE

Holophane Princeton Aluminum Pole, Smooth Base
Model: PSA-14-F4J-18-P09-ABG-GH

One-piece construction, aluminum pole (heavy wall cast aluminum ASTM 356), smooth shaft 4" dia. rated for a 90mph wind load with a 1.3 gust factor with integral 18" hexagonal smooth base. All hardware shall be tamper resistant stainless steel. Provide four hot-dipped galvanized steel L-type anchor bolts. Lighting pole shall be hot dip galvanized prior to powder coat paint.

DIMENSIONS

Overall Height = 18' 6"
Pole Height = 14' 0"
Pole Diameter = 4"
Base Diameter = 18"

FINISH

Graphite (Standard) - powder coat paint finish

APPLICATION

Sidewalk lighting to supplement standard lighting off-peninsula.

Spacing:

One side: 60' - 80' on center
Alternating sides: 100' - 175' on center

Fixture orientation should be consistent with established pattern. In some cases, a double-arm bracket parallel to the street may be appropriate. Fixture placed in furnishing zone unless space is limited. Placement on back of sidewalk or private property overhanging sidewalk may be accommodated where space is a constraint.

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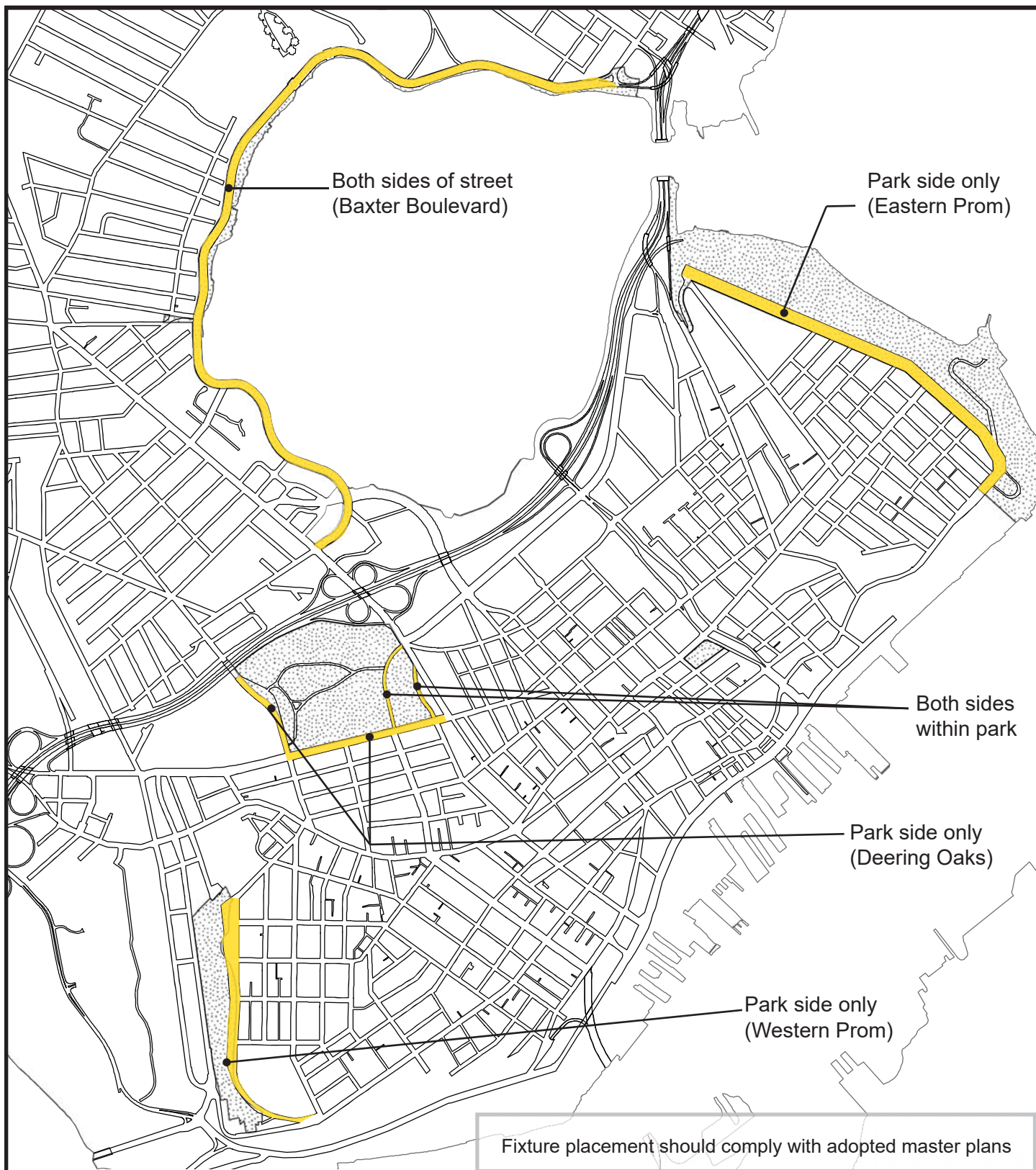
**MUNICIPAL STREET
LIGHTING STANDARDS
SECTION 10**

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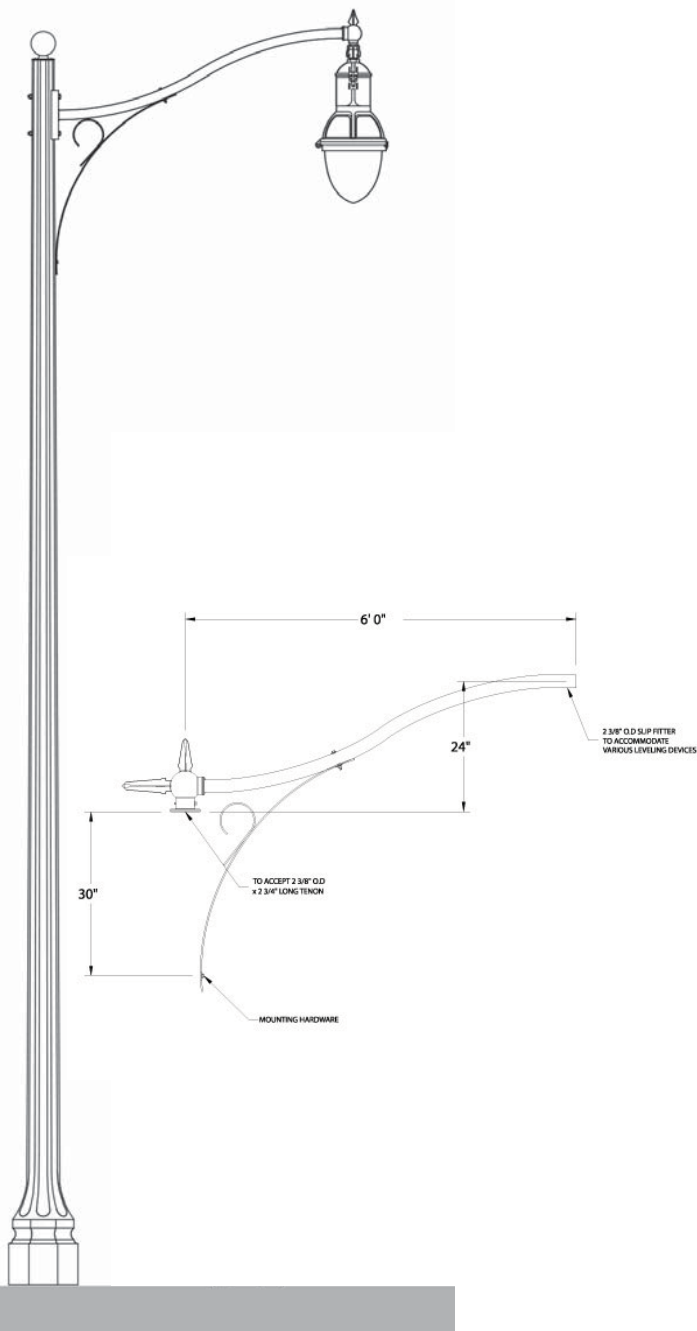
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Revised Date:

OFF-PENINSULA PED



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LUMINAIRE

Holophane Espalade LED II

Model:

ESL2-P20S-30K-AS-CMC-TG3-S-P7-NL2X2-BHDF13-200CMC
or Spring City Columbia Series

Model: LMCLU-LE080/EVX/X2-30-CR3-GR14-LACLB-FED-CU

With Shield: Deering Oaks Park

Without Shield: All other locations

LED Auto-sensing 39 watt

Voltage (120 - 277V)

IES Type V Distribution

LED 3000K color temperature

BRACKET ARM

King Luminaire/StressCrete: Scroll Arm with Decorative
Scroll

Model: KA30-T

Single arm with finials and decorative scroll.

Slip fitter 2 3/8" O.D. to accommodate various leveling
devices. At pole, to accept 2 3/8" O.D. x 2 3/4" Long
tenon.

LIGHTING POLE

King Luminaire/StressCrete: The Talisman - Concrete

Model: KTH20

The American Series - The Talisman, 8-fluted concrete
Footings details, tenon size, options per specific project

DIMENSIONS

Overall Height = 21' 0"

Pole Height = 20' 0"

Pole Base Flare = 18"

Bracket Arm Length = 6' 0"

FINISH

Luminaire: Black (standard)

Pole: Eclipse Black, acrylic coating (standard)

APPLICATION

Decorative street lighting for historic landscapes.

Spacing:

One side: 90' - 100' on center

Alt. sides: 175' - 225' on center

Fixture locations must comply with adopted Historic
Master Plans.

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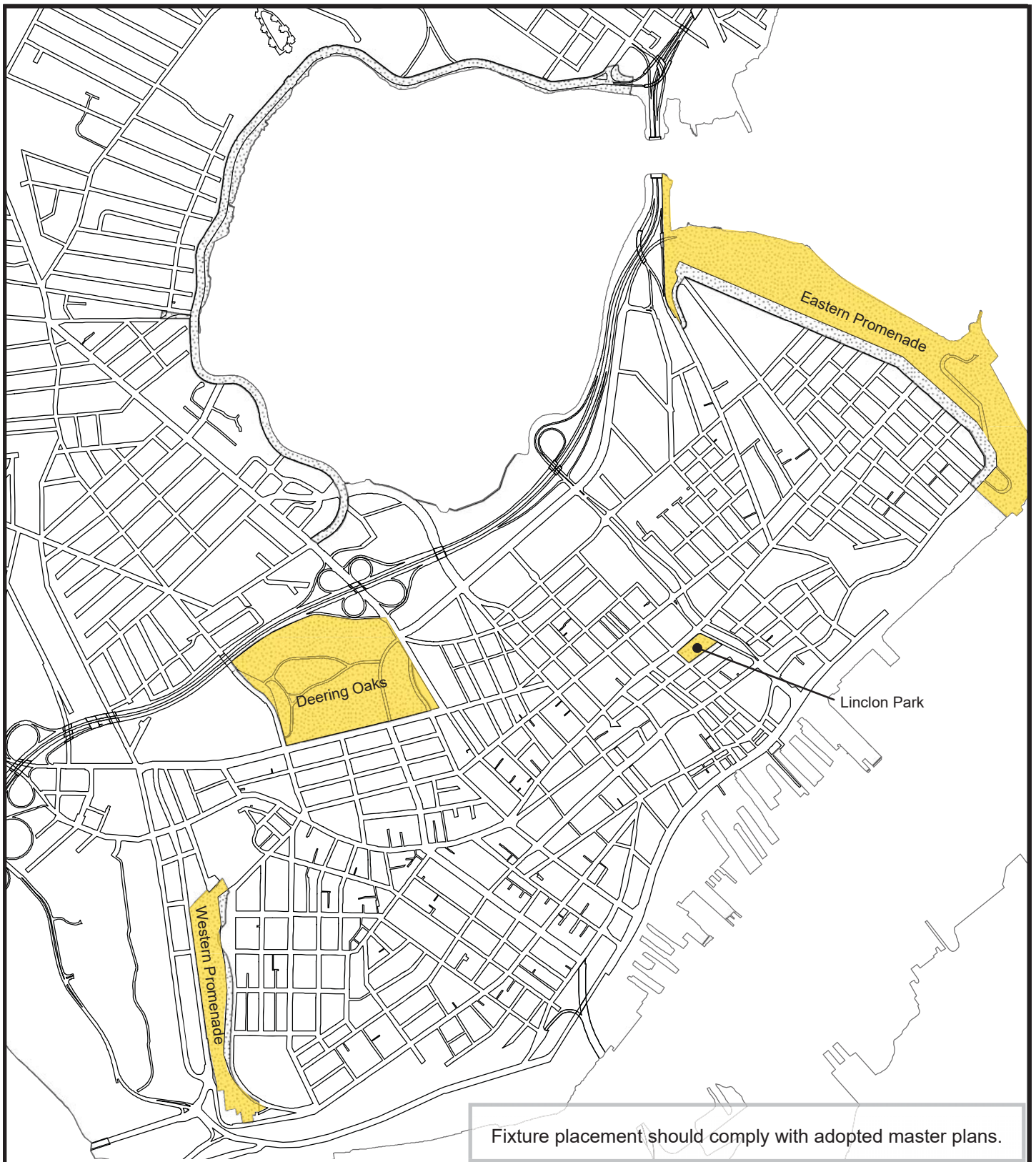
MUNICIPAL STREET
LIGHTING STANDARDS
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Figure:

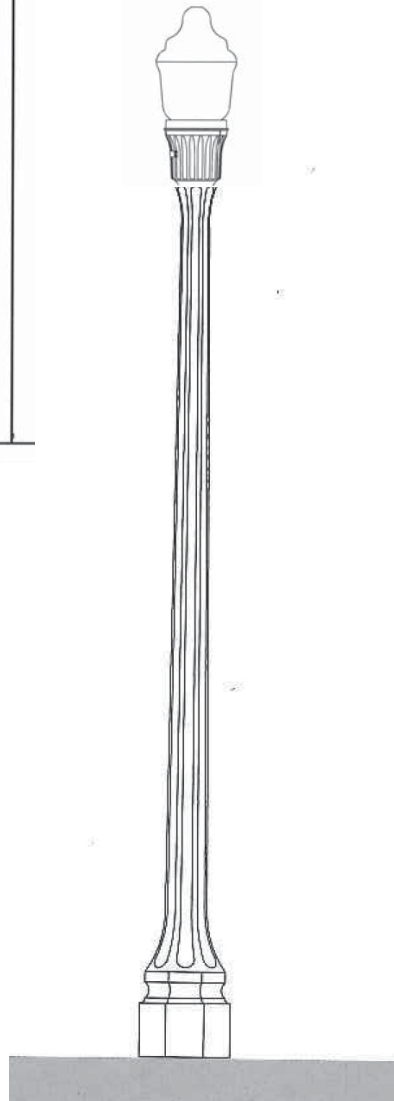
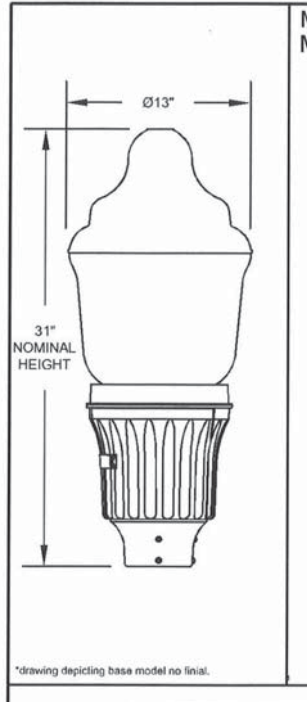
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HISTORIC LANDSCAPE STREET



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LUMINAIRE

Holophane GranVille II LED
Model: GVD2-P20-30K-AS-M-BK-5-N-N-U

Prismatic Style: Glass Classic
Housing Size: Utility
No Trim or finial, Modern Housing
Slip fitter accommodates 2-7/8" to 3-1/8" dia. tenon

LED Auto-sensing 39 watt
Voltage (120 - 277V)
IES Type V Distribution
LED 3000K color temperature

LIGHTING POLE

King Luminaire/StressCrete: The Talisman - Concrete
Model: KT-12-E-11-DB-140 30/30-A

The American Series - The Talisman, 8-fluted concrete
Talisman Non-Flared Top 12'
Footing details, tenon size, options per specific project

DIMENSIONS

Overall Height = 14' 6"
Pole Height = 12' 0"

FINISH

Luminaire: Black (standard)
Pole: Eclipse Black, acrylic coating (standard)

APPLICATION

Decorative pedestrian lighting for historic landscapes.

Spacing: 60' - 80' on center

In some instances, the fixture will replace existing fixtures.

Fixture locations must comply with adopted Historic Master Plans.

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**CITY OF PORTLAND, MAINE
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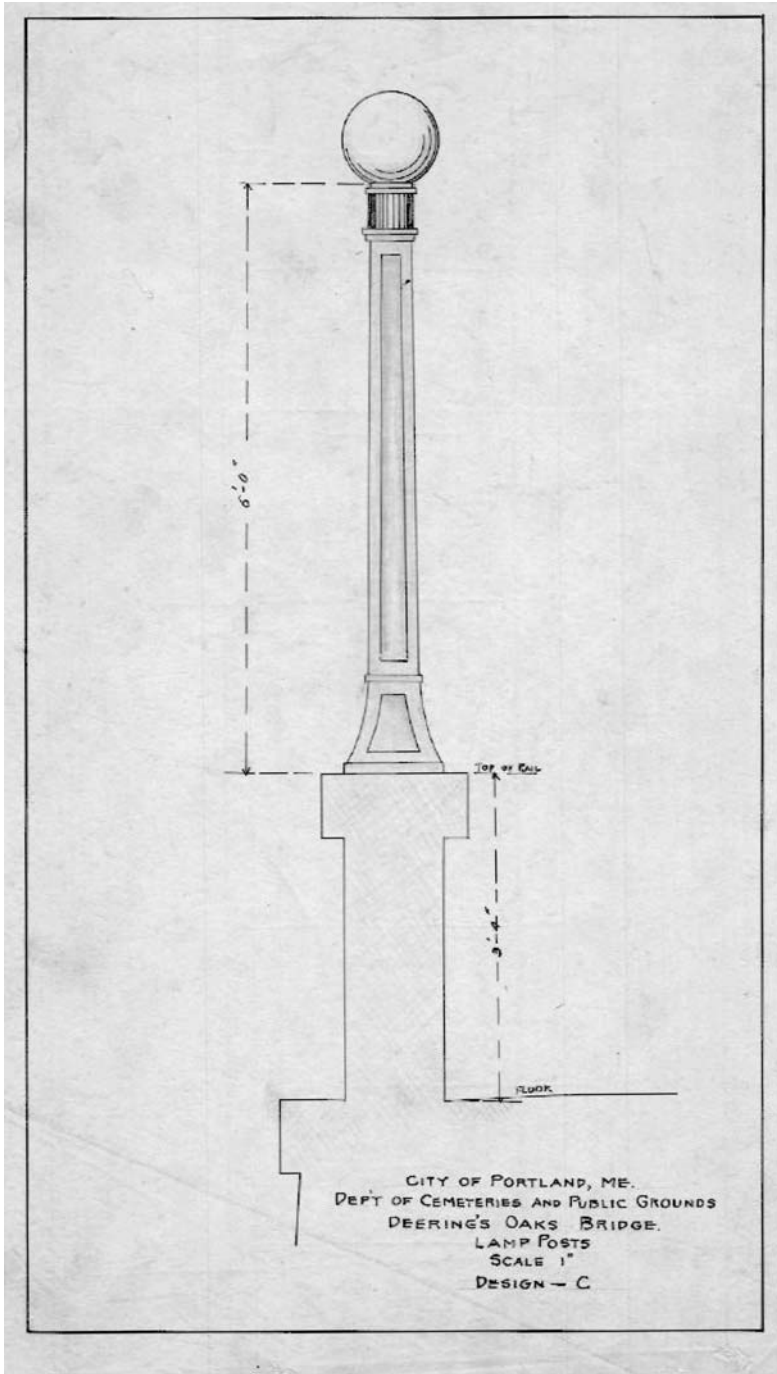
**MUNICIPAL STREET
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Figure:

X-11B

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HISTORIC LANDSCAPE PED



LUMINAIRE

Match existing and according to historic resources.

LAMP

LED 3000K color temperature

LIGHTING POLE

Match existing and according to historic resources.

DIMENSIONS

Match existing and as shown in image.

FINISH

Black: Match existing and according to historic resources.

APPLICATION

Match existing location and installation.

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**CITY OF PORTLAND, MAINE
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LIGHTING STANDARDS
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Figure:

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Month Year

DEERING OAKS BRIDGE

8. LIGHTING STANDARDS

8.1. SITE LIGHTING STANDARDS

8.1.1. Purpose. The requirements set forth in this section are intended to promote and protect public health, safety and general welfare, and encourage the preservation of the natural nighttime outdoor environment. Specifically, the intent of this section is to limit light trespass, glare and light pollution to safeguard adequate safety, night vision, and comfort of the neighboring properties.

8.1.12. Applicability. The following types of development proposals are required to submit a lighting management plan for review and approval:

- A. All developments subject to site lighting standards of §13.6.4 of the Land Use Code, and
- B. Other projects where the Reviewing Authority determines that special conditions warrant a lighting management plan.

8.1.21. General standards. Outdoor lighting standards listed below apply to all new developments:

- A. **Uniformity.** As measured in foot candles at grade, maximum to minimum illumination levels shall not exceed a ratio of twenty to 1 (20:1).
- B. **General Illumination levels.** Minimum, maximum, and average illumination levels for areas intended to be lighted as measured at grade, shall meet the standards in Table 8-A.

TABLE 8-A. ILLUMINATION STANDARDS IN FOOT CANDLES (FC)

Minimum	0.2
Maximum	5.0
Average	1.25

- C. **Use-specific illumination levels.** Average illuminance levels for exterior areas specified below, measured in foot candles (fc) at ground level unless noted, shall not exceed the levels listed in Table 8-B:

TABLE 8-B. USE-SPECIFIC ILLUMINATION STANDARDS

Uses	Average (fc)	Uniformity ratio (Average-to- minimum)	Maximum (fc)
ATMs (within 10 ft. perimeter)	10.0	3:1	20.0
Drive-through canopy			
Auto service station			
• Approaches & Drives	1.5	3:1	3.0
• Service Areas	2.0		4.0
• Pump Island Areas	10.0		20.0
Parking Lot			
• Surface	0.5	3:1	4.0
• Structured	0.8		2.0

- D. **General and Use-Specific Lumens Standards.** No fixture shall exceed 20,000 lumens ($\pm 3\%$) and shall meet the following lighting type maximums listed in Table 8-C:

TABLE 8-C. LIGHTING TYPE MAXIMUMS (IN LUMENS)

Types of Lighting	Maximum Lumens Allowed
-------------------	------------------------

Path lighting	1,500
Building entrance	3,500
Residential/Commercial pole at 20 feet	15,000
Industrial pole at 30 feet	20,000
Auto service station	
• Approaches and drives	4,000
• Service areas	6,000
• Pump island areas	8,000 per fuel pump

- E. **Lighting trespass.** The maximum illumination level at a property line shall not exceed 0.1-foot candle, as measured at grade, except where abutting industrial, or other non-sensitive uses. When a commercial or industrial use abuts a public right-of-way, or another commercial or industrial use, lighting must be designed so that the illumination at the property boundary line does not exceed 1.0-foot candles.

All residential uses and natural resource protection areas are to be considered sensitive to light trespass. In certain instances where a proposed development is adjacent to a sensitive use, house-side shielding may be necessary to comply with this standard.

- F. **Luminaire types.** All fixtures must be LED and shall not exceed 3,000K Correlated Color Temperature (CCT). Screw-in light fixtures must have LED lamps specified to be maximum of 3,000K CCT.
- G. **Full cut-off fixtures and shielding required.** All outdoor lighting fixtures, including pole-mounted and wall-mounted luminaires, shall be constructed full “cut-off” or with full shielding, type where lenses, refractors or lamp sources do not extend below the surface of the fixture housing and no direct light shall be directed at or above the horizontal plane.

Where the light source from an outdoor light fixture is visible beyond the property line, shielding shall be required to reduce glare so that the light source is not visible from within any residential dwelling unit.

Light fixtures mounted under a canopy shall be recessed so that the lens cover is recessed into, or flush with, the underside (ceiling) of the canopy.

- H. **Pedestrian walkway lighting.** Pedestrian walkway light fixtures can be a combination of freestanding pole. Bollard, in-place step or building-mounted fixtures. For building-mounted fixtures, the proposed fixture type will be in scale with the building elevation on which it is to be installed and meet the fixture height provisions of Table 8-D. Pedestrian lighting (bollards) shall meet the Technical Manual standards for full cut-off or an exception may be considered in §8.1.3.L and §8.1.3.M.
- I. **Fixture height.** Fixtures shall be mounted at the lowest height necessary to meet City standards and the height is measured from grade to the bottom of the lighting fixture. Fixtures shall meet the fixture height standards of Table 8-D. below.

TABLE 8-D. MAXIMUM FIXTURE HEIGHT BY TYPE OF LIGHTING

Types of Lighting	Maximum Fixture Height
Residential (Pedestrian) uses	20 feet
Commercial/Office uses	
Large industrial uses (≥50,000 SF of gross floor area)	30 feet
Building mounted/entrances	Below the roof eave or 20 feet, whichever is lower
Bollard fixtures	3.5 feet

- 
- J. **Lighting curfew.** For surface and structured parking, lighting in-vehicle parking areas containing twenty or more (≥ 20) parking spaces shall be reduced to 50% of permitted levels from one hour after the business closing to one hour before business opening. If lighting levels are already below 50% of permitted levels, no curfew adjustment is required. Motion sensor activated lighting shall be permitted during closed hours to activate additional lighting above the 50% permitted, for the purposes of public safety.
 - K. **Continued maintenance.** Lighting installations must be maintained in good repair to meet the provision of this ordinance on an on-going basis.
 - L. **General exceptions.** Proposed uses that demonstrate a need to exceed the specific site lighting limits shown below for safe and reasonable exercise of the proposed use must provide a professionally produced lighting plan which adheres to the current Illuminating Engineering Society of North America (IESNA) recommendations for the proposed use. The Planning Authority may grant exceptions to the lighting standards with the finding that the light impacts do not create a public nuisance for abutting residential property. Unless otherwise specified below, exterior lighting shall conform to the recommendations put forth in *Lighting for Exterior Environments RP-33-14*, or its successor, published by the IESNA. Lighting fixtures other than full cut-off fixtures may be allowed only if acceptable luminaires shall include internal and/or external glare control louvers and installed so as to minimize uplight and offsite light trespass.
 - M. **Historic District, Architectural and Pedestrian Walkway Exception.** Sites which are part of a historic district or require specific decorative lighting fixtures as means to achieve compatibility within an existing architectural context must meet the following standards:
 1. Lighting fixtures other than full cut-off fixtures may be allowed only if acceptable luminaires shall include internal and/or external glare control louvers and installed so as to minimize uplight and offsite light trespass, and
 2. Low-pressure sodium and metal halide lamps are prohibited.

8.1.3. Lighting safety standards.

- A. The lighting of the site and if applicable, building(s), shall enable users to observe movement and activities on the site during the day and at night.
- B. Lighting plans should create nighttime illumination of pedestrian travel paths and gathering areas, entrances and exits, and parking lots and garages by achieving the following:
 1. Provide a clear view of an area from a distance and enable anyone moving in or immediately around it to be easily seen;
 2. Place lighting fixtures to clearly guide users to and from the facility;
 3. Prevent potential hiding spaces adjacent to existing and proposed pedestrian travel routes; and
 4. Permit facial identification at a distance of at least thirty feet (30') and create the perception of being identified.

8.1.4. Uplighting and architectural and specialty lighting.

- A. Lighting shall be designed to minimize lighting of night sky and shall accentuate individual architectural or aesthetic elements, not the entire structure.
- B. Lighting shall be directed downward unless the development is located in an area of the City where uplighting is permitted as described in §14.6.4. of the Land Use Code. Where permitted, upward aimed lighting (uplighting) shall:
 1. Not exceed 4,000 mean lumens per accent feature;
 2. Be placed as close as possible to the base of the building or feature that is being illuminated;
 3. Be fully shielded from view off-site, and
 4. Use a narrow cone of light for the purpose of confining the light to the object.
- C. **Building façade lighting.** The exterior of a building may be lighted provided the following standards are met:
 1. The lighting is done to accentuate an architectural or aesthetic element of the building, not the entire building;
 2. The light must only be directed onto the building façade and not spillover beyond the plane of the building;

3. Upward aimed lighting must not exceed 4,000 mean lumens per accent feature, must be fully shielded, and mounted as flush to the wall as possible;
 4. Lighting exceeding 4,000 mean lumens per accent feature must be aimed downward, fully shielded, and mounted as flush to the wall as possible; and
 5. Stripe lighting. Stripe lighting along building structures as articulation may be approved as specialty architectural lighting, provided that it does not create nuisance.
- D. **Flag poles, statues, and similar monuments.** A flag pole bearing a state flag, a flag of the United States or a flag of a foreign nation may be illuminated provided the following standards are met:
1. The luminaires must be fully shielded;
 2. Upward aiming luminaires must be placed as close to the base as possible, and
 3. The luminaires must not collectively exceed 20,000 mean lumens. Public statutes, memorials or other similar monuments may also be lighted upon approval by the Planning Authority, provided the above standards are met.

8.1.4. Submission requirements and photometric plans.

- A. ~~The lighting plan shall be depicted on a site plan, indicating the location of each current and proposed outdoor lighting fixture with projected hours of use. This plan will need to be stamped and certified by a licensed professional, such as an architect or engineer. The lighting plan may include a key to the proposed lighting that provides the following information:~~
- ~~1. Type and number of luminaire equipment (fixtures), including the “cut off characteristics”, indicating manufacturer and model number(s);~~
 - ~~2. Lamp source type (bulb type, i.e., LED), lumen output, and wattage);~~
 - ~~3. Mounting height with distance noted to the nearest property line for each luminaire;~~
 - ~~4. Types of timing devices used to control the hours set for illumination, as well as the proposed hours when each fixture will be operated; and~~
 - ~~5. Lighting manufacturer supplied specifications (“cut sheets”) that include photographs of the fixtures, indicating the certified “cut off characteristics” of the fixture.~~
- B. ~~A photometric plan shall be provided at 20 scale or larger which shall show the extent of the areas designed and intended for lighting, and within those specific areas show a photometric grid of maximum 10’ point spacing, and within those areas provide foot candle calculations of maximum, average, minimum, maximum to minimum ratio, and average to minimum ratio. On the same or additional plan, a photometric plot shall extend to all lot lines and as necessary to reach illumination levels of zero (0) foot candles. Additionally, the applicant shall provide descriptive information, including manufacturer’s catalog excerpts, for all proposed light fixtures, lamps, and poles.~~

8.2. MUNICIPAL STREET LIGHTING STANDARDS

8.2.1. Applicability.

Street lighting on City streets and public rights-of-way not subject to decorative street lighting shall follow the General Standards under 8.2.2. of this section.

In addition to the General Standards for lighting applicable throughout the City, the City of Portland has established special street lighting standards for decorative lighting in the following areas and according to the table and figures in this section:

- A. Downtown (including portions of Cumberland Avenue)
- B. Old Port
- C. Peninsula -Eastern Waterfront and Bayside
- D. Waterfront – Commercial & Thames Streets
- E. Off-Peninsula/Forest Avenue

- F. Historic Landscape Districts (including Baxter Boulevard, the Eastern and Western Promenades, Lincoln Park, and Deering Oaks Park)
- G. Trails and pathways (including Eastern Promenade Trail, Fore River Trail, and Bayside Trail)

Decorative street lighting specifications include, but are not limited to, fixture type, pole and base type, pole height to top of fixture, pole spacing, and color. Please refer to Section 8.2.4. (Standards for Decorative Lighting) and Figure X-4 for the map of Portland's decorative lighting locations.

Developments subject to site plan review, with the exception of minor residential projects, that are on an existing or proposed street that is not currently illuminated with street lighting meeting City standards shall install the requisite type and number of street lights along all frontages.

Where lighting is being installed in the public right-of-way as part of a private development, developers are responsible for purchasing and installing all street lighting, including light poles, brackets, slip fitters, bases, and all electrical wiring and conduit. The new street lighting shall be connected to an existing metered service, unless otherwise directed by the City. Once installed, operational, and accepted by the city, street lighting located in the City right-of-way shall become the property of the City of Portland.

8.2.2. General standards.

- A. **Location.** For areas not designated with decorative lighting, street lighting may be placed on only one side of the street within the furnishing zone. However, when deemed necessary for traffic safety, the Reviewing Authority may require some street lights to be placed on the opposite side of a street.
- B. **Specification.** For areas not designated with decorative lighting, the City of Portland has adopted the following typical street light pole and fixture standards in Table 8.E.

TABLE 8.E. STANDARD STREET LIGHT POLE AND FIXTURE STANDARDS BY STREET TYPE

Light Pole Standards	Arterial	Collector	Local/Minor
A. Height (ft.)	20 or 30		14-15
B. Maximum Spacing (ft.)	160	130	120
C. Mounting	Reinforced concrete pole base with 2"-4" reveal above grade, with 4 bolts per pole.*		
D. Selection and Finish	≤ ½ mile from shoreline: Beacon RSA-B-SHO-S AA-10 Cobra [Figure X-2F] ≥ ½ mile from shoreline: Hubbell RTA Upsweep Style [Figure X-2G]		Black aluminum
E. Color	Grey (Manufacturer's Specification)		
E. Minimum Average Foot Candles (fc)	2.0	1.2	0.4
F. Cutoff and Bulb Temperature	Full cutoff, using cost-effective and innovative technologies and shall seek to match uniformity, lumen output, and color of existing streetlights along roadway, where applicable		Full cutoff, using LEDs at a 3,000 Kelvin color temperature, and shall seek to match uniformity, lumen output, and color of existing streetlights along roadway, where applicable

* Local/Minor Street light pole design, mounting bolt pattern, bolt spacing, and bolt size shall be approved by the Department of Public Works.

- C. **Standard cobrahead design.** Standard cobraheads shall meet the following design standards in Table 8.F.
- D. **New metered services for light fixtures.**

1. New light fixtures shall:
 - a. Not be tied to the existing power utility leased lighting system;
 - b. Be provided with a NEMA 7-pin receptacle for future connection to the City of Portland lighting control system, with coordination with the City of Portland for final connection and control testing; and
 - c. Be specified with a color temperature of 3,000K.
2. The developer is to provide a new metered electrical service in an APX outdoor rated enclosure (See §8.2.3. for unit specification), preventing any new fixtures from being directly connected to the power utility; and
3. The developer will be required to:
 - a. Provide an astronomical timeclock inside the electrical enclosure (See §8.2.3. for unit specification) to control light fixtures; or
 - b. Provide a standard photocell for each fixture, to be used until lighting control module is installed.

TABLE 8.F. STANDARD COBRAHEAD FIXTURE STANDARDS

Location	Cobrahead Type	Fixture Height	Spacing & Layout
One-lane roadways: Without on-street parking with low traffic	A	20'	One side: 65' – 70' Alt. 125' – 135'
One-lane roadways: With on-street parking with low traffic	A	30'	One side: 70' – 80' Alt. 120' – 130'
Two-lane roadways: With on-street parking with low traffic	B	30'	One side: 80' – 90' Alt. 175' – 185'
Two-lane roadways: With on-street parking with medium traffic	B	20'	One side: 75' – 80' Alt. 145' – 155'
	C	20'	One side: 90' – 100' Alt. 180' – 190'
		30'	One side: 100' – 110' Alt. 200' – 210'
Two or more lane roadways: With on-street parking with high/ medium traffic	D	20'	One side: 95' – 105' Alt. 195' – 210'
Two or more lane roadways: With on-street parking with high traffic	D	30'	One side: 115' – 125' Alt. 245' – 255'
	E	20'	One side: 100' – 110' Alt. 200' – 215'
		30'	One side: 115' – 130' Alt. 240' – 255'

8.2.3. Accessories & bollards.

- A. **Cabinets.** The City standard cabinet specifications are included below in Table 8.G.

TABLE 8.G. STANDARD COBRAHEAD FIXTURE STANDARDS

Location	Fixture Type	Fixture Height	Layout	Color
Public right-of-way	APX Enclosures, Inc. Cabinet APX NEMA 3R Pedestal Enclosure APXPE401615	Per Manufacturer's Specification	Mounted on the back side of the sidewalk with door facing street, meter facing building street wall. If site constraints require box to be mounted within sidewalk furnishing zone, then door should face building/private property and meter should be mounted on the opposite side of the travel direction.	Grey/Silver or Clear Coat (Manufacturer's Specification)

- B. Cabinet base can be stand-alone type other than above, provided it is not in a sidewalk or on the edge of a plowed pathway, street, or parking lot. Circuits may also be wired into existing traffic signal boxes or other light circuit boxes. This will be determined on a case-by-case basis.
- C. Additional specifications for multiuse box with external power for festivals and special events (not required - determined by the Department of Public Works). Square D power panel QO816L100DF/S or QO112L125G with cover QO16US. Circuits required are:
 - 1. 1=125/250V 50 Amp NEMA 14-50 Receptacle;
 - 2. 1=125/250V 30 Amp NEMA 14-30 Receptacle; or
 - 3. 2=125V 20A Standard Receptacle.
- D. **Wiring & Electrical.**
 - 1. 2" inch conduit (minimum) underground in light pole bases and cabinet base.
 - 2. Each light fused individually at base Fuse holder type is a (Buchanan 65 kit Cat #65U)
 - 3. Regular outlet on each pole just below the fixture to be fused at the bottom of the pole base with the same fuse kit as listed above.
 - 4. Any single photo cell control for all lights shall be in the cabinet, rated for the circuit. This may require an all-purpose contactor.
 - 5. Wire size and circuit size shall be calculated by the design engineer and inspected by the City inspector to make sure it is correct. This would be done on a case-by-case basis because not all circuits, lights, and systems are the same.
- E. **Bollards.**
 - 1. This section includes standards for typical lighted bollards. Non-lighted bollards appear in Section 1 (Transportation Systems and Street Design Standards).
 - 2. Location: Bollards may be used in areas such as underpasses and similar conditions where height is restricted for pedestrian lighting. Spacing and number to be determined by Department of Public works. Locations must be approved by the Department of Public Works and the Planning Authority. The City may approve additional bollard types for streetscape or special projects such as parks or as use for security bollards. Any additional bollard selection must be of equivalent structural strength as approved bollards.
 - 3. Specification: The City of Portland has adopted the following typical lighted bollard standards in Table 8.H. below:

TABLE 8.H. LIGHTED BOLLARD STANDARDS

Location (including but not limited to)	Fixture Type	Fixture Height (ft.)	Spacing & Layout	Color	Mounting
Underpasses: Park Avenue, St. James Street, St. John Street, Forest Avenue, Preble Street, Franklin Street, Commercial Street, Harborview Park, Tukey's Bridge, Veranda Street Waterfront piers	Holophane Freeport Series	45	To be determined by the Department of Public Works	Black (Manufacturer's Specification)	Concrete bases with 2" to 4" reveal above grade, with 4 bolts per pole

8.3.4. Standards for decorative lighting. Figure X-4 identifies the decorative street light locations. The following tables and Figures X-5 through X-12 illustrate the requirements for fixture type, height, layout, and finish for each decorative light fixture, according to street. All light poles shall be mounted on reinforced concrete pole bases with 2" to 4" reveal above grade, with 4 bolts per pole.

TABLE 8.I. OLD PORT DECORATIVE LIGHT STANDARDS

Map – Figure X-6A

Fixtures – Figure X-6B

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Exchange Street: Congress to Fore Street Fore Street: Center Street to Franklin Avenue Streets between Spring/Middle to Commercial Street: Center Street, Cotton Street, Cross Street, Union Street, Dana Street, Patton Court, Moulton Street, Market Street, Silver Street, Pearl Street, Custom House Street, Portland Square, Milk Street, Wharf Street, Gold Street Federal Street W, Middle street,	STREET [Figure X-6B]	14' 3"	Alt. sides: 60'-80'	Black (Manufacturer's Specification)

Newbury StreetW: Temple/Union
to Franklin Avenue**Church Street**Parks: Post
Office, Tommy's**TABLE 8.J. DOWNTOWN DECORATIVE LIGHT STANDARDS**

Map – Figures X-5A, X-5D

Fixtures – Fixtures X-5B, X-5C, X-5E, X-5F

The Technical Manual supersedes the previously adopted City of Portland Downtown Sidewalk and Street Lighting Plan (1994); that Plan may be used for reference or clarification of the standards of this manual.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Oak Street, Casco Street, Brown Street, Chestnut Street, Shepley Street, Center Street: Congress to Free Street Cross Street: Free to Spring Street Monument Square and Monument Way: Pedestrian ways	PEDESTRIAN 1- Single or Double Arm [Figure X-5B]	12.5'	One side: 60'-80' Alt. sides: 100'-175' Single-arm fixture placed in furnishing zone with luminaire oriented over sidewalk. Double-arm fixture placed with bracket arms parallel to sidewalk. If sidewalk space is limited, Planning Authority may approve lights within private property or attached to building.	Dark Green – Tiger Drylac RAL 6012
	PEDESTRIAN 2 [Figure X-5C]	25'	One side: 90'-100' Alt. sides: 175'-225' Double-arm fixture placed with bracket arms parallel to sidewalk	
Congress Street Other locations on a case-by-case basis	STREET – Single or Double Arm [Figure X-5E]	30'	One side: 90'-100' Alt. sides: 175'-225' Double-arm fixture used in median conditions with luminaire overhanging street.	
Congress Street: St. John to Franklin Street Cumberland Avenue: High to Franklin Street Spring Street: High to Temple/Union Street Free Street: High to Temple Street Forest Avenue: Congress Street to Cumberland Avenue Center Street: Free to Spring Street Temple Street: Congress to Spring/Middle Street	STREET/PED COMBO [Figure X-5F]	30'	One side: 90'-100' Alt. sides: 175'-225'	

Myrtle, Chestnut, Elm and Preble Streets: Congress Street to Cumberland Avenue Federal Street: Congress to Temple Street			One side: 90'-100'	
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TABLE 8.K. PENINSULA DECORATIVE LIGHT STANDARDS

Map – Figures X-7A, X-7C

Fixture – Figure X-6B

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Wilmot, Chapel, Stone, and Cedar Streets Alder, Hanover, Parris, Brattle, Mechanic Streets Mountfort, Hancock, Hampshire, Newbury East, Federal East Streets Preble and Elm Street: Cumberland Avenue to Marginal Way Pearl, Chestnut, Myrtle Streets: Cumberland Avenue to Marginal Way Oxford West, Lancaster, Kennebec, Somerset Streets Portland, Fox, India Streets Anderson Street: Everett to Plowman Street Washington Avenue: Congress Street to I-295 Middle Street: Franklin to Hancock Street Fore Street: Franklin to Waterville Street	MEDIUM STREET [Figure X-7B]	19' 3"	One side: 80' – 100' Use Type 2 IES distribution. Fixture placed in furnishing zone overhang towards the street; where fixture conflicts with overhead utilities, may be placed on back of sidewalk with light overhanging sidewalk. Where street lighting is provided by existing cobrahead fixtures, decorative fixtures are not needed on that side of street. If a project includes placing utilities underground, street/pedestrian lighting provided by decorative fixtures.	Black (Manufacturer's Specification)
Marginal Way Forest Avenue: Cumberland Avenue to Park/Portland Street	LARGE STREET [Figure X-7D]	24' 3"	One side: 90'-100' Alt. sides: 175'-225'	
* No streets shall use PEDESTRIAN scale light unless site conditions such as sidewalk width or overhead utilities prevent installation of MEDIUM STREET fixture (Figure X-7D)	PEDESTRIAN [Figure X-7E]	14' 6"	One side: 60'-80' Alt. sides: 100'-175' Fixture shall be oriented to overhang sidewalk. Fixture placed in furnishing zone unless space is limited. Placement on back of sidewalk or private property overhanging sidewalk may be	

accommodated where space is a constraint.

TABLE 8.L. TRAILS & WATERFRONT DECORATIVE LIGHT STANDARDS

Map – Figure X-8A

Fixture – Fixture X-8B

Trails – This fixture is appropriate for any City trail installation. Standard lighted bollard may also be used in appropriate circumstances.

Bayside Trail – This fixture should only be used on the Bayside Trail if replacing six or more of the existing fixtures.

Waterfront – Commercial/Thames Street, this fixture is suitable to supplement standard cobrahead lighting.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Fore River Trail: Casco Bay Bridge to US-1; Harborview Park trail path	TRAIL – Single Arm	18'4"	One side: 90'-125' Alt. sides: 175'-225'	Black (Manufacturer's Specification)
Commercial Street: Fore River Parkway to India Street			Supplemental pedestrian lighting as-needed.	
Thames Street: India Street to Eastern Promenade Trail			One side: 90'-125' Alt. sides: 175'-225'	
Eastern Promenade Trail	TRAIL – Single or Double Arm		One side: 90'-125' Alt. sides: 175'-225' Single arm fixture oriented to overhang trail; Double arm fixture for medians or similar.	

TABLE 8.M. OFF-PENINSULA DECORATIVE LIGHT STANDARDS

Map – Figure X-9A

Fixture – Fixture X-9B

In addition to the specific locations indicated below, this fixture is suitable for off-peninsula, commercial corridors to supplement standard cobrahead lighting.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Forest Avenue: Marginal Way to Woodlawn Avenue	PEDESTRIAN - Single or Double Arm	18' 6"	One side: 60'-80' Alt. sides: 100'-175' Placement on back of sidewalk with single arm fixture oriented to overhang sidewalk; Where site constraints require placement in furnishing zone, use double arm fixture parallel to sidewalk.	Graphite (Manufacturer's Specification)

TABLE 8.N. HISTORIC LANDSCAPE STREET DECORATIVE LIGHT STANDARDS

Map – Figure X-10A

Fixture – Fixture X-10B

Fixture placement should comply with adopted master plans.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Eastern Promenade (park side of street only): North Street to Vesper Street	STREET – with shield	21’	One side: 90’-100’ Alt. sides: 175’ – 225’	Black (Manufacturer’s Specification)
Western Promenade (park side of street only): Bramhall Street to Vaughan Street				
Baxter Boulevard (both sides of street): Forest Avenue to Bates Street				
Deering Oaks Park (Abutting Streets, park side only): Deering Avenue, Park Avenue, Forest Avenue	STREET – without shield		One side: 90’-100’ Park side of street only	
Deering Oaks Park (within park): High Street, State Street			One side: 90’-100’ Alt. sides: 175’ – 225’	

TABLE 8.O. HISTORIC LANDSCAPE PEDESTRIAN DECORATIVE LIGHT STANDARDS

Map – Figure X-11A

Fixture – Fixture X-11B

Fixture placement should comply with adopted master plans.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Eastern Promenade: Pedestrian paths	Pedestrian	14'6"	One side: 60'-80'	Black (Manufacturer's Specification)
Western Promenade: Pedestrian paths			Use existing light locations or refer to the Deering Oaks Master Plan (2003) for revised locations	
Deering Oaks Park (Interior): Pedestrian paths, High Street, State Street				

TABLE 8.P. DEERING OAKS BRIDGE DECORATIVE LIGHT STANDARDS

Map – Figure X-12

Fixture placement should comply with adopted master plans.

Location	Fixture Type	Fixture Height	Spacing & Layout	Color
Deering Oaks Park (Bridge)	Bridge Light	6' (match existing)	One side: 60'-80'	Match existing

8.3.5. City of Portland versus construction contractor responsibilities. For projects where the construction contractor is required by the City to provide new street lighting, the new street lighting shall be connected to an existing metered service, unless otherwise directed by the City (see §8.2.2(D) for new metered services for lighting).

- A. Construction contractor responsibilities.** The responsibilities of the construction contractor are as follows:
1. The construction contractor shall furnish and install the following as part of the construction scope as stipulated by the City according to City standards for the given project location:
 - a. Street lighting luminaires;

- 
- b. Street lighting poles;
 - c. Bracket arms;
 - d. Pole accessories; and
 - e. Decorative base enclosures;

- 2. Concrete foundation bases for new street lighting poles. Poles shall be mounted on reinforced concrete pole bases with 2" to 4" reveal above grade, with 4 bolts per pole. The installation of the foundation bases shall be coordinated with sidewalk details and requirements as stipulated by the City of Portland Department of Public Works;
- 3. **Underground conduit and wire between street lighting pole foundation bases.** In addition, underground conduit and wire shall be provided to an electrical service panelboard and meter, as well as to an existing service connection;
- 4. Wiring to be installed within each street lighting pole and shall be extended at the pole top (or bracket arm), with connection to the street lighting luminaire(s);
- 5. Upon completion of the erection of the street lighting fixtures, including the installation of all lighting poles and conduit/wire, the construction contractor shall notify the City that the system is ready for operation. **The luminaires shall be energized prior to the construction contractor's request for a City Certificate of Occupancy;** and
- 6. It shall be the construction contractor's responsibility to pay all costs associated with the provision of required street lighting including costs associated with street lighting luminaires, street lighting poles, brackets, bases, conduit and wire, panelboards, and metering equipment.

B. City of Portland responsibilities. The responsibilities of the City of Portland are as follows:

- 1. To approve the proposed point of connection for electrical service for new municipal street lighting where a new metered service is provided;
- 2. Connection of the construction contractor's secondary service conductors at an existing service point, where a new service is provided; and
- 3. To review and approve the location of the street light fixtures within the public right-of-way.

8.3.6. Submission requirements. ~~A lighting plan shall be provided which shall show the quantity and location of all existing and proposed street lights. This shall be incorporated into the site plan or presented on an individual lighting plan. Descriptive information including engineering detail drawings depicting the entire proposed fixture (luminaire, bracket arm, slip fitter) along with the proposed finish shall be included on the individual lighting plan.~~

9. SHADOW STANDARDS

9.1. APPLICABILITY

All major and minor site plan proposals outside the B-3, B-5, B-6, and B-7 zones that would result in new shadows long enough to reach significant public resources (except within an hour and a half of sunrise or sunset) are required to submit a preliminary shadow analysis to the Planning Authority for review. If a preliminary analysis indicates the potential for adverse shadow impact, applicants are then required to submit a shadow analysis, as outlined below. In many cases, it may be appropriate to use the services of an architect or other professional skilled in use of computer analysis to perform a shadow analysis; however, this is not a requirement. Anyone undertaking a shadow analysis must use the longitude, latitude, and time information for Portland, Maine.

9.12. PRELIMINARY SHADOW ANALYSIS REQUIRED SUBMITTALS

A preliminary shadow analysis shall be required for all projects that include new structures or additions to structures ~~≥ 64~~5 feet tall, in order to determine if additional shadow analysis is required. A preliminary shadow analysis will need to evaluate the following criteria:

9.21.1. Shadow length. The longest shadow that any structure will cast in Portland, Maine during the year (except within an hour of sunrise or sunset) is 4.26 times its height. To conduct a preliminary analysis, multiple this factor by the height of each proposed structure. If no significant public resources, as defined above, are located within that distance from the project site in any direction, no further analysis is required. For example, if a development would result in a 48-foot tall building, its longest shadow would be approximately 192 feet. If there are no significant public resources within 192 feet of the project site, then no further shadow analysis is required.

If a resource is identified, the location of the site in relationship to the resource shall be evaluated to determine the potential for adverse shadow impact and the need for further analysis.

9.21.2. Site location. Because of the path that the sun travels across the sky, no shadow can be cast in a triangular area to the south of any given project site. Therefore, if the resource in question is located within that triangular area, no further shadow analysis is required. In Portland, Maine, that area lies between -122 degrees from true north and 122 degrees from true north. Thus, any significant public resource would have to be at an angle from true north greater than -122 degrees or 122 degrees in order to be shaded at any time by the proposed development.

9.12.3. Significant public resource. The preliminary shadow analysis shall consider the sensitivity of the significant public resource(s) to shadow. Open spaces or natural features that require direct sunlight for a portion of the day to sustain existing vegetation or to maintain the viability of its current use (e.g., sitting or sunning areas, public gathering spaces, turf sports fields or children's play areas) require further analysis.

Some significant open space resources may not be sensitive to sunlight, such as paved areas or landscaped areas with all shade-tolerant species. For these types of conditions, no further shadow analysis is needed.

If the above steps are not able to determine that shadows from a proposed development would not reach a shadow-sensitive significant public resource during any time of the year, a full shadow analysis is required.

9.32. PRELIMINARY SHADOW ANALYSIS REQUIRED SUBMITTALS

9.32.1. A shadow analysis shall define the extent and duration of additional shadow that a proposed development would cast on significant public resources in the project vicinity during the year, along with the effect that new shadowing would have on any sun-sensitive aspects of the resource(s).

9.23.2. Applicants are encouraged to use professional resources and/or computer analysis to calculate and graphically display shadows, specifically if proposed structures are irregularly shaped or if the project site is located in a densely developed area.

9.23.3. A shadow analysis shall include the following times of year:

- A. March 21st or September 21st;
- B. June 21st;
- C. May 6th or August 6th; and
- D. December 21st.

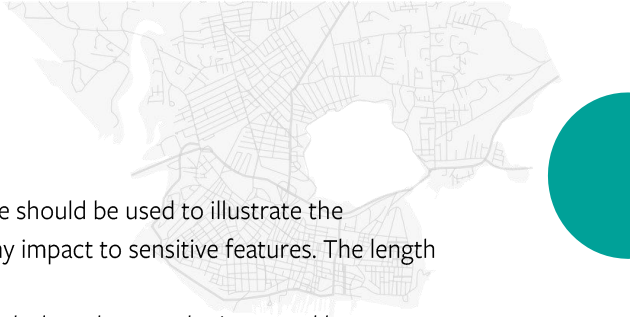
9.23.4. A shadow analysis should identify the types of significant public resources, types of vegetation and common use(s) of the site, along with discussion of the corresponding sunlight requirements for each. The uses and vegetation of open space areas establish its susceptibility to adverse shadow impact. Uses that rely on sunlight include sitting areas, gardens, and play areas. Vegetation that relies on sunlight includes tree canopy, shade-intolerant flowering plants and turf. Shadow-sensitive landscapes and uses generally require a minimum of four to six hours of sunlight a day. If necessary, applicants are encouraged to use the professional services of a landscape architect or recreation planner to inventory and assess the sensitivity of various landscape features to shadow.

9.23.5. In presenting the results of a shadow analysis, the following information shall be included for each date:

- A. Duration of incremental shadow on affected features;
- B. Times of shadow penetration;
- C. Description of affected features (e.g., landscaping, seating, active uses, historic resources); and
- D. Time of sunrise and sunset for the date being analyzed.

9.23.6. In addition to a narrative description, the analysis shall include clear graphic representations of the following, as applicable:

- A. Relationship between the project site and significant public resources;
- B. Calculation of the angles from north for project shadows entering and exiting the affected areas of the resource(s);
- C. A map showing pre-development condition shadows and the incremental shadows from the proposed structure(s) on all significant public resource(s) on each representative date;

- 
- D. In the case of public open space resources, a site plan of the open space should be used to illustrate the placement of incremental shadows to allow for clear presentation of any impact to sensitive features. The length of time of the project's shadows should be indicated on each map;
 - E. Photographs of the resource(s), focusing on elements sensitive to sunlight loss that may be impacted by new shadows from the development; and
 - F. Plan of the significant public resource, showing composite shadows and the location and duration of sunlight.

9.34. DETERMINING SIGNIFICANCE OF SHADOW IMPACTS

A significant shadow impact occurs if the new shadow added by the development proposal reduces sunlight to a level where it would have an adverse impact on existing sunlight-sensitive uses. This includes, but is not limited to, the following scenarios:

9.34.1. Substantial reduction in sunlight where a sensitive use is already subject to substandard sunlight;

9.34.2. Reduction in sunlight to vegetation resulting in less available sunlight than the minimum necessary for its survival; or

9.34.3. Substantial reduction in the usability of an open space area.

9.54. ALTERNATIVES AND MITIGATION

9.45.1. When an adverse shadow impact is identified, mitigation must be assessed. Types of mitigation that may be appropriate include, but are not limited to, relocating facilities within an open space to avoid sunlight loss, relocating or replanting vegetation, undertaking additional maintenance to reduce the likelihood of species loss, or replacement facilities on another nearby site. Where affected open space is a City park, it is appropriate for the applicant to coordinate mitigation options with the Parks Division of the City of Portland Department of Public Services.

9.45.2. Alternatives that may reduce shadow impacts include, but are not limited to:

- A. Reorientation of the structure(s) bulk to avoid adverse shadow impacts on sensitive significant public resources;
- B. Reorientation of the site plan to include replacement facilities;
- C. Where possible, reorientation of the sun sensitive features of the resource itself; and
- D. Incorporation of architectural design techniques and/or reflective façade materials to increase available light.



10. PUBLIC SAFETY STANDARDS

10.1. CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED) STANDARDS

10.1.1. Natural Surveillance. Site plans shall be designed so that they create formal and informal natural surveillance networks on the site to increase on-site visibility and the safety of legitimate users and to deter potential offenders.

- A. **Physical features.** The placement and design of physical features shall maximize visibility to allow for surveillance opportunities to and from site features such as entrances and exits, walkways, assembly areas, corridors, stairways, windows, parking lots, landscaping, fences or walls, and any other physical attributes.
- B. **Lighting.** The lighting of the site and building shall meet the City's technical standards for site lighting, as detailed in Section 12 of this manual, and enable users to observe movement and activities on the site during the day and at night. Motion sensor activated lighting is permitted to provide adequate illumination of the site at night while still complying with applicable lighting curfew standards of Section 12 of the Technical Manual. Specifically, the lighting plan should satisfy the following criteria:
 - 1. Create nighttime illumination of pedestrian travel paths and gathering areas, entrances and exits, and parking lots and garages by achieving the following:
 - a. Provide a clear view of an area from a distance and enable anyone moving in or immediately around it to be easily seen.
 - b. Deny potential hiding spaces adjacent to existing and proposed pedestrian travel routes.
 - c. Permit facial identification at a distance of at least 30' and create the perception of being identified.
- C. **Mechanical Surveillance Systems.** If necessary, mechanical surveillance systems such as CCTV may be installed to monitor areas not easily observed such as parking lots and garages.

10.1.2. Access Management. Site plans shall be designed to provide visible pathways and to offer proper guidance for legitimate users to access the site and to discourage unauthorized use of the site.

- A. **Orientation and Wayfinding.** The site shall be designed so that the layout, features and/or signage clearly guide the movement of vehicles and pedestrians along safe and predictable paths both during the daytime and nighttime. Specifically, the site plan shall satisfy the following criteria.
 - 1. Placement of signage, lighting fixtures, landmarks, and landscape design features shall clearly guide users to and from the facility.
 - 2. Site features shall be designed to avoid the creation of entrapment zones that afford users no opportunity to escape or retreat from an approaching hazard.
- B. **Mechanical Access Control.** If necessary, mechanical access control systems may be implemented such as assigning personnel at key building entry points or establishing other procedures such as mechanical auto closing devices, key cards, gates and other locking devices.

10.1.3. Territorial Reinforcement. Proposed developments shall be designed to clearly delineate private, semi-private, and public space.

10.2. FIRE HYDRANT STANDARDS

- 10.2.1.** All development constructed within the limits of the City of Portland shall have a hydrant within five hundred feet (500') of all structures.
- 10.2.2.** All hydrants, private and public, shall comply with City Code Chapter 10 and Portland Water District standards.
- 10.2.3.** Private hydrants shall be maintained by the property owners. A maintenance agreement, or other documentation if deemed acceptable by the Reviewing Authority, shall be required for all private hydrants. A follow-up will be conducted and a financial penalty will be levied for non-compliance. All compliances shall meet City Code Chapter 10, which adopts by reference National Fire Protection Association (NFPA) #1 and #101.
- 10.2.4.** A six-foot (6') clear space shall be maintained around the circumference of fire hydrants, private or public, except as otherwise required or approved.

~~10.3. SINGLE AND TWO FAMILY RESIDENTIAL DEVELOPMENT~~

~~As of September 16, 2010, all new construction of one and two family homes are required to be sprinkled in compliance with adopted NFPA code.~~

10.4. SITE ACCESS STANDARDS

- 10.4.1.** Every dead-end roadway more than one-hundred-fifty feet (150') in length shall provide a turnaround at the closed end. Turnarounds shall be designed to facilitate future street connectivity and shall always be designed to the right (refer to Figure I-5).
- 10.4.2.** Where possible, developments shall provide access for Fire Department vehicles to at least two sides of all structures. Access may be from streets, access roads, emergency access lanes, or parking areas.
- 10.4.3.** Building setbacks, where required by zoning, shall be adequate to allow for emergency vehicle access and related emergency response activities and shall be evaluated based on the following factors:
- A. Building height;
 - B. Building occupancy;
 - C. Construction type;
 - D. Impediments to the structures, and
 - E. Safety features provided.
- 10.4.4.** Fire Department access roads shall extend to within 50' of an exterior door providing access to the interior of the structure.
- 10.4.5.** Site access shall provide a minimum of nine (9) feet clearance height to accommodate ambulance access.
- ~~**10.4.6.** Elevators shall be sized to accommodate an 84" x 24" stretcher.~~



10.4.7. Street name and street numbering shall be determined during development/subdivision review and shall comply with Portland's 911 numbering system.

10.4.8. All structures are required to display the assigned street number. Numbers shall be clearly visible from the public right-of-way.

10.5. STANDARDS FOR EMERGENCY ACCESS LANES AND GATES

10.5.1. No inside turning radius shall be less than twenty-five feet (25').

10.5.2. No outside turning radius shall be less than one-hundred feet (100').

10.5.3. New emergency access lanes shall be a minimum of sixteen feet (16') wide but may be required to be up to twenty feet (20') wide where one or more of the following conditions occur:

- A. The access is likely to be used by Fire Department ladder trucks to set up for buildings adjacent to the lane; or
- B. The access lane is likely to be used by Fire Department Engine companies to set up pumping operations to fight a fire at building adjacent to the lane.

10.5.4. Access lanes shall be engineered and maintained to support the weight of emergency vehicles during all weather conditions.

10.5.5. Appropriate "No Parking" signs shall be posted in accordance with instructions from the Fire Department having jurisdiction, and a method of enforcing such provisions shall be provided.

10.5.6. All gates shall be located a minimum of thirty feet (30') from the public right-of-way and shall open inward to the site.

10.5.7. Fire Department personnel shall have ready access to locking mechanisms on any gate restricting access to a fire lane. Proposed changes to access shall be pre-approved by the Reviewing Authority.

10.5.8. The clear opening provided through all gates shall be two feet (2') wider than the traveled way.

10.5.9. Blockading of any emergency lane shall be done by gates which are secured by chain and padlock. Padlocks shall be a "Knox" lock.

10.5.10. Emergency lanes shall be maintained and made accessible for emergency use at all times. No parking of vehicles or other use that might obstruct the emergency access lane shall be permitted. An access maintenance agreement or other suitable document acceptable to the Reviewing Authority shall be required.

10.5.11. The use of automatic gates such as the "Click2enter" systems requires prior approval from the Reviewing Authority.

10.6. SUBDIVISION STANDARDS

Subdivisions shall comply with the following minimum street access requirements listed in Table 10.5. All planned building groups shall meet the requirements of NFPA 1141.

TABLE 10.5. MINIMUM NUMBER OF ACCESS ROADS BY SPRINKLERING AND NUMBER OF UNITS

Subdivisions by Sprinklering	Required Number of Access Roads by Number of Proposed Units			
	1-34	35-67	68-99	≥100
Subdivisions with an approved sprinkler system designed to NFPA #13D	One (1)		One (1) access road and an emergency access lane	Two (2) access roads
Subdivisions without an approved sprinkler system designed to NFPA #13D	One (1)	Two (2) access roads or a single access road and an emergency access lane	Two (2) access roads	

10.7. ~~BLASTING SAFETY STANDARDS~~

10.7.1. ~~Submittal Requirements:~~

- ~~A. All Blast Operations.~~ Applicants for all blasting operations shall obtain a blasting permit from the Planning and Urban Development Department prior to any blasting. Application forms may be obtained through the Inspections Division or can be downloaded from the City of Portland website.
- ~~A. Medium Blast Operations.~~ For medium blast operations, the blasting contractor will also be required to submit a blasting submittal with the blasting application form. The blasting submittal must include, at a minimum the following information:
- ~~A. Description of Test Blast, Drill Pattern;~~
 - ~~B. Description of Production Blasting, Drill Pattern;~~
 - ~~C. Explosives to be used during wet and dry conditions;~~
 - ~~D. Stemming material and depth;~~
 - ~~E. Description and location of blasting signs;~~
 - ~~F. Type of seismograph to be used;~~
 - ~~G. Description of proposed transportation and storage of explosives, and~~
 - ~~H. Signature of blasting contractor testifying to the accuracy of the above information.~~
- ~~B. Large Blast Operations.~~ For large blast operations, the blasting contractor will also be required to submit a drilling pattern and loading plan, referred to herein as a blasting plan, with the blasting application for review and approval. Blasting plans must be submitted at least two weeks prior to the start of any drilling and/or blasting operations. A model blasting plan is provided at the end of this section and shall include, at a minimum, the following information:
- ~~A. The sequence and schedule of blasting rounds, including a general description of the proposed approach for developing each bedrock excavation area;~~
 - ~~B. A diagrammatic description of the typical blast pattern to be used, including pre-splitting pattern if pre-splitting is required;~~
 - ~~C. Diameter, spacing, burden, depth and orientation of each drill hole relative to the “free face”. Along with details of the delay pattern;~~
 - ~~D. A diagrammatic description of the loading plan for a typical production hole include charge weights and distribution of primer, explosives and stemming within a typical hole;~~
 - ~~E. Estimation of ground vibration levels at nearest adjacent structures;~~

- F. Written evidence of the licensing, experience, and qualifications of the blaster who will be responsible for loading and firing each shot;
- G. A listing of the number and type of instrumentation proposed to be used to monitor vibrations and airblast overpressures; and
- H. Safety procedures, security measures, and warning sequences.

10.7.2. Pre-Blast Survey.

- A. **Pre-Blast Survey Scope.** Pre-blast surveys are required for all blasting operations. The blasting contractor will hire an independent seismologist or blasting consultant to perform pre-blast surveys on all structures (contingent upon property owner agreement) within the distances specified below in Table 8.2.2. The independent seismologist or blasting consultant shall not be an employee of the contractor, subcontractor, explosives manufacturer, or explosives distributor.

TABLE 10-A. PRE-BLAST SURVEY SCOPE BY SIZE OF BLAST

Size of Blast	Scope of pre-blast survey
Small	Within 250 feet of the perimeter of the blasting site
Medium	Within 500 feet of the perimeter of the blasting site
Large	Within 600 feet of the perimeter of the blasting site

- B. **Pre-Blast Survey Offer Notice.** Prior to commencement of the pre-blast surveys, the contractor shall provide the following documentation to the Department of Planning and Urban Development:
1. A list of property owners to be contacted (in accordance with the distances listed in Table 7.2.2.);
 2. Verification that the subject property owners were notified of the pre-blast survey work;
 3. A copy of the pre-blast survey offer notice; and
 4. Whether each offer to conduct a pre-blast survey was either accepted, rejected, or there was no response.

The contractor shall retain a copy of each pre-blast survey offer notice for their records until the development project receives a final certificate of occupancy or is otherwise deemed complete by the City. Nothing herein shall be construed to discourage repeated efforts by the blasting contractor to contact eligible property owners via phone, hand delivery, or other method in addition to provision of the required offer notice letter.

- C. **Pre-Blast Survey Documentation.** All pre-blast surveys shall include documentation of interior subgrade and above-grade accessible walls, ceilings, floors, roof and visible exterior as viewed from the grade level. Where significant cracks or damage exist, or for more complex structural defects, photographs or video shall be taken.

A high-quality videotape survey with appropriate audio description of the locations, conditions, and defects may substitute for a written pre-blast survey. Where necessary, notes and sketches may also be submitted as part of a video pre-blast survey in order to highlight or elaborate on certain aspects of the video documentation.

- D. **Pre-Blast Survey Conditions Report.** The pre-blast surveys shall include a conditions report for each property. The conditions report may be presented as narrative, photographs, video or a combination thereof. Conditions reports shall summarize the condition of each building and define areas of concern, including deteriorated structures or utilities, structures housing sensitive equipment, and/or manufacturing processes that are sensitive to vibrations.
- E. **Verification.** Verification that all pre-blast surveys and conditions reports have been completed shall be submitted to the Department of Planning and Urban Development at least two weeks prior to commencing any drilling and/or blasting operations.

10.7.3. Notification to Neighbors. Notice of blasting operations shall be provided in accordance with the requirements listed in Section VIII of the Land Use Code. For medium and large blasts, please also refer to the additional notification requirements during construction, described in §8.2.7. of this section (Blasting Schedule).

10.7.4. Complaint Protocol. The blasting contractor shall be solely and completely responsible for the safety of all persons and property during the performance of work. The blasting contractor shall have full and complete responsibility for the handling, discharging, or settling of any and all damage or annoyance claims resulting from the blasting activities on the project.

Complaints may be submitted to the Blasting Contractor and to the Department of Planning and Urban Development or the Fire Department throughout the duration of blasting operations. If a property owner submits a complaint regarding alleged blasting-related damages, the independent seismologist or blasting consultant shall meet with the property owner within 24 hours of receiving the complaint to discuss the basis for the complaint, review applicable blasting records, and evaluate the reasonableness of the complaint. If a reasonable basis for the complaint is verified, the independent seismologist or blasting consultant shall conduct a second condition survey of the property within 48 hours of receiving the complaint to identify any changes in the property conditions. A condition survey report summary shall be submitted to the Applicant, and verification that the condition survey was completed shall be submitted to the Department of Planning and Urban Development within two weeks of the second condition survey being conducted.

10.7.5. Hours of Blasting and Storage of Explosives. Hours of blasting operations shall be limited to those defined in Chapter 14, Section VIII, *Regulations of Explosives* of the City Code of Ordinances. Only the amount of explosives necessary for the day's work shall be brought to the site, and explosives shall be transported and stored in approved magazines when not in use.

10.7.6. Blast Warning. International Blast Warnings shall be utilized for all blasting operations, as described below in Table 10-B. For large blasts, all persons within 600 feet of the blasting area shall be notified of the "warning" and "all-clear" signals through notices left in mailboxes and signs posted in the vicinity of the blasting site.

10.7.7. Blasting Schedule (Medium and Large Blasts, only). The blasting contractor shall prepare and submit a blasting schedule to the property owner, the general contractor and the Department of Planning and Urban Development at least 10 business days prior to commencing blasting operations. The schedule shall include name and contact information for the blasting contractor, blasting area locations, planned dates and times of blasts, access restrictions to the blast areas, and warning signal protocols.

During construction, the blasting contractor shall coordinate the blasting schedule with the property owner, the general contractor, the Department of Planning and Urban Development, and the Fire Department on a weekly basis.

The morning of a planned detonation, the blasting contractor shall notify the Fire Department and the Department of Planning and Urban Development of the planned time of the blast (1/ one hour), the location where the blasting is to occur, and the amount of explosives to be used.

At least 24 hours prior to any blast, the blasting contractor shall inform all property owners who requested notice of the blasting schedule (1/ one hour).

10.7.8. Vibration Limits and Ground Vibration Monitoring. The seismograph must be set up at the closest structure to record each blast event. Ground vibration from all blasting operations shall be measured in terms peak particle velocity (inches per second (ips)) and frequency (hertz). The permissible maximum ground vibration at

existing nearby structures shall be limited to values established by the U.S. Bureau of Mines¹ to avoid cracking or structural damage in residential structures. Particle velocity shall be recorded in three mutually perpendicular directions. Ground vibration for residential structures shall not exceed the limits listed in Table 8.2.8.

Deteriorated structures or utilities, structures housing sensitive equipment, and/or manufacturing processes that are sensitive to vibrations may require lower PPV limits than those listed above. If information obtained from the pre-blast surveys indicates lower limits are required for certain structures, the independent seismologist or blasting consultant shall identify the limits applicable to a specific structure, and the blasting contractor shall incorporate such provisions in the features of the blasting plan.

In the event the blasting contractor's blasting round results in ground vibrations closely approaching the stated limits, the blasting operations shall be modified to reduce ground vibrations.

In the event the blasting contractor's blasting round results in ground vibrations exceeding the stated limits at structures, the blasting contractor shall cease all blasting activities and submit a written report to the property owner and the general contractor, copied to the Department of Planning and Urban Development and the Fire Department. This report shall describe corrective action to be taken on the next shot. The next shot shall not be loaded until the property owner and the general contractor acknowledge, in writing, copied to the Department of Planning and Urban Development and the Fire Department, that a design change is being attempted.

TABLE 10-B. GROUND VIBRATION LIMITS FOR RESIDENTIAL STRUCTURES

Type of Structure	Maximum PPV (ins/s)	
	Frequencies < 40 HZ	Frequencies ≥ 40 HZ
Modern Homes (drywall interior)	0.75	2.0
Older Homes (Plaster on wood lath for interior walls)	0.50	

10.7.9. Flyrock Control (Large Blasts Only). Blasting mats, soil, or other equally serviceable material shall be utilized for all blast rounds to prevent the throw of flyrock from the blasting area.

10.7.10. Pre-Blast Safety Meeting (Medium and Large Blasts Only). Prior to any blasting, the blasting contractor will conduct a pre-blast safety meeting with all contractors to familiarize them with blast signals and precautions.

10.7.11. Test Blasts (Large Blasts Only). Prior to commencing full-scale blasting, the blasting contractor shall demonstrate the adequacy of the proposed blasting plan by drilling, blasting, and excavating short test sections using small charges and the required monitoring instruments. The blasting contractor shall develop site-specific scaled distance relationships from the test blast rounds to determine the allowable charge weight of explosives to be detonated per delay.

10.7.12. Personnel.

- A. General.** All employees of the blasting contractor working on site during the blasting operation shall be trained in the use and handling of explosives.
- B. Large Scale Blasts.** The blasting contractor shall be required to carry liability insurance (XCU) coverage in an amount no less than \$2,000,000.

¹ United States Bureau of Mines. *Structure Response and Damage Produced By Ground Vibration From Surface Mine Blasting*. Prepared by D.E. Siskind, M.S. Stagg, J.W. Kopp, and C.H. Dowding, Report of Investigations #8507, Appendix B, 1980.

The blasting contractor shall hire a company specializing in the use of explosives for breaking rock and licensed in the State of Maine. The blaster or foreman responsible for the loading and firing of each shot, as well as the person responsible for designing and directing the blasting operation, shall have at least five years of documented experience with similar work responsibilities. IF controlled blasting methods are required, these individuals shall have at least five years of documented experience in controlled blasting techniques.

At least two weeks prior to the commencement of pre-blast surveys, the contractor will submit the name and qualifications of the independent seismologist or blasting consultant proposed to conduct the pre-blast surveys to the Department of Planning and Urban Development and the applicant, if other than the blasting contractor.

At least two weeks prior to the commencement of drilling and blasting operations, the contractor will submit to the City of Portland and applicant the name and qualifications of the independent seismologist or blasting consultant proposed to monitor and report blasting vibrations.

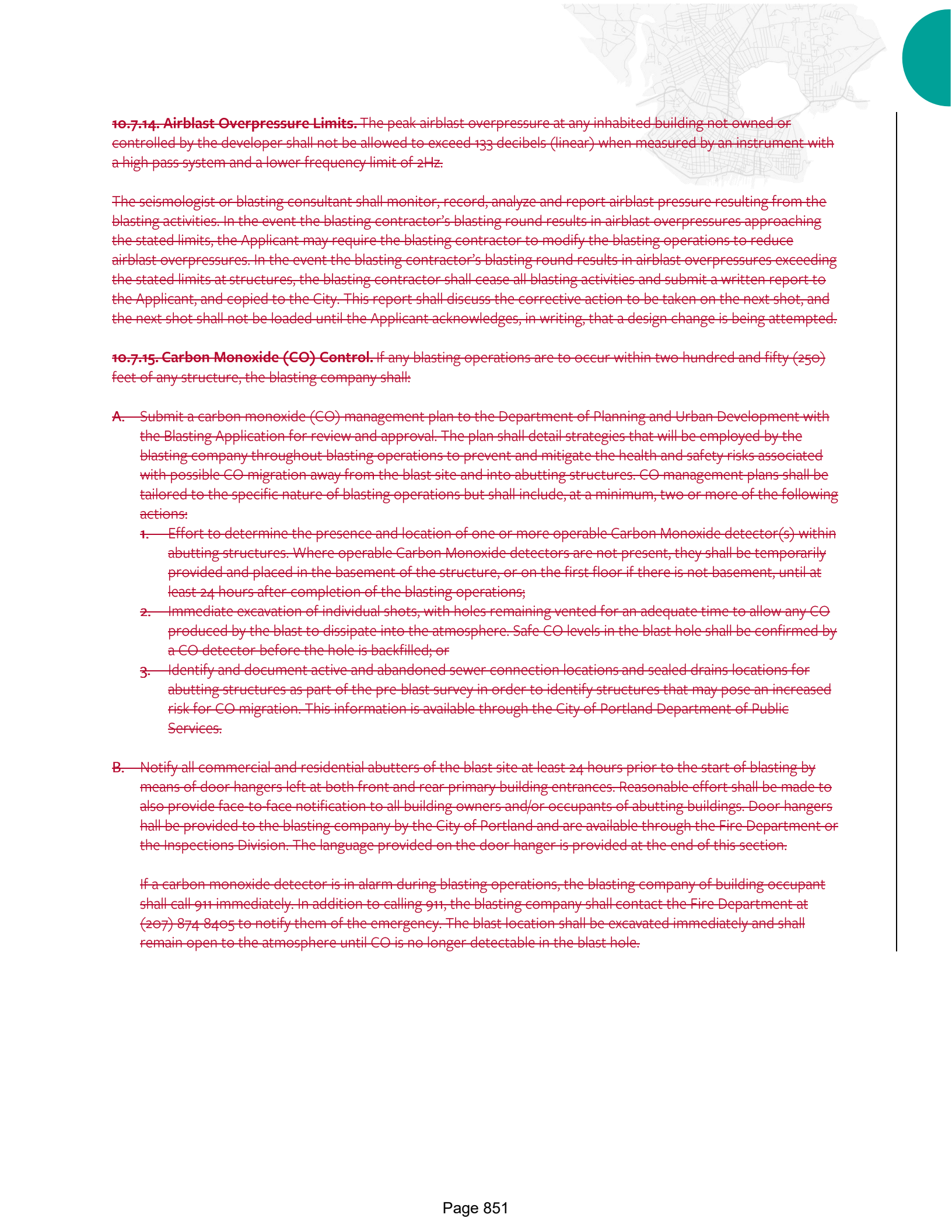
~~10.7.13. Record Keeping and Reporting.~~

~~A. Large Blast Monitoring and Analysis.~~ Blast monitoring and analysis shall be conducted by the independent seismologist or blasting consultant. A minimum of two (2) seismograph instruments will be used to monitor vibrations and airblast pressures for each blast. The seismographs used by the seismologist or blasting consultant for blast monitoring shall comply with the following requirements:

- ~~1. Velocity range, 0.005 to 10.0 inches per second;~~
- ~~2. Seismic frequency range, 2 to 250 Hz, within 0 to -3dB of an ideal flat response;~~
- ~~3. Acoustic frequency range, 2 to 250 Hz flat, -3dB at 2 Hz $\pm$ 1 dB;~~
- ~~4. Sound range, 100 to 140 dB (linear);~~
 - ~~5. Measure, display, and provide a permanent time history record of the event, including both ground vibration and airblast;~~
 - ~~6. Measure the three mutually perpendicular components of particle velocity in directions vertical, radial, and perpendicular to the vibration source;~~
 - ~~7. The seismograph shall display and provide record of:~~
 - ~~a. The date and time of the event;~~
 - ~~b. Identifying information concerning the company;~~
 - ~~c. The location of the seismograph and of the blast;~~
 - ~~d. Trigger levels;~~
 - ~~e. Verification the instrument was set for "continuous" and not "manual" readings;~~
 - ~~f. Instrument serial number, and~~
 - ~~g. The date of the most recent calibration; and~~
 - ~~8. The seismograph shall be calibrated as often as necessary, but at least once every 12 months, and must be performed to a standard traceable to the National Institute of Standards and Technology.~~

Blast monitoring data obtained by the independent seismologist or blasting consultant must be available for inspection on the blasting site, be submitted in writing to the Applicant within 24 hours following each blast, and be submitted the Department of Planning and Urban Development on a weekly basis. A model blast monitoring report is included at the end of this section.

~~B. Blasting Log.~~ A blasting log summarizing details of the round as shot, weather conditions, proximity of the blast location to nearest structures, exact locations of monitoring instruments, and the results of blast monitoring at each instrument location shall be maintained daily for every blast. The blasting log shall be available for inspection on-site, shall be submitted in writing to the Applicant within 24 hours following each blast, and shall be submitted to the City on a weekly basis.



10.7.14. Airblast Overpressure Limits. The peak airblast overpressure at any inhabited building not owned or controlled by the developer shall not be allowed to exceed 133 decibels (linear) when measured by an instrument with a high-pass system and a lower frequency limit of 2Hz.

The seismologist or blasting consultant shall monitor, record, analyze and report airblast pressure resulting from the blasting activities. In the event the blasting contractor's blasting round results in airblast overpressures approaching the stated limits, the Applicant may require the blasting contractor to modify the blasting operations to reduce airblast overpressures. In the event the blasting contractor's blasting round results in airblast overpressures exceeding the stated limits at structures, the blasting contractor shall cease all blasting activities and submit a written report to the Applicant, and copied to the City. This report shall discuss the corrective action to be taken on the next shot, and the next shot shall not be loaded until the Applicant acknowledges, in writing, that a design change is being attempted.

10.7.15. Carbon Monoxide (CO) Control. If any blasting operations are to occur within two hundred and fifty (250) feet of any structure, the blasting company shall:

- A. Submit a carbon monoxide (CO) management plan to the Department of Planning and Urban Development with the Blasting Application for review and approval. The plan shall detail strategies that will be employed by the blasting company throughout blasting operations to prevent and mitigate the health and safety risks associated with possible CO migration away from the blast site and into abutting structures. CO management plans shall be tailored to the specific nature of blasting operations but shall include, at a minimum, two or more of the following actions:
 - 1. Effort to determine the presence and location of one or more operable Carbon Monoxide detector(s) within abutting structures. Where operable Carbon Monoxide detectors are not present, they shall be temporarily provided and placed in the basement of the structure, or on the first floor if there is not basement, until at least 24 hours after completion of the blasting operations;
 - 2. Immediate excavation of individual shots, with holes remaining vented for an adequate time to allow any CO produced by the blast to dissipate into the atmosphere. Safe CO levels in the blast hole shall be confirmed by a CO detector before the hole is backfilled; or
 - 3. Identify and document active and abandoned sewer connection locations and sealed drains locations for abutting structures as part of the pre-blast survey in order to identify structures that may pose an increased risk for CO migration. This information is available through the City of Portland Department of Public Services.
- B. Notify all commercial and residential abutters of the blast site at least 24 hours prior to the start of blasting by means of door hangers left at both front and rear primary building entrances. Reasonable effort shall be made to also provide face-to-face notification to all building owners and/or occupants of abutting buildings. Door hangers shall be provided to the blasting company by the City of Portland and are available through the Fire Department or the Inspections Division. The language provided on the door hanger is provided at the end of this section:

If a carbon monoxide detector is in alarm during blasting operations, the blasting company or building occupant shall call 911 immediately. In addition to calling 911, the blasting company shall contact the Fire Department at (207) 874 8405 to notify them of the emergency. The blast location shall be excavated immediately and shall remain open to the atmosphere until CO is no longer detectable in the blast hole.

11. STANDARDS FOR LOCAL SITE LOCATION OF DEVELOPMENT (SLOD) REVIEW

11.1. INTENTION

~~These standards are intended to provide a flexible and practical means by which the City of Portland may exercise its police powers to control the location of these developments substantially affecting the local environment in order to ensure that such developments will be located in a manner which will have minimal adverse impact on the natural environment within the development sites and of their surroundings and to otherwise protect the health, safety and general welfare of the people.~~

11.1. APPLICABILITY

11.1.1. The Planning Board shall review:

- A. Subdivisions;
- B. Structures;
- C. Developments generating passenger car equivalents of between 100-200 per peak hour for compliance with the following standards; and
- D. Metallic mineral mining or advanced exploration activity.

11.1.2. **Definitions.** For the purposes of this section, the following definitions shall be applied by the City of Portland Planning Board:

- A. **Subdivisions.** The subdivision of land into 5 or more lots, other than lots for single-family, detached, residential housing, common areas or open space, to be offered for sale or lease to the general public during any 5-year period, if the aggregate land area includes more than 20 acres; or the division of a parcel of land into 15 or more lots for single-family, detached, residential housing, common areas or open space, to be offered for sale or lease to the general public within any 5-year period, if the aggregate land area includes more than 30 acres. The aggregate land area includes lots to be offered together with the roads, common areas, easement areas and all portions of the parcel of land in which rights or interests, whether express or implied, are to be offered. This definition of “subdivision” is subject to the following exceptions:
 - 1. Lots of 40 or more acres but not more than 500 acres may not be counted as lots except where the proposed subdivision is located wholly or partly within the shoreland zone;
 - 2. Lots of more than 500 acres in size may not be counted as lots;
 - 3. Five years after a subdivider establishes a single-family residence for that subdivider’s own use on a parcel and actually uses all or part of the parcel for that purpose during that period, a lot containing that residence may not be counted as a lot;
 - 4. Unless intended to circumvent this article, the following transactions may not be considered lots offered for sale or lease to the general public:
 - a. Sale or lease of lots to an abutting owner or to a spouse, child, parent, grandparent or sibling of the developer if those lots are not further divided or transferred to a person not so related to the developer within a 5-year period, except as provided in this subsection;

- b. Personal, nonprofit transactions, such as the transfer of lots by gift, if those lots are not further divided or transferred within a 5-year period or the transfer of lots by devise or inheritance; or
 - c. Grant of a bona fide security interest in the whole lot or subsequent transfer of the whole lot by the original holder of the bona fide security interest or that person's successor in interest;
- 5. In those subdivisions that would otherwise not require site location approval, unless intended to circumvent this article, the following transactions may not, except as provided, be considered lots offered for sale or lease to the general public:
 - a. Sale or lease of common lots created with a conservation easement as defined in Title 33, Section 476, provided that the Department of Environmental Protection is made a party; or
 - b. The exception described in paragraph 5 does not apply, and the subdivisions requires site location approval, whenever the use of a lot described in paragraph 5 changes or the lot is offered for sale or lease to the general public without the limitations set forth in paragraph 5; and
- 6. The transfer of contiguous land by a permit holder to the owner of a lot within a permitted subdivision is exempt from review hereunder, provided that the land was not owned by the permit holder at the time the Department of Environmental Protection, the MDOT or the City approved the subdivision. Further division of the transferred land must be reviewed under these standards.

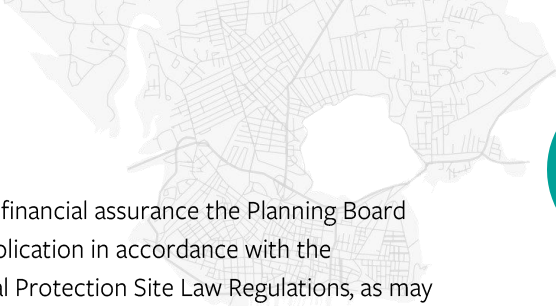
For the purposes of this section, a parcel of land is defined as all contiguous land in the same ownership provided that lands located on opposite sides of a public or private road are considered each a separate parcel of land unless that road was established by the owner of land on both sides of the road was established by the owner of land on both sides of the road subsequent to January 1, 1970. A lot to be offered for sale or lease to the general public is counted, for purposes of determining jurisdiction, from the time a municipal subdivision plan showing that lot is recorded or the lot is sold or leased, whichever occurs first, until 5 years after that recording, sale or lease.

- B. **Structure.** A "structure" means any building, parking lot, road, paved area, wharf or area to be stripped or graded and not to be revegetated that cause a total project to occupy a ground area in excess of 3 acres. Stripped or graded areas that are not revegetated within a calendar year are included in calculating the 3-acre threshold.
- C. **Passenger car equivalents at peak hour.** "Passenger car equivalents at peak hour" means the number of passenger cars, or in the case of non-passenger vehicles, the number of passenger cars that would be displaced by non-passenger vehicles, that pass through an intersection or on a roadway under prevailing roadway and traffic conditions at that hour of the day during which the traffic volume generated by the development is higher than the volume during any other hour of the day. A one tractor-trailer combination is the equivalent of 2 passenger cars.

11.2. REVIEW STANDARDS

The following standards shall be applied in evaluating subdivisions or site plans as defined above, except where Portland elsewhere has adopted more restrictive standards, the more restrictive standards shall control:

11.2.1. Financial and technical capacity. The developer has the financial capacity and technical ability to develop the project in a manner consistent with state environmental standards and with the provisions of Portland's Code of Ordinances. The Planning Board may issue a permit that conditions any site alterations upon a developer providing the Planning Board with evidence that the developer has been granted a line of credit or a loan by a financial institution



authorized to do business in this State or with evidence of any other form of financial assurance the Planning Board determines to be adequate. The Planning Board shall also assess any such application in accordance with the standards set forth in Chapter 373 of the Maine Department of Environmental Protection Site Law Regulations, as may be amended from time to time.

11.2.2. Traffic movement. For any development that generates 100 or more passenger car equivalents at peak hour, the developer has made adequate provision for traffic movement of all types into and out of the development area. Before issuing a permit, the Planning Board shall determine that any traffic increase attributable to the proposed development will not result in unreasonable congestion or unsafe conditions on a road in the vicinity of the proposed development. The Department of Transportation or the City of Portland Traffic Engineer shall provide the Planning Board with an analysis of traffic movement of all types into and out of the development area and with a statement of recommended findings on traffic issues. In making its determination under this subsection, the Planning Board shall consider the analysis and recommendations provided by the City's Traffic Engineer or the Department of Transportation. Traffic movement determinations are subject to the following:

- A. A proposed development that involves fewer than 100 passenger car equivalents at peak hour is not subject to traffic review.
- B. If any project qualifies for review hereunder solely because it generates 100 or more passenger car equivalents at peak hour then the review hereunder shall be limited only to issues relevant to the traffic movements standards in this section. Otherwise all other standards of review shall be applied.

In all instances the appropriate representative of the municipality or municipalities where the project is located, shall discuss with the applicant the scope of impact evaluation required for the proposed development. The applicant shall provide notice to abutting municipalities.

- C. If a development is located in an area designated as a growth area in a local growth management plan that has been found by the State to be consistent with the growth management program in Title 30-A, Chapter 187, the Planning Board shall require improvements to the level of traffic service only if the level of service adjacent to or in the vicinity of the development is or would be level of service E or F, as determined by the City's Traffic Engineer, in accordance with the "Highway Capacity Manual" (3rd Edition 1994). In these cases, improvements are limited only to those necessary to mitigate for the foreseeable impacts of the development.
- D. The Planning Board shall also assess any such application in accordance with the standards set forth in Chapter 374 of the Maine Department of Environmental Protection Site Law Regulations, as may be amended from time to time.

11.2.3. No adverse effect on the natural environment. The developer has made adequate provision for fitting the development harmoniously into the existing natural environment and that the development will not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality or in neighboring municipalities. In making a determination under this subsection, the Planning Board shall apply the standards set forth in Chapter 375 of the Maine Department of Environmental Protection Site Law Regulations, as may be amended from time to time.

11.2.4. Soil types. The proposed development will be built on soil types that are suitable to the nature of the undertaking. In making a determination under this subsection, the Planning Board shall apply the standards set forth in Chapter 376 of the Maine Department of Environmental Protection Site Law Regulations, as may be amended from time to time.

11.2.5. Ground water. The proposed development will not propose an unreasonable risk that a discharge to a significant ground water aquifer will occur. In making a determination under this subsection, the Planning Board shall apply the standards set forth in Chapter 500 and 502 of the Maine Department of Environmental Stormwater Management and Direct Watersheds of Waterbodies Most at Risk from New Development Rules, as may be amended from time to time.

11.2.6. Ground water. The developer has made adequate provision of utilities, including water supplies, sewerage facilities, solid waste disposal and roadways required for the development and the development will not have an unreasonable adverse effect on the existing or proposed utilities and roadways in the municipality or area served by those services.

11.2.7. Flooding. The activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties nor create an unreasonable flood hazard to any structure. In making a determination under this subsection, the Planning Board shall apply the standards set forth in Chapter 500 and 502 of the Maine Department of Environmental Stormwater Management and Direct Watersheds of Waterbodies Most at Risk from New Development Rules, as may be amended from time to time.

11.2.8. Storm water management and erosion and sedimentation control. The proposed development meets the standards for storm water management in 38 MRSA §420-D as amended from time to time (See Exhibit 1) and the standard for erosion and sedimentation control in 38 MRSA §420-C as amended from time to time. In making a determination under this subsection, the Planning Board shall apply the standards set forth in Chapter 500 and 502 of the Maine Department of Environmental Stormwater Management and Direct Watersheds of Waterbodies Most at Risk from New Development Rules, as may be amended from time to time.

12. EROSION AND SEDIMENTATION CONTROL STANDARDS

The following are the mandatory minimum standards for Construction Activity subject to Chapter 32, Article IV of the City of Portland Code of Ordinances. Minor and Major Site Plans are defined by Chapter 14 of the City of Portland Code of Ordinances.

For projects that require a major site plan approval, or those projects that do not require site plan approval which result in 1 acre or more of Disturbed Area, a Comprehensive Erosion and Sedimentation Control Plan as detailed in section 6.2 below is required for all Construction Activity.

For projects that require a minor site plan approval, or those projects that do not require site plan approval which result in less than 1 acre or more of Disturbed Area, a Basic Erosion Control Plan as detailed in section 6.1 below is required of all Construction Activity.

Minor residential projects must use effective erosion and sedimentation controls for the duration of the Construction Activity, but are not required to submit an Erosion and Sedimentation Control Plan.

In all circumstances, the City reserves the right to require a Comprehensive Erosion and Sedimentation Control Plan, or any component thereof, when site conditions dictate (e.g. proximity to sensitive natural resources, steep grades).

12.1. APPLICABILITY

The following are the mandatory minimum standards for Construction Activity subject to Chapter 32, Article IV of the City of Portland Code of Ordinances.

In all circumstances, the City reserves the right to require a Comprehensive Erosion and Sedimentation Control Plan, or any component thereof, when site conditions dictate (e.g. proximity to sensitive natural resources, steep grades).

TABLE 12-A. EROSION AND SEDIMENTATION CONTROL REQUIREMENTS BY CONSTRUCTION ACTIVITY PROJECT TYPE

	Plan Submission Requirement	Inspector Requirement	Inspection Report Submittal
Major Site Plan Construction Activity > 1 Acre of Disturbance	Comprehensive	Third-Party Inspector	Weekly to Water Resources & Planning
Major Site Plan Construction	Basic	Qualified Professional*	Weekly or as specified* Weekly to Water Resources & Planning (may be waived)

Activity < 1 Acre of Disturbance			
Minor Site Plan	Basic	Self Inspection	None
Minor Residential Small-Scale Residential Development (1-4 units)	None	Self Inspection	None

*In all circumstances, the City reserves the right to require a Comprehensive Erosion and Sedimentation Control Plan, or any component thereof, when site conditions dictate (e.g. proximity to sensitive natural resources, steep grades). *Small Scale Residential site plan projects (1-4 units) with less than < 1 acre of disturbance are not required to hire a qualified professional and may perform self-inspections for any required ESC BMPs.

^Inspection and submittal requirements may be altered based on site location and conditions at the discretion of Water Resources or Planning Staff.

12.2. Basic Erosion and Sedimentation Control

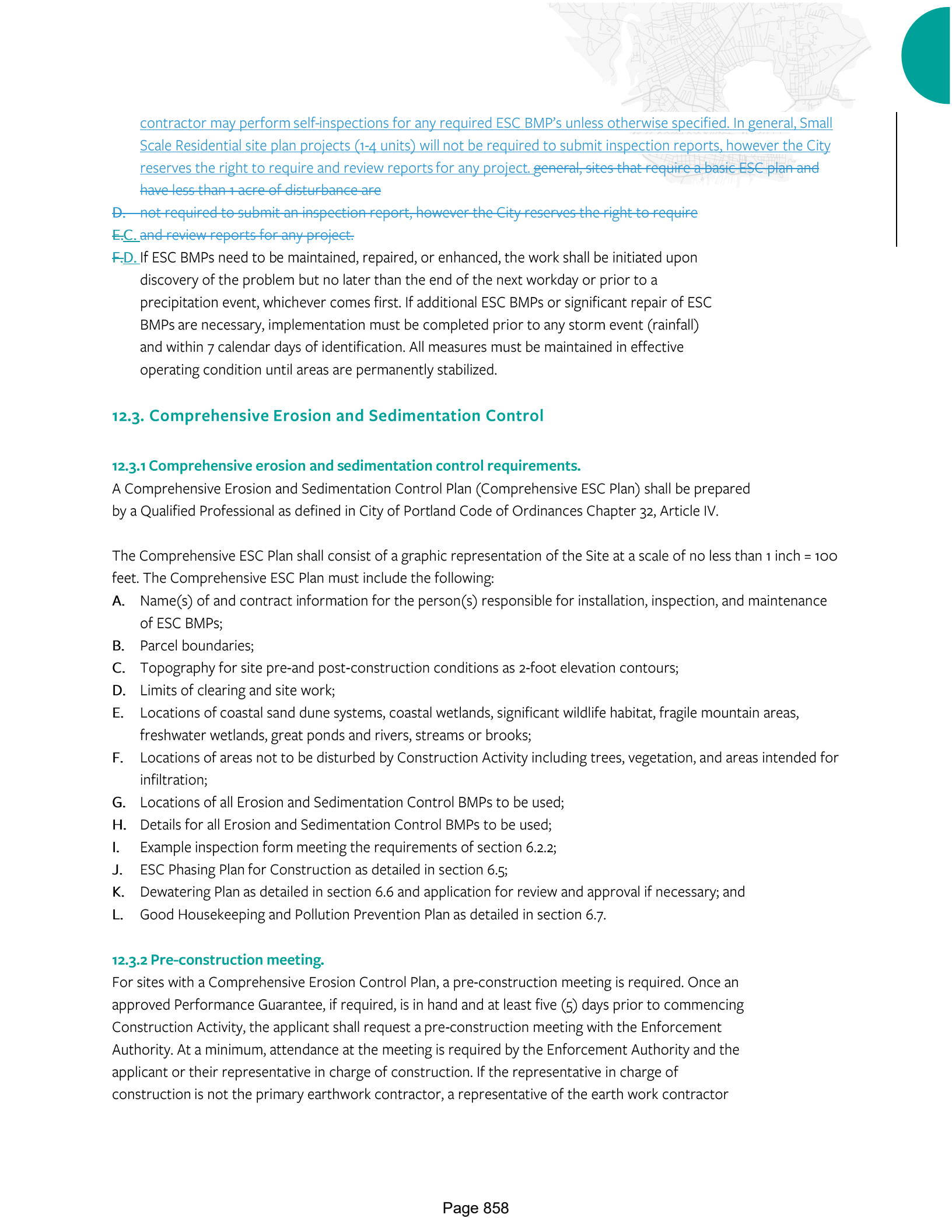
12.2.1. Basic erosion and sedimentation control plan requirements.

Erosion Control BMPs must meet the requirements of sections 12.3 and 12.4 below. The Basic Erosion and Sedimentation Control Plan (Basic ESC Plan) must consist of a graphic representation of the site at a scale no less than 1 inch = 100. The Basic ESC Plan must include the following:

- A. Name(s) of and contract information for the person(s) responsible for installation, inspection, and maintenance of ESC BMPs;
- B. Parcel boundaries;
- C. Locations of coastal sand dune systems, coastal wetlands, significant wildlife habitat, fragile mountain areas, freshwater wetlands, great ponds and rivers, streams or brooks;
- D. Locations of all Erosion and Sedimentation Control BMPs to be used; and
- E. Details for all Erosion and Sedimentation Control BMPs, meeting the requirements of section 12.3, to be used.

12.2.2. Basic inspection and maintenance requirements.

- A. All areas of disturbance, impervious areas, ESC BMPs, materials storage areas exposed to precipitation, and locations where vehicles enter or exit the Site shall be inspected:
 1. Once before any disturbance begins and after all Erosion and Sedimentation Control BMPs specified in the Erosion and Sedimentation Control Plan are in place;
 2. At least once a week as well as before and within 24 hours after a storm event (rainfall); and
 3. Once at project completion to ensure the Site has reached permanent stabilization and all temporary erosion and sedimentation controls have been removed.
 - B. The applicant is responsible for inspecting the site and maintaining erosion and sedimentation controls in good working order.
- ~~C.~~ In Sites that require a basic ESC plan and have less than 1 acre of disturbance are required to have a Qualified Professional complete inspections as outlined in 12.2.2 Part A. Inspection reports must be submitted weekly unless otherwise specified. Inspection and submittal requirements and frequency may be altered based on site location and conditions at the discretion of Water Resources or Planning staff. In the case of Small-Scale Residential site plan projects (1-4 units) with less than 1 acre of disturbance, a qualified professional is not required and the



contractor may perform self-inspections for any required ESC BMP's unless otherwise specified. In general, Small Scale Residential site plan projects (1-4 units) will not be required to submit inspection reports, however the City reserves the right to require and review reports for any project. ~~general, sites that require a basic ESC plan and have less than 1 acre of disturbance are~~

~~D. not required to submit an inspection report, however the City reserves the right to require~~

~~E.C. and review reports for any project.~~

~~F.D.~~ If ESC BMPs need to be maintained, repaired, or enhanced, the work shall be initiated upon discovery of the problem but no later than the end of the next workday or prior to a precipitation event, whichever comes first. If additional ESC BMPs or significant repair of ESC BMPs are necessary, implementation must be completed prior to any storm event (rainfall) and within 7 calendar days of identification. All measures must be maintained in effective operating condition until areas are permanently stabilized.

12.3. Comprehensive Erosion and Sedimentation Control

12.3.1 Comprehensive erosion and sedimentation control requirements.

A Comprehensive Erosion and Sedimentation Control Plan (Comprehensive ESC Plan) shall be prepared by a Qualified Professional as defined in City of Portland Code of Ordinances Chapter 32, Article IV.

The Comprehensive ESC Plan shall consist of a graphic representation of the Site at a scale of no less than 1 inch = 100 feet. The Comprehensive ESC Plan must include the following:

- A. Name(s) of and contract information for the person(s) responsible for installation, inspection, and maintenance of ESC BMPs;
- B. Parcel boundaries;
- C. Topography for site pre-and post-construction conditions as 2-foot elevation contours;
- D. Limits of clearing and site work;
- E. Locations of coastal sand dune systems, coastal wetlands, significant wildlife habitat, fragile mountain areas, freshwater wetlands, great ponds and rivers, streams or brooks;
- F. Locations of areas not to be disturbed by Construction Activity including trees, vegetation, and areas intended for infiltration;
- G. Locations of all Erosion and Sedimentation Control BMPs to be used;
- H. Details for all Erosion and Sedimentation Control BMPs to be used;
- I. Example inspection form meeting the requirements of section 6.2.2;
- J. ESC Phasing Plan for Construction as detailed in section 6.5;
- K. Dewatering Plan as detailed in section 6.6 and application for review and approval if necessary; and
- L. Good Housekeeping and Pollution Prevention Plan as detailed in section 6.7.

12.3.2 Pre-construction meeting.

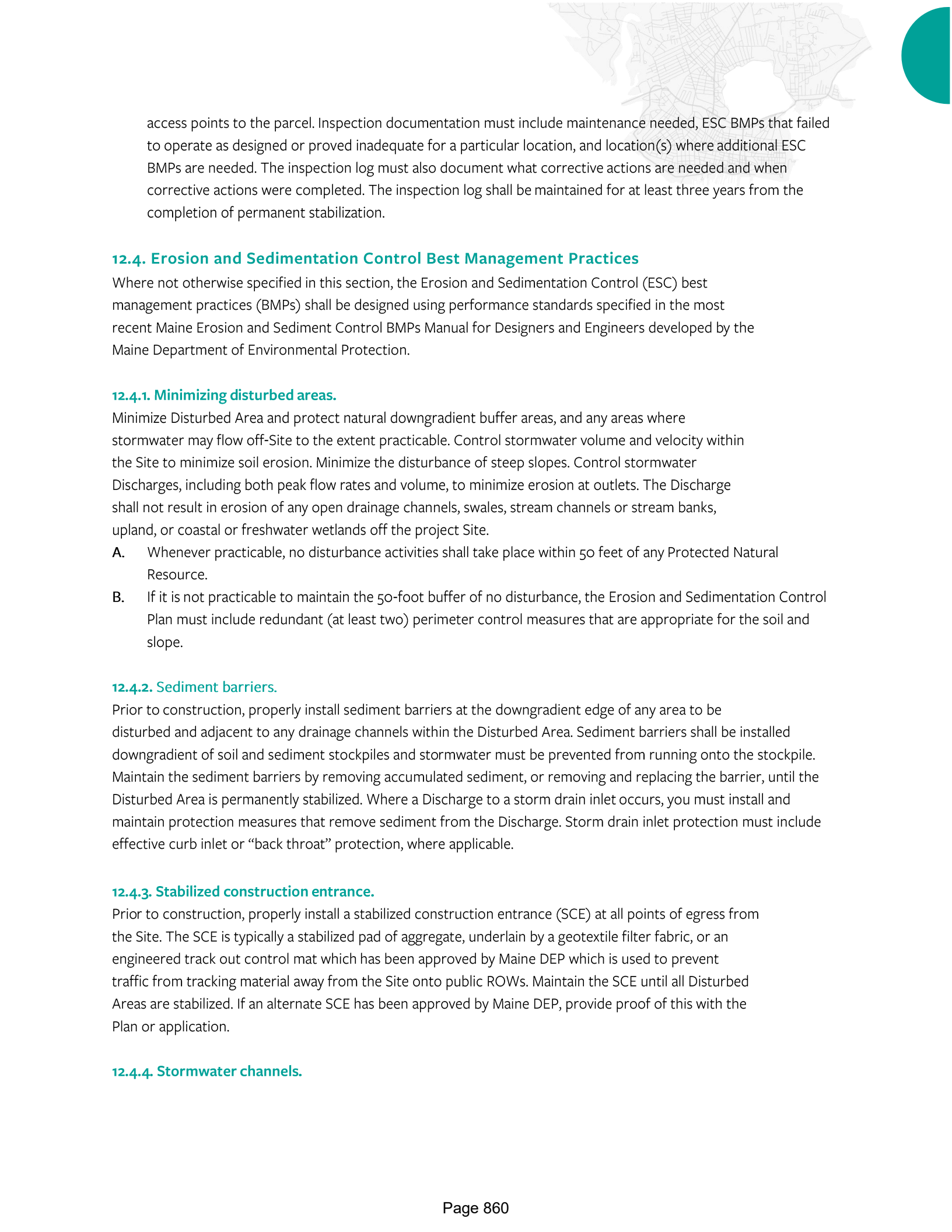
For sites with a Comprehensive Erosion Control Plan, a pre-construction meeting is required. Once an approved Performance Guarantee, if required, is in hand and at least five (5) days prior to commencing Construction Activity, the applicant shall request a pre-construction meeting with the Enforcement Authority. At a minimum, attendance at the meeting is required by the Enforcement Authority and the applicant or their representative in charge of construction. If the representative in charge of construction is not the primary earthwork contractor, a representative of the earth work contractor

must also attend the pre-construction meeting. Erosion and sediment controls should be installed for inspection during the pre-construction meeting and must be installed and inspected prior to the start of construction.

12.3.3. Comprehensive inspection and maintenance requirements.

Erosion and Sedimentation Controls must be inspected, as detailed below, to confirm that BMPs are in place and functioning. Corrective actions must be taken if erosion is occurring or there is a discharge of sediment or turbid water from the construction Site.

- A. For all sites with one acre or greater of disturbance, the applicant shall retain the services of a qualified professional third-party inspector to inspect the site weekly, for the duration of construction until final site stabilization is in place. For sites less than one acre of disturbance that are required to have a comprehensive erosion and sediment control plan, the applicant shall retain the services of a qualified professional.
- B. The inspection is required in order to ensure that all construction and stabilization activities comply with the approved drawings and specifications; that field decisions regarding erosion control implementation, stormwater system installation, and natural resource protection are based on sound engineering and environmental considerations; and that any changes to the development's erosion control plan, stormwater management plan, or final stabilization plan is communicated to the City of Portland for additional review and approval.
- C. All areas of disturbance, impervious areas, ESC BMPs, materials storage areas exposed to precipitation, and locations where vehicles enter or exit the Site shall be inspected at least once a week as well as before and within 24 hours after a storm event (rainfall) and prior to completing permanent stabilization measures.
- D. For all sites with one acre or greater of disturbance, the inspector will submit weekly written reports to the Stormwater Coordinator(s) in the Water Resources Division of Public Works and the Development Review Coordinator(s) in Planning. Reports must include: project ID, project address, the date(s) and time(s) of inspection(s), site photographs of areas under construction, and the date(s) and approximate duration(s) of any rainfall events in the prior week. The report will identify and describe any erosion problems or discharge of pollutants and what actions will be taken to address these issues and repair any damage to other properties or natural resources, actions to eliminate the erosion source, and actions to prevent future sediment discharges from the area. Sites with less than 1 acre of disturbance may request a waiver to be reviewed and approved by Water Resources, for weekly inspection report submission, as allowed by Chapter 32- 48 of the Code of Ordinances.
- E. If ESC BMPs need to be maintained, repaired, or enhanced, the work shall be initiated upon discovery of the problem but no later than the end of the next workday or prior to a precipitation event, whichever comes first. Immediate corrective actions are required to address active discharges of sediment to municipal streets or storm drains or to surface waters. If additional ESC BMPs or significant repair of ESC BMPs are necessary, implementation must be completed prior to any storm event (rainfall) and within 7 calendar All development constructed within the limits of the City of Portland shall have a hydrant within five hundred feet (500') of all structures. days of identification. All measures must be maintained in effective operating condition until areas are permanently stabilized.
- F. An inspection log summarizing the inspections and any corrective actions must be maintained. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of ESC BMPs, materials storage areas, and vehicle



access points to the parcel. Inspection documentation must include maintenance needed, ESC BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) where additional ESC BMPs are needed. The inspection log must also document what corrective actions are needed and when corrective actions were completed. The inspection log shall be maintained for at least three years from the completion of permanent stabilization.

12.4. Erosion and Sedimentation Control Best Management Practices

Where not otherwise specified in this section, the Erosion and Sedimentation Control (ESC) best management practices (BMPs) shall be designed using performance standards specified in the most recent Maine Erosion and Sediment Control BMPs Manual for Designers and Engineers developed by the Maine Department of Environmental Protection.

12.4.1. Minimizing disturbed areas.

Minimize Disturbed Area and protect natural downgradient buffer areas, and any areas where stormwater may flow off-Site to the extent practicable. Control stormwater volume and velocity within the Site to minimize soil erosion. Minimize the disturbance of steep slopes. Control stormwater Discharges, including both peak flow rates and volume, to minimize erosion at outlets. The Discharge shall not result in erosion of any open drainage channels, swales, stream channels or stream banks, upland, or coastal or freshwater wetlands off the project Site.

- A. Whenever practicable, no disturbance activities shall take place within 50 feet of any Protected Natural Resource.
- B. If it is not practicable to maintain the 50-foot buffer of no disturbance, the Erosion and Sedimentation Control Plan must include redundant (at least two) perimeter control measures that are appropriate for the soil and slope.

12.4.2. Sediment barriers.

Prior to construction, properly install sediment barriers at the downgradient edge of any area to be disturbed and adjacent to any drainage channels within the Disturbed Area. Sediment barriers shall be installed downgradient of soil and sediment stockpiles and stormwater must be prevented from running onto the stockpile. Maintain the sediment barriers by removing accumulated sediment, or removing and replacing the barrier, until the Disturbed Area is permanently stabilized. Where a Discharge to a storm drain inlet occurs, you must install and maintain protection measures that remove sediment from the Discharge. Storm drain inlet protection must include effective curb inlet or “back throat” protection, where applicable.

12.4.3. Stabilized construction entrance.

Prior to construction, properly install a stabilized construction entrance (SCE) at all points of egress from the Site. The SCE is typically a stabilized pad of aggregate, underlain by a geotextile filter fabric, or an engineered track out control mat which has been approved by Maine DEP which is used to prevent traffic from tracking material away from the Site onto public ROWs. Maintain the SCE until all Disturbed Areas are stabilized. If an alternate SCE has been approved by Maine DEP, provide proof of this with the Plan or application.

12.4.4. Stormwater channels.

Each channel shall be constructed in sections so that the section's grading, shaping, and installation of the permanent lining can be completed the same day. If a channel's final grading or lining installation must be delayed, then diversion berms must be used to divert stormwater away from the channel, properly-spaced check dams must be installed in the channel to slow the water velocity, and a temporary lining installed along the channel to prevent scouring.

12.4.5. Sediment basins.

Sediment basins that will be used to control sediment during construction activities must be designed to provide storage for either the calculated runoff from a 2-year, 24-hour storm or provide for 3,600 cubic feet of capacity per acre draining to the basin. Outlet structures must discharge water from the surface of the basin whenever possible. Erosion controls and velocity dissipation devices must be used if the discharging waters are likely to create erosion. Accumulated sediment must be removed as needed from the basin to maintain at least half of the design capacity of the basin. Clearly visible staking must be installed with marks showing the elevation of half design capacity for easier inspection. The use of cationic treatment chemicals in Sediment Basins, such as polymers, flocculants, or other chemicals that contain an overall positive charge designed to reduce turbidity in stormwater may only be used if the basin does not directly discharge to surface waters and if proof of approval by Maine DEP is provided.

12.5. Timing of ESC Installation and Removal

12.5.1. ESC best management practices required prior to earth disturbance.

Erosion and Sedimentation Control BMPs must be in place prior to earth disturbance. For sites with 1 acre or more of disturbance which require a Comprehensive ESC Plan, ESC BMPs should be installed prior to the required pre-construction meeting.

12.5.2. Temporary stabilization.

Within 7 days of the cessation of Construction Activities in an area that will not be worked for more than 7 days, stabilize any exposed soil with mulch, or other non-erodible cover. Stabilize areas within 75 feet of a wetland or waterbody within 48 hours of the initial disturbance of the soil or prior to any storm event, whichever comes first.

12.5.3. Permanent stabilization.

If the Site or a portion of the Site will not be worked for more than one year or has been brought to final grade, then permanently stabilize the area within 7 days by planting vegetation, seeding, sod, or through the use of permanent mulch, or riprap, or road sub-base. If using vegetation for stabilization, select the proper vegetation for the light, moisture, and soil conditions; amend the Disturbed Area subsoils with topsoil, compost, or fertilizers; protect seeded areas with mulch or, if necessary, erosion control blankets; and schedule sodding, planting, and seeding so to avoid die-off from summer drought and fall frosts. Newly seeded or sodded areas must be protected from vehicle traffic, excessive pedestrian traffic, and concentrated runoff until the vegetation is well-established with 90% cover by healthy vegetation. If necessary, areas must be reworked and restabilized if germination is sparse, plant coverage is spotty, or topsoil erosion is evident. Permanent Stabilization Definitions are as follows:

- A. Seeded Areas: For seeded areas, permanent stabilization means a 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.

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- 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. Paved Areas: For paved areas, permanent stabilization means the placement of the compacted gravel subbase is completed, provided it is free of fine materials that may runoff with a rain event.
 - F. Ditches, Channels, and Swales: For open channels, permanent stabilization means the channel is stabilized with a 90% cover of healthy vegetation, with a well-graded riprap lining, turf reinforcement mat, or with another non-erosive lining such as concrete or asphalt pavement. There must be no evidence of slumping of the channel lining, undercutting of the channel banks, or down-cutting of the channel.

12.5.4. Removal of temporary measures.

Remove any temporary control measures, such as silt fence, within 30 days after permanent stabilization is attained. Remove any accumulated sediments and stabilize.

12.5.4. Winter construction.

Winter construction is Construction Activity performed during the period from November 1 through April 15. If Disturbed Areas are not stabilized with permanent measures by November 1 or new soil disturbance occurs after November 1, but before April 15, then these areas must be protected and runoff from them must be controlled by the following additional winter construction measures and restrictions:

- A. Site Stabilization: Hay mulch is applied at twice the standard temporary stabilization rate. At the end of each construction day, areas that have been brought to final grade must be stabilized. Mulch may not be spread on top of snow.
- B. Sediment Barriers: All areas within 75 feet of a Protected Natural Resource must be protected with a double row of sediment barriers.
- C. Ditch Lines: Ditch lines must be stabilized with an appropriate stone lining backed by an appropriate gravel bed or geotextile unless specifically released from this standard by the Maine DEP. If release from Maine DEP has been granted, provide proof of this with the Plan or application.
- D. Slopes: Mulch netting must be used to anchor mulch on all slopes greater than 8% unless erosion control blankets or erosion control mix is being used on these slopes. Unvegetated slopes less than 8% must be protected with an erosion control blanket, erosion control mix, or riprap.
- E. Maintenance: Winter stabilization BMPs must be inspected and maintained as any other erosion and sedimentation control BMP.

12.6. Phasing of Erosion and Sedimentation Control

12.6.1 ESC phasing plan.

Erosion and Sedimentation Control BMPs must be in place before construction begins; additional Erosion and Sedimentation Control BMPs shall be installed as needed and shall be phased in if phasing is used; and ESC BMPs shall be maintained until permanent stabilization is achieved.

Phasing Plan Requirements: No phasing plan is required if the contractor will limit the Disturbed Area to

a maximum of 5 acres of disturbance across the Site at any time. If the Construction Activity will result in more than 5 acres of Disturbed area at any one time, the Contractor shall provide a phasing plan showing:

- A. Initial area to be disturbed;
- B. Portions of the initial disturbance that will be stabilized, and what temporary or permanent stabilization methods will be used;
- C. Areas of the site that will subsequently be disturbed and what temporary or permanent stabilization methods will be used; and
- D. Each phase of disturbance and stabilization must clearly show the total areas in square feet or acres such that the 5-acre Disturbed Area limit at any one time is met throughout the entire project.

12.7. Dewatering Plan

The Erosion and Sedimentation Control Plan must include provisions to remove or properly disperse the collected water in a manner that prevents sediment from entering stormwater. The City of Portland requires a Dewatering Plan and Application for any construction dewatering discharging to City infrastructure, as detailed in the *Rules and Regulations for Use of the Sewer System*.

12.8 Good Housekeeping and Pollution Prevention Plan

A Good Housekeeping and Pollution Prevention Plan is required as part of a Comprehensive ESC Plan. The Good Housekeeping and Pollution Prevention Plan must be site specific and address the following:

12.8.1 Spill prevention.

Controls must be used to prevent pollutants from construction and waste materials stored on-Site from entering 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.

12.8.2 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.

12.8.3 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 shall be included to minimize tracking of mud and sediment. If off-Site tracking occurs, public roads shall 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, shall wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

12.8.4 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. Sediment generated by concrete or mortar mixing, brick cutting & saw cutting activities must be contained (e.g., sausage boom, straw bales, etc.) and cleaned up using dry methods (i.e., sweeping or vacuuming) to prevent it from entering drainage structures or water resources. These activities shall be done on vegetated areas whenever possible and away from drainage structures and water resources.

12.8.5 Excavation dewatering.

Excavation dewatering 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 otherwise treated to collect the maximum amount of sediment possible, like a coffer dam sedimentation or sediment filter bag. Avoid allowing the water to flow over Disturbed Areas of the Site. If the Maine DEP has approved equivalent measures, provide proof of approval. Note that discharge of excavation dewater fluids from the Site must be visually clear (no visible suspended or settleable solids). Any dewatering discharges from a site to the City right-of way or infrastructure are prohibited unless the City has provided approval of a Dewatering Plan and Application submitted by the Contractor. Discharges from the Site into the City's storm drain or sewer system must first obtain City approval through the Dewatering Program, as detailed in the *Rules and Regulations for Use of the Sewer System*.

12.8.6 Washout from concrete, stucco, paint, curing compounds, or other construction materials.

If washout/cleanout is to be completed on the Site, a designated area(s) shall be established and marked on the Erosion and Sedimentation Control Plan. This area shall be a minimum of 50 feet from all drainage structures, ditches, waterbodies, and resource areas, as well as property boundaries if possible. The area shall not have an outlet to discharge wastes or flows. No detergents shall be used or vehicles washed in this location. A leak-proof pit or container shall be established in the washout area(s), to which washings shall be directed. This area shall be used for washout containment and dewatering by evaporation only. The pit shall not allow infiltration to occur. To prevent clean water from entering the pit, the washout area shall be covered during precipitation events. Inspections of the pit shall be conducted daily to ensure no leaks are present and no discharge is occurring.

12.8.7 Non-stormwater discharges.

Except as allowed or exempted herein, no person shall create, initiate, originate or maintain a non-stormwater discharge to the storm drainage system. Such non-storm water discharges are prohibited, notwithstanding the fact that the City may have approved the connections, drains or conveyances by which a person discharges un-allowed storm water discharges to the storm drain system.

A. Authorized Non-Stormwater Discharges

Where allowed non-stormwater discharges exist, they must be identified, and steps shall 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:

1. Discharges from firefighting activity
2. Hydrant flushing if dechlorinated to 0.05 mg/l or less
3. Vehicle wash water if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage, and transmission washing is prohibited)

4. Dust control runoff if it does not cause erosion
5. Routine external building washdown, not including surface paint removal, that does not involve detergents
6. Pavement wash water (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used
7. Uncontaminated air conditioning or compressor condensate
8. Uncontaminated groundwater or spring water
9. Foundation or footer drain-water where flows are not contaminated
10. Uncontaminated excavation dewatering per item 5 Excavation Dewatering
11. Potable water including waterline flushings
12. Landscape irrigation

B. Unauthorized non-stormwater discharges.

1. Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds, or other construction materials;
2. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
3. Soaps, solvents, or detergents used in vehicle and equipment washing;
4. Sediment laden discharges; and
5. Toxic or hazardous substances from a spill or other release.



13. SOLAR ENERGY STANDARDS

13.1 APPLICABILITY

13.1.1 All solar energy generation systems are subject to the standards set out in the Article 6 of the Land Use Code, whether permitted or conditional.

13.1.2 Roof mounted and accessory ground mounted solar energy systems as per Article 6 of the Land Use Code not subject to site plan review must comply with technical, safety and maintenance standards as per Building and Fire Code requirements and as determined by the Permitting and Inspections Department when a building permit is submitted. These solar energy systems must obtain a building permit but are not subject to the detailed Technical Standards in 15.2 below.

13.1.3 It should be noted that roof mounted systems potentially present a safety issue for the Fire Department in the event of a fire, and it is recommended that any roof mounted solar energy system be discussed with the Fire Department prior to design.

13.1.4 The technical standards in 15.2 below apply to any minor or major solar energy generation system that requires site plan approval (through the Planning Division) in accordance with Article 14, Site Plan, of the Land Use Code. These solar energy systems also require a Building Permit and other permits as required by Permitting and Inspections Department. The Permitting and Inspections Department may have additional submittal requirements for solar energy systems.

13.1.5 The following technical standards are referenced in Article 6 of the Land Use Code and aim to complement this ordinance and the existing codes and site plan review standards. Together the aim is to ensure safe, effective and efficient installation of solar energy systems compatible with surrounding uses. Within this aim the overall intent is to encourage the installation of solar energy systems.

13.1 TECHNICAL STANDARDS

13.1.1 Site Layout. Wherever possible solar energy systems should be located on the side or rear (i.e. least visible) part of the site. This also applies to associated features such as lighting and infrastructure. Applicants shall take all reasonable efforts to place utility connections underground, unless making use of existing lines, or as otherwise required by the utility. The proposed placement of new poles for electrical connections shall be included in the site plan and construction management plan.

13.1.2 Site Plan Review Standards. Proposals should address the specific requirements for solar energy systems found in Article 6, as well as the site plan review standards, listed in Article 13. It is recognized that some of the Site Plan standards may not be relevant, as determined by the Planning Division/Planning Board during the review. It is likely that the review of any solar energy system would focus on how the proposals avoid or minimize impacts on the following:

- A. Existing vegetation and other natural resources - location on brownfield sites and on areas that are already impervious are encouraged; ~~W~~
- B. Wetlands and areas subject to flooding - DEP approval may be required;
- C. Wildlife and wildlife habitats - information may be requested on resources, impacts and potential mitigation e.g. through specified maintenance regimes;
- D. Septic systems, leach fields (unless explicitly allowed by the relevant regulator);
- E. Existing topography - ensure adequate temporary and permanent erosion and sedimentation control;
- F. Water quality of the stormwater runoff;
- G. Airport flight paths (FAA approval may be required);
- H. Other specific or local site characteristics as referenced in ordinance standards.

13.2.3 Security. The siting and design of the solar energy installation shall ensure that unauthorized access is prevented, and shall be in conformance with all applicable electrical code requirements. Knox boxes at gates (or similar arrangements as approved during the review) shall be provided for emergency access.

13.2.4 Screening. The ordinance specifies screening from nearby residential/institutional uses and public ways. The proposals should take advantage of existing topography and vegetation where possible to integrate the development (including fencing, infrastructure and connections to the grid) into the landscape, and introduce vegetated buffer areas. Fencing shall be wildlife friendly and as unobtrusive as possible, utilizing measures such as locating the fencing along topographical contours and screening with planting. The selection of new planting would be in accordance with the Technical Standards in Section 4 Site Landscaping.

13.2.5 Construction Impacts. Proposals should include information regarding the methods of construction ~~and a Construction Management Plan may be requested.~~ Clearing of existing trees and vegetation shall be restricted to the minimum amount needed for construction access and to avoid shading of the solar development. Construction work should be performed in such a way that erosion and sedimentation is minimized, and measures should be taken to permanently stabilize disturbed areas of the site as soon as possible.

13.2.6 Lighting, signage and materials. Where lighting is necessary it should be at the lowest level to meet functional needs, activated by motion sensors, fully shielded and of cut off design to meet the Site Lighting standards in Section 12 of the Technical Standards. Similarly, signage should meet functional needs of safety/security and emergency contacts and not include advertising. ~~Materials would ideally be of neutral colors and manufactured with a low “carbon footprint”.~~

~~**13.2.7 Stormwater Management.** A new solar development will be required to comply with the Technical Standards in Section 5 Portland Stormwater Management Standards and Maine DEP Chapter 500 Stormwater Management.~~

13.3 SAFETY STANDARDS

~~**13.3.1 Building Permit.** All solar energy systems require a building permit prior to installation, whatever level of site plan review. All shall be installed by a qualified solar installer.~~



13.3.2 Certification. Solar energy systems shall be designed, erected and installed in accordance with all applicable codes, regulations and standards, with equipment approved under a certification program certified by the US Department of energy or similar. Experimental, homebuilt and prototype models would not be permitted.

13.3.3 Hazardous Materials. The city is concerned about the creation of hazardous waste in the future and requires a statement from the applicant regarding the content of toxic materials (eg cadmium) in the proposed system. Where the panels contain potentially toxic materials, the Operations and Maintenance Plan (for medium and large ground mounted or dual use systems - see below) shall address future disposal.

13.4 MAINTENANCE STANDARDS

13.4.1 Maintenance. Maintenance includes, but is not limited to: cleaning, mowing, painting, structural repairs, integrity of security measures, maintenance of site access adequate for emergency and maintenance services, planned maintenance of fencing, stormwater systems and vegetation/ground cover, plans for cleaning panels and any specific mowing or other regimes to support the wildlife habitat value of the site.

13.4.2 Operations and Maintenance Plan. All minor and major solar energy systems, as defined in Article 6 of the Land Use Code are required to provide an Operations and Maintenance Plan that is prepared and stamped by a licensed Professional Engineer or other licensed Professional as appropriate. The Plan will vary depending on the site, the method of connecting to the grid, and the number and type of panels- but is expected to address the maintenance items listed in 15.4.1 and any operational time tables as relevant, and include the following:

- A. Clarification of the responsible party;
- B. Any maintenance items that are particularly important from a public safety perspective;
- C. An estimate of the life of the project;
- D. What options/actions are anticipated when it has reached the end of its estimated useful life; and
- E. How the disposal of any toxic materials will be handled when the system is dismantled.

14. SUBMISSION AND PLAN REQUIREMENTS

14.1. APPLICATION SUBMISSION REQUIREMENTS

14.1.1. Zoning map and/or text amendment.

The applicant shall submit for review a packet of materials and submissions in a form and content as specified by the Department of Planning and Urban Development to demonstrate compliance of the proposed amendment(s). Such submissions shall contain, at a minimum, the following elements:

A. General submission requirements for all zoning amendment applications.

1. Application form;
2. Applicable fees;
3. Cover letter with detailed project description; and
4. Analysis of the consistency of the requested amendment with the goals, policies and land use plan of Portland's Comprehensive Plan.

B. Additional submission requirements for applications including zoning map amendments.

1. Evidence of Right, Title and Interest demonstrated through documents such as deeds, leases, or purchase and sales agreements;
2. Vicinity Map;
3. Map of Current Zoning and Proposed Map Amendment; and
4. Site Plan of the area to be rezoned on a 24" x 36" sheet, showing existing and proposed improvements, including such features as building, parking, driveways, walkways, landscaping, and property boundaries.

14.1.2. Conditional use.

The applicant shall submit for review a packet of materials and submissions in a form and content as specified by the Department of Planning and Urban Development to demonstrate compliance of the Conditional Use Permit application. Such submissions shall contain, at a minimum, the following elements:

- A. Application form;
- B. Applicable fees;
- C. Cover letter with detailed project description;
- D. Evidence of right, title and interest demonstrated through documents such as deeds, leases, or purchase and sales agreements;
- E. Traffic narrative demonstrating that the volume and type of vehicle traffic to be generated, hours of operation, expanse of pavement, and number of parking spaces required are not substantially greater than would normally occur at surrounding uses or other allowable uses in the zone;
- F. Environmental impacts narrative that demonstrates that the proposed use will not create any unsanitary or harmful conditions by reason of noise, glare, dust, sewage disposal, emissions to the air, odor, lighting, or litter;
- G. Design and operation narrative that demonstrates the design and operation of the proposed use, including but not limited to landscaping, screening, signs, loading, deliveries, trash or waste generation, arrangement of structures, and materials storage will not have a substantially greater effect/impact on surrounding properties than those associated with surrounding uses or other allowable uses in the zone; and
- H. Narrative addressing any use- or zone-specific standards of the Land Use Code.

14.1.3. Major and minor site plans (excluding one- through four-unit residential development).

The applicant shall submit for review a packet of materials and submissions in a form and content as specified by the Department of Planning and Urban Development to demonstrate compliance of the development with the site plan standards listed in Article 14 of the Land Use Code. Such submissions shall contain, at a minimum, the following elements:

A. General submission requirements.

1. Application form;
2. Applicable fees;
3. Project description, including contact information for all Maine Licensed Landscape Architects, Certified Soil Scientists, and Professional Engineers working on the project;
4. Evidence of right, title and interest;
5. Evidence of state and/or federal approvals, if applicable;
6. Written assessment of project compliance with applicable zoning requirements;
7. Written assessment of project compliance with site plan standards;
8. Summary of existing and/or proposed easements, covenants, public or private rights-of-way, or other burdens on the site;
9. Written requests for waivers from the city's site plan or technical standards, if applicable;
10. Evidence of financial and technical capacity; and
11. Boundary survey stamped by a professional surveyor licensed to practice in the State of Maine, drawn to scale and tied into the State Plane Coordinates, NAD 1983, Maine West Zone, as specified in Section 143 of the Technical Manual. A boundary survey of the site, may be waived by the Planning Authority for a review of Master Development Plan, where an existing conditions plan is available. The Boundary Survey requirement shall be met for each phase of development. Major Site Plan applications must meet the minimum Boundary Survey Standards of Appendix 1.

B. Written materials for major and minor site plan applications.

1. Construction Management Plan, including a traffic control plan;
2. A traffic study and other applicable transportation plans in accordance with Section 217 of the Technical Manual, where applicable;
3. A narrative describing any significant natural features, wildlife and fisheries habitats or archaeological sites subject to the provisions of Section 134.6.2 of the land use code that are located on or near the project site and a description of the methods that will be used to protect such areas or sites during and post construction;
- ~~4.~~ Tree survey prepared by a licensed land surveyor, arborist, forester, or landscape architect that identifies the location of existing street trees and the general location of on-site trees and vegetation. The tree survey shall clearly indicate forest type and the location, size, and species of all existing trees 10" diameter at breast height (DBH) or greater on the site and in the right-of-way, and all feature mature trees on the site and in the right-of-way. Sites with a high density of existing trees, the tree survey shall identify all existing shade and ornamental trees that may have been part of a prior landscape scheme for the site and the location, average size and species of groves of trees, and individual trees greater than 16" DBH;
- ~~5.4. A narrative describing site layout, on and off site watershed hydrology, new and existing buildings and facilities, total impervious area, disturbed area and developed area created by the project;~~
- ~~6.5. For Major Site Plans only, Soil Survey prepared to the class required per Sec. in Appendix 3;~~

6. [Stormwater management report detailing the project's stormwater management plan and compliance with Technical Manual section 5 as described below in section 14.4. ~~runoff calculations as described in Section 5 of the Technical Manual;~~](#)

~~7.~~

~~8.7.~~ A narrative describing the development's consistency with applicable City Master Plans;

~~9.8.~~ Evidence of Utility Capacity to Serve;

~~10.9.~~ Estimated types and quantities of solid waste to be generated by the development. For new commercial and industrial development, a description of the estimated amount and type of recyclable material to be generated;

~~11.10.~~ A code summary referencing NFPA 1 and all Fire Department technical standards;

~~12.11.~~ Where applicable, an assessment of the development's consistency with any applicable design standards contained in Section ~~13.4.6.4~~ of the land use code and/or in the City of Portland Design Manual; and

~~13.12.~~ Manufacturer's verification that all proposed HVAC and manufacturing equipment meets applicable state and federal emissions requirements.

C. Plans required for site plan applications

A Plan based upon a standard stamped boundary survey meeting City of Portland standards, stamped by a professional engineer licensed to practice in the State of Maine shall include the following information:

1. Existing and proposed structures, as applicable, and distance from property lines;
2. Approximate location of structures on parcels abutting the site;
3. All streets and intersections adjacent to the site and any proposed geometric modifications to those streets or intersections;
4. Location, dimensions and materials of all existing and proposed driveways, vehicle and pedestrian access ways, and bicycle access ways, with corresponding curb lines;
5. Engineered construction specifications and cross-sectional drawings for all proposed driveways, paved areas, sidewalks;
6. Location and dimensions of all proposed loading areas including turning templates for applicable design delivery vehicles;
7. Existing and proposed public transit infrastructure with applicable dimensions and engineering specifications;
8. Location of existing and proposed vehicle and bicycle parking spaces with applicable dimensional and engineering information;
9. Location of all snow storage areas and/or a snow removal plan;
10. [Proposed buffers and preservation measures for significant natural features, where applicable, as defined in the LID Section of the Technical Manual;](#)
11. Location and proposed alteration to any watercourse;
12. A delineation of wetlands boundaries, using methods prescribed by the U.S. Army Corps of Engineers Wetlands Delineation Manual (1987), and prepared by a qualified professional. Maine State Jurisdictional Wetlands and wetlands as defined by the Shoreland Zoning Ordinance should be identified according to the Natural Resources Protection Act (Title 38 M.R.S.A. Section 480-B) and identified on the plan, including a topographic map at a scale of 1" = 100 feet;
13. Proposed buffers and preservation measures for wetlands, that shows all development activity including lots, common areas, driveways, and building windows in conjunction with wetlands;
14. Existing soil conditions, identifying high permeability soils, and location of test pits and test borings;

15. Existing vegetation to be preserved (including Maine Native and Climate-Resilient Northeastern Native Vegetation in buffer areas), proposed site landscaping, screening and proposed street trees, as applicable;
16. ~~A stormwater management and drainage plan that identifies stormwater treatment measures to be used, post-development drainage areas, drainageways and associated time of concentration, and statement of which stormwater treatment measures will be maintained privately and which are proposed to be offered to the City for acceptance and operation. Stormwater management and drainage plan shall be submitted meeting the application requirements of Appendix 4, in accordance with Technical Manual Section 5 and as further described in Section 14.4 below.~~
17. Limits of disturbance;
18. Grading and drainage plan;
- ~~18-19.~~ Erosion and Sedimentation Control plan in accordance with Technical Manual Section 12.
- ~~19-20.~~ Waters of the State (38 M.R.S. §361-A(7)) and their associated Shoreland Protection areas;
- ~~20-21.~~ Ground water protection measures;
- ~~21-22.~~ Existing and proposed sewer mains and connections;
- ~~22-23.~~ Location of all existing and proposed fire hydrants and a life safety plan in accordance with Section 103 of the Technical Manual;
- ~~23-24.~~ Utility plan depicting the location, sizing, and directional flows of all existing and proposed utilities within the project site and on all abutting streets;
- ~~24-25.~~ Location and dimensions of off-premises public or publicly accessible infrastructure immediately adjacent to the site;
- ~~25-26.~~ Location and size of all on-site solid waste receptacles, including on-site storage containers for recyclable materials for any commercial or industrial property;
- ~~26-27.~~ Plans showing the location, ground floor area, floor plans and grade elevations for all buildings;
- ~~27-28.~~ A shadow analysis as described in Section 14+ of the Technical Manual, if applicable;
- ~~28-29.~~ A note on the plan identifying the Historic Preservation designation and a copy of the Application for Certificate of Appropriateness, if applicable, as specified in ~~Section Article IX,~~ the Historic Preservation Ordinance;
- ~~29-30.~~ Location and dimensions of all existing and proposed HVAC and mechanical equipment and all proposed screening, where applicable;
- ~~30-31.~~ An exterior lighting plan in accordance with Section 8+2 of the Technical Manual;
- ~~31-32.~~ A master signage plan showing the location, dimensions, height, setback, materials, and illumination of all existing and proposed signs; and
- ~~32-33.~~ Location, dimensions and ownership of easements, public or private rights of way, both existing and proposed.

14.1.4. Site plans for small scale residential development (one through four units).

The applicant shall submit for review a packet of materials and submissions in a form and content as specified by the Department of Planning and Urban Development to demonstrate compliance of the development with the site plan standards listed in Article 14 of the Land Use Code. Such submissions shall contain, at a minimum, the following elements:

A. General Submission Requirements

1. Application form;
2. Applicable fees;
3. Project description, including contact information for all Maine Licensed Landscape Architects, Certified Soil Scientists, and Professional Engineers working on the project;

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4. Evidence of right, title and interest;
 5. Evidence of state and/or federal approvals, if applicable;
 6. Written assessment of project compliance with applicable zoning requirements;
 7. Written assessment of project compliance with site plan standards;
 8. Summary of existing and/or proposed easements, covenants, public or private rights-of-way, or other burdens on the site;
 9. Written requests for waivers from the city's site plan or technical standards, if applicable;
 10. Evidence of financial and technical capacity; and
 11. Boundary survey stamped by a professional surveyor licensed to practice in the State of Maine, drawn to scale and tied into the State Plane Coordinates, NAD 1983, Maine West Zone. Applications must meet the minimum Boundary Survey Standards of Appendix 2 for each phase of development

B. Written materials small scale residential applications.

1. Construction Management Plan, including a traffic control plan;
- ~~2. A traffic study and other applicable transportation plans in accordance with Section 17.2 of the Technical Manual, where applicable;~~
- ~~3.2.~~ A narrative describing any significant natural features, wildlife and fisheries habitats or archaeological sites subject to the provisions ~~of Section 14.6.2~~ of the land use code that are located on or near the project site and a description of the methods that will be used to protect such areas or sites during and post construction;
- ~~4.3.~~ Tree survey prepared by a licensed land surveyor, arborist, forester, or landscape architect that identifies the location of existing street trees and the general location of on-site trees and vegetation. The tree survey shall clearly indicate forest type and the location, size, and species of all existing trees 10" diameter at breast height (DBH) or greater on the site and in the right-of-way, and all feature mature trees on the site and in the right-of-way. Sites with a high density of existing trees, the tree survey shall identify all existing shade and ornamental trees that may have been part of a prior landscape scheme for the site and the location, average size and species of groves of trees, and individual trees greater than 16" DBH;
- ~~5.~~ A short narrative describing the project's stormwater management approach and compliance with Technical Manual section 5 as further described in Section 14.4.7 below. ~~narrative describing site layout, on and off site watershed hydrology, new and existing buildings and facilities, total impervious area, disturbed area and developed area created by the project;~~
- ~~6.4.~~ Stormwater runoff calculations as described in Section 5 of the Technical Manual;
- ~~7.5.~~ A narrative describing the development's consistency with applicable City Master Plans;
- ~~8.6.~~ Evidence of Utility Capacity to Serve;
- ~~9.7.~~ Estimated types and quantities of solid waste to be generated by the development. For new commercial and industrial development, a description of the estimated amount and type of recyclable material to be generated;
- ~~10.8.~~ A code summary referencing NFPA 1 and all Fire Department technical standards;
- ~~11.9.~~ Where applicable, an assessment of the development's consistency with any applicable design standards contained in ~~Section 14.6.4 of~~ the land use code and/or in the City of Portland Design Manual; and
- ~~12.10.~~ Manufacturer's verification that all proposed HVAC and manufacturing equipment meets applicable state and federal emissions requirements.

C. Plans required for small-scale residential applications

Site plans shall be based upon the boundary survey and shall show the following information:

1. Existing and proposed structures, as applicable, and distance from property lines;
2. Existing and proposed paved areas, if applicable;

3. Proposed ground floor area and finish floor or sill elevation;
4. ~~For minor residential only, e~~Exterior building elevation drawings (all sides);
5. Location of proposed utilities;
6. Identification and proposed protection measures for any significant natural features, as defined in the LID Section of the Technical Manual;
7. Identification and proposed protection for alterations of watercourses, if applicable;
8. A delineation of wetlands boundaries, using methods prescribed by the U.S. Army Corps of Engineers Wetlands Delineation Manual (1987), and prepared by a qualified professional. Maine State Jurisdictional Wetlands and wetlands as defined by the Shoreland Zoning Ordinance should be identified according to the Natural Resources Protection Act (Title 38 M.R.S.A. Section 480-B) and identified on the plan, including a topographic map at a scale of 1" = 100 feet;
9. Proposed buffers and preservation measures for wetlands, that shows all development activity including lots, common areas, driveways, and building windows in conjunction with wetlands;
10. Soil type;
11. Existing and proposed grades and contours;
12. Location, dimensions and ownership of easements, public or private rights of way, both existing and proposed;
13. Overall stormwater approach including and narrative and plan documenting the proposed L location and types of proposed stormwater management control and treatment measures with corresponding construction details; , along with an identification of what stormwater treatment measures will be maintained privately and which will be offered to the Municipality for acceptance and operation;
14. Location of all snow storage areas and/or a snow removal plan;
15. Basic Soil Erosion and Sedimentation C control plan in accordance with Technical Manual section 12;
- ~~16. Post development drainage areas, drainageways, and associated time of concentration;~~
- ~~17-16.~~ Existing vegetation to be preserved (including Maine Native and Climate-Resilient Northeastern Native Vegetation in buffer areas), proposed site landscaping, screening, and proposed street trees, if applicable;
- ~~18-17.~~ Existing and proposed curb and sidewalk;
- ~~19-18.~~ Location, area, and limits of the proposed site disturbance or alteration;
- ~~20-19.~~ Water of the State and their associated Shoreland Protection areas, if applicable; and
- ~~21-20.~~ Proposed pier, dock, wharf, pier, or slope stabilization in the Shoreland Zone, if applicable.

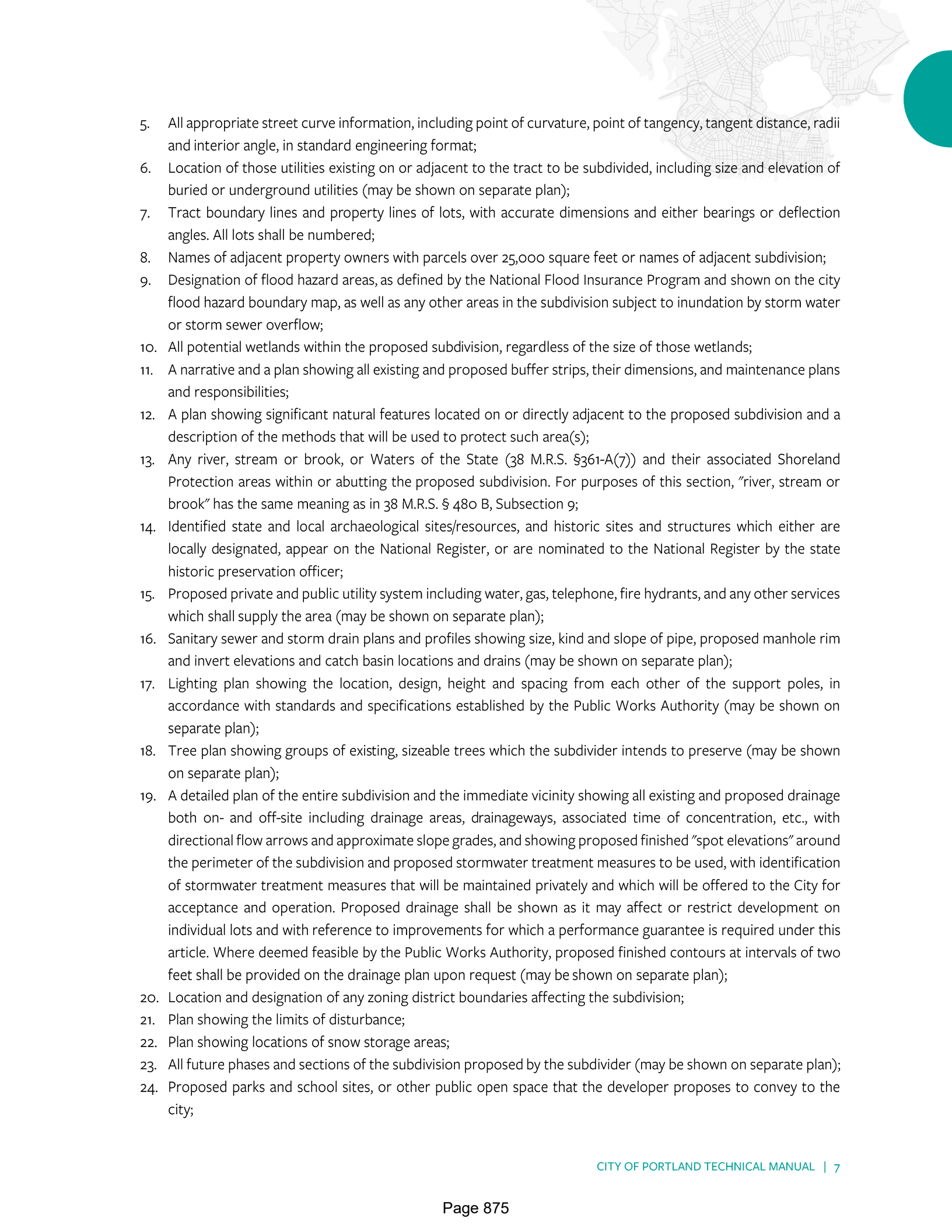
14.1.5. Subdivision.

The applicant shall submit for review a packet of materials and submissions in a form and content as specified by the Department of Planning and Urban Development to demonstrate compliance of the development with the subdivision standards listed in Article 15 of the Land Use Code. Such submissions shall contain, at a minimum, the following elements:

A. Subdivision plat.

The following information shall be shown on the subdivision plat unless otherwise indicated:

1. Date, north point, title and graphic scale. Scale shall not be more than 60 feet to the inch unless lots are more than an acre, but in no event more than 100 feet to the inch;
2. Based on a recent survey by the subdivider, existing contours at two feet intervals or as otherwise required by the Public Works Authority. Existing structures which are to remain will shall be delineated;
3. Names of proposed streets, width of rights of way, and typical cross section reservation, and depth of construction materials;
4. Locations, widths and purposes of other rights of way or easements to be recorded;

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5. All appropriate street curve information, including point of curvature, point of tangency, tangent distance, radii and interior angle, in standard engineering format;
 6. 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);
 7. Tract boundary lines and property lines of lots, with accurate dimensions and either bearings or deflection angles. All lots shall be numbered;
 8. Names of adjacent property owners with parcels over 25,000 square feet or names of adjacent subdivision;
 9. 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 storm water or storm sewer overflow;
 10. All potential wetlands within the proposed subdivision, regardless of the size of those wetlands;
 11. A narrative and a plan showing all existing and proposed buffer strips, their dimensions, and maintenance plans and responsibilities;
 12. A plan showing significant natural features located on or directly adjacent to the proposed subdivision and a description of the methods that will be used to protect such area(s);
 13. Any river, stream or brook, or Waters of the State (38 M.R.S. §361-A(7)) and their associated Shoreland Protection areas 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;
 14. Identified state and local archaeological sites/resources, and historic sites and structures which either are locally designated, appear on the National Register, or are nominated to the National Register by the state historic preservation officer;
 15. 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);
 16. 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);
 17. 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);
 18. Tree plan showing groups of existing, sizeable trees which the subdivider intends to preserve (may be shown on separate plan);
 19. A detailed plan of the entire subdivision and the immediate vicinity showing all existing and proposed drainage both on- and off-site including drainage areas, drainageways, associated time of concentration, etc., with directional flow arrows and approximate slope grades, and showing proposed finished "spot elevations" around the perimeter of the subdivision and proposed stormwater treatment measures to be used, with identification of stormwater treatment measures that will be maintained privately and which will be offered to the City for acceptance and operation. 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);
 20. Location and designation of any zoning district boundaries affecting the subdivision;
 21. Plan showing the limits of disturbance;
 22. Plan showing locations of snow storage areas;
 23. All future phases and sections of the subdivision proposed by the subdivider (may be shown on separate plan);
 24. Proposed parks and school sites, or other public open space that the developer proposes to convey to the city;

25. Names, addresses and stamp or certification, if applicable, of registered professional engineer, subdivider, and owner;
26. 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;
27. Streets and right of way monuments and property line markers;
28. Vicinity sketch (may be shown on separate plan);
29. 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; and
30. 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.

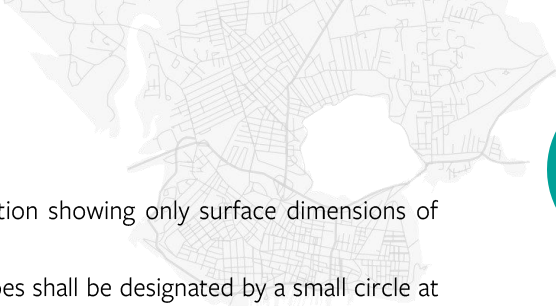
B. Supplemental submissions.

1. 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;
2. When the adequacy of the subdivision's load bearing capacity is in question, the results and supporting data of test borings conducted by a professional engineer registered in the state;
3. When conditions warrant, a program which shall be implemented by the subdivider to control dust, erosion and sedimentation and/or vehicular traffic during construction;
4. Evidence of the applicant's financial capability to carry out all phases of the proposed development;
5. Evidence of technical capacity to undertake the development;
6. Evidence of state and federal approvals, licenses or permits required by law, or the status of applications therefor;
7. Price range of houses that will be built in the subdivision;
8. Traffic impact analysis;
9. High intensity soil survey identifying high permeability soils, if required by the Planning Authority;
10. Types and estimated quantities of solid waste to be generated by the development
11. 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 complement of the project; and
12. Where submission drawings are available in electronic form, the applicant shall submit any available electronic CADD.DXF files with final plans.

C. Recording plat.

The Recording plat shall be an original ink drawing on linen or mylar, or as necessary to be acceptable to the Registry of Deeds, and shall be tied to an accepted street or to a proposed street under construction and bonded to insure construction. The plat shall show the following:

1. Title, date, graphic scale, north arrow, name, signature and registration number or seal of a registered land surveyor licensed in the state, name and address of developer and owner;
2. Tract boundary lines and property lines of lots, with accurate dimensions and either bearings or deflection angles. All lots shall be numbered;
3. All appropriate street curve information, including point of tangency, tangent distance, radii and interior angles, in standard engineering form;

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4. Street names, width of street rights of way and typical cross section showing only surface dimensions of roadway pavement, esplanade and sidewalk reservation;
 5. Street and right of way monuments and property markers. Iron pipes shall be designated by a small circle at the point of installation;
 6. Locations, dimensions and purposes of any easement or right of way;
 7. Purpose for which sites, other than residential lots, are dedicated or reserved; it being understood that any reservations of areas shall be subject to the proper zoning thereof;
 8. Reference to recorded subdivision plats of adjoining platted land by book and page number;
 9. Space for the signatures of the Planning Board and date of approval; and
 10. Where required by 30 A M.R.S. § 4406, the fact that initial approval or subsequent amendment of a subdivision is based in part upon the granting of a variance from any of the applicable subdivision approval standards.

14.2. BOUNDARY SURVEY REQUIREMENTS

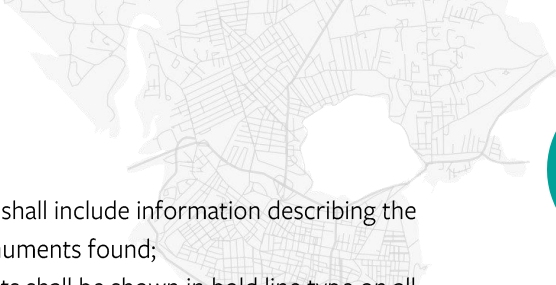
14.2.1. Major and minor site plans (excluding minor residential site plans).

The following items shall be shown on boundary surveys to ensure compliance with City of Portland planning requirements, engineering technical and design standards, and accurate documents are on record for future planning, GIS mapping, and engineering needs:

1. Name and address of the property owner, the applicant and name of the proposed development, and with references to the Deed Book and Page at the Cumberland County Registry of Deeds;
2. North arrow;
3. Scale of not less than one (1) inch to fifty (50) feet;
4. Graphic scale (scale bar);
5. Plan Size: Where possible, it is preferred that plans not exceed a maximum size of 24" x 36";
6. Site Boundaries: The full parcel boundaries must be shown on the survey;
7. Total land area of the site;
8. Zoning district boundaries, if applicable;
9. Required zoning setbacks for the site;
10. Flood Zone statement, where applicable, based on FEMA, FIRM Flood Insurance Rate Maps;
11. Existing and proposed grading contours at intervals of not more than two (2) feet;
12. Existing structures or other improvements on the site and the approximate location of structures or improvements on adjoining lots within fifty feet (50') of the site boundary;
13. Existing streets, right-of-way, restrictions or easements on the site;
14. The location and size of existing utilities servicing the site, including fire hydrants;
15. Significant natural features on or directly adjacent to the site, including wetlands, ponds, watercourses, floodplains, significant wildlife habitats and fisheries or other important natural features as listed in the LID Section of the Technical Manual. Delineation of wetlands boundaries shall use methods prescribed by the U.S. Army Corps of Engineers Wetlands Delineation Manual (1987). Maine State Jurisdictional Wetlands and wetlands as defined by the Shoreland Zoning Ordinance should be identified according to the Natural Resources Protection Act (Title 38 M.R.S.A. Section 480-B) and identified on the plan, including a topographic map at a scale of 1" = 100 feet;
16. Tree survey that identifies the location of existing street trees, the general location of on-site trees and vegetation (including Maine Native & Climate Resilient Northeastern Native Vegetation in General Buffer &

Shoreland Zone Buffer areas). Alternately, Applicants may submit a separate tree survey performed by a licensed land surveyor, arborist, forester, or landscape architect to meet the Preservation of Existing Vegetation standards [of the LID Section](#);

17. Waters of the State (38 M.R.S. §361-A(7)) and their associated Shoreland Protection Areas, if applicable;
18. Predevelopment drainage areas, drainageways, and associated time of concentration, if applicable;
19. Existing soil conditions, with identification of high permeability soils;
20. Vicinity Map showing the relationship of the project to the surrounding area at a scale no greater than one-inch equals 2,000 feet;
21. A revision block with a number and date indicating the revision status. The revision block shall be located in the title block or adjacent to it;
22. Rim elevations of all catch basin and manhole structures;
23. Invert elevations of all pipes entering and/or exiting catch basins and manhole structures;
24. The length, material, diameter, and slope of all storm sewer and sanitary sewer piping;
25. The location, with dimensions from existing structures, at the main line pipe and at the street property line, of all sanitary sewer and storm drain laterals. The Public Services Department Engineering Archives may have this information available for existing infrastructure;
26. Location, size, type of material, and invert elevations of culverts;
27. Location of water lines and valves, gas lines and valves, buried electrical lines, buried communication cables, buried TV cables, telephone and electric manholes, utility hand-hold access boxes, transformer pads, utility and light poles;
28. All curbing and sidewalks, stating type of material;
29. Property Corners: Location and descriptions of all property corners set or found, proposed to be set, and all granite survey monuments set. Where no property markers exist, the City of Portland requires that the property markers be installed and that a licensed surveyor set and confirm proposed building locations on site prior to the issuance of a building permit;
30. Boundary Survey plans, based on State of Maine Professional Licensing Boards' legal requirements, shall bear the seal of a Professional Land Surveyor licensed to practice in the State of Maine;
31. City Vertical Datum: It shall be stated on all plans that the City of Portland established vertical datum of NGVD 1929 is used or manhole rim elevation data is used for all information shown on the plan;
32. All plans shall state the Official City of Portland Benchmark used as supplied by the Public Services Engineering Division Archivist;
33. Distances, bearings, and angles shall be shown on the survey or subdivision plans, shall tie the property into the nearest accepted street line and be tied into established City of Portland survey monuments or record survey data at the Public Services Engineering Archives. Ties shall be considered as an inverse line with a bearing and distance to the nearest second and hundredth of a foot;
34. All current conveyances of lots, parcels, easements, and other forms of right, title, and/or interest shall be shown on both the survey plan (as submitted and as amended), with references to the Deed Book and Page at the Cumberland County Registry of Deeds; and
35. Street Status. The Status of the street shall be shown; IE Accepted City Street, Continued Paper Street, Discontinued City Street, Vacated Paper Street, or new Proposed Street as per the project submission.
36. Prior to starting field surveys and design on a project it is strongly advised to contact the City Engineer's office, Public Services Department, Engineering Division at (207) 874-8846 for information on existing infrastructure, additional requirements, or future projects that may affect the proposed project;
37. Proposed Survey Monument Locations, if required. Granite survey monuments shall be set on one side of the street as directed by the Public Services Engineering Division on the 3-foot offset Lines, as offset towards the

- 
- street. Notes describing monuments found by the Project Surveyor shall include information describing the size, condition, and depth below grade to the top of any buried monuments found;
38. All proposed (if required by Planning) and existing survey monuments shall be shown in bold line type on all utility and site plans;
 39. Projects shall be tied into the Maine State Plane Coordinate System (2-zone projection), West Zone using the NAD1983 Datum and the U.S. Survey Foot as the unit of measure. The survey methods, traverse or GPS observations/methods, geodetic control used, and coordinates of new monuments set shall be stated on the survey and subdivision plans;
 40. When State Plane Coordinates are required, the State Plane Coordinates (to the nearest hundredth of a foot) of two survey property corners shall be displayed for any two property corners in the project which are the farthest distance apart. Please contact the Public Services Engineering Division for assistance in providing Survey Control Points or GPS Base Station Support;
 41. Bearing Basis. When State Plane Coordinates are required, magnetic bearings may be shown on plans submitted, with a note stating that the project was submitted digitally to the City of Portland on State Plane Coordinates, but that the bearings on the plans are magnetic due to survey and boundary retracement considerations. The plan shall show the magnetic declination if magnetic bearings are shown; and
 42. All easements and conveyances proposed as part of the project shall be recorded, upon project approval, at the Cumberland County Registry of Deeds. Easement ownership and responsibility must be stated on the survey plans. Revised plans may be requested if deeds are executed during the progression of the project for easements or other conveyances.

14.2.2. Waiver of boundary survey requirement for major and minor site plans.

The reviewing authority may permit the submission of a partial survey depicting only the to-be- developed portion of the improved lot of record if the development:

- A. Is proposed on an already improved lot of record; and
- B. Comprises less than one (1) acre of said improved lot of record.

14.2.3. ~~Minor residential~~Small scale residential site plans.

The following items and information shall be shown on boundary surveys for minor residential development site plans (as defined in Section 146 of the Technical Manual) to ensure compliance with City of Portland planning requirements, engineering technical and design standards, and accurate documents are on record for future planning, GIS mapping, and engineering needs:

1. Name and address of the property owner, the applicant and name of the proposed development, and with references to the Deed Book and Page at the Cumberland County Registry of Deeds.
2. North arrow.
3. Scale of not less than one (1) inch to fifty (50) feet.
4. A graphic scale (scale bar).
5. Plan Size: Where possible, it is preferred that plans not exceed a maximum size of 24" x 36".
6. Site Boundaries: The full parcel boundaries must be shown on the survey.
7. Total land area of the site.
8. Significant natural features on or directly adjacent to the site, including wetlands, ponds, watercourses, floodplains, significant wildlife habitats and fisheries or other important natural features as listed in the LID Section of the Technical Manual, if applicable. Delineation of wetlands boundaries shall use methods

prescribed by the U.S. Army Corps of Engineers Wetlands Delineation Manual (1987). Maine State Jurisdictional Wetlands and wetlands as defined by the Shoreland Zoning Ordinance should be identified according to the Natural Resources Protection Act (Title 38 M.R.S.A. Section 480-B) and identified on the plan, including a topographic map at a scale of 1" = 100 feet.

9. Tree survey that identifies the location of existing street trees, the general location of on-site trees and vegetation (including Maine Native & Climate Resilient Northeastern Native Vegetation in General Buffer & Shoreland Zone Buffer areas), and meets the tree survey requirements. Alternately, Applicants may submit a separate tree survey performed by a licensed land surveyor, arborist, forester, or landscape architect [to meet the Preservation of Existing Vegetation standards of the LID Section](#).
10. Waters of the State (38 M.R.S. §361-A(7)) and their associated Shoreland Protection Areas, if applicable.
11. Predevelopment drainage areas, drainageways and associated time of concentration, if applicable.
12. Existing soil conditions, with identification of high permeability soils.
13. Flood Zone statement, where applicable, based on FEMA, FIRM Flood Insurance Rate Maps.
14. Existing streets, right-of-way, restrictions or easements on the site.
15. A revision block with a number and date indicating the revision status. The revision block shall be located in the title block or adjacent to it.
16. Property Corners: Location and descriptions of all property corners set or found, proposed to be set, and all granite survey monuments set. Where no property markers exist, the City of Portland requires that the property markers be installed and that a licensed surveyor set and confirm proposed building locations on site prior to the issuance of a building permit.
17. Boundary Survey plans, based on State of Maine Professional Licensing Boards' legal requirements, shall bear the seal of a Professional Land Surveyor licensed to practice in the State of Maine.
18. City Vertical Datum: It shall be stated on all plans that the City of Portland established vertical datum of NGVD 1929 is used or manhole rim elevation data is used for all information shown on the plan.
19. All plans shall state the Official City of Portland Benchmark used as supplied by the Department of Public [Services-Works](#) Engineering Division Archivist.
20. It may be required, especially in areas of old subdivision plans and areas not previously subdivided, that the survey show tie bearings and distances to the nearest street line corner, or to the nearest City of Portland survey monument. Survey tie line precision shall be an inverse line with the bearing to the nearest second and the distance to the nearest hundredth of a foot. This requirement is to aid in adding and verifying the property location on the City of Portland digital GIS basemap.
21. All current conveyances of lots, parcels, easements, and other forms of right, title, and/or interest shall be shown on both the survey plan (as submitted and as amended), with references to the Deed Book and Page at the Cumberland County Registry of Deeds.
22. Street Status: The Status of the street shall be shown; IE Accepted City Street, Continued Paper Street, Discontinued City Street, Vacated Paper Street, or new Proposed Street as per the project submission.

14.2.4. Waiver of boundary survey requirement for ~~small-scale~~ minor residential site plans.

If the proposed house is to be located on a lot within an existing subdivision, approved no earlier than 1968, the final subdivision recording plat may be used, provided that the applicant sufficiently documents all existing encumbrances, and can show that no new encumbrances have occurred since recording of the final plat.

14.3. SOIL SURVEY REQUIREMENTS

14.3.1. Soil survey thresholds and requirements.

The level at which various types of projects must be mapped and guidelines for each intensity level of soil mapping are included in Table 1 and Subsection 2:

Table 14-A: Soil Survey standards by development type

Soil Survey Class	Development Threshold	Minimum Standards
A. High Intensity	- Projects with phosphorous control measures (e.g., ponds, infiltration facilities, and buffer strips) - Subdivisions where any lot is less than 2 acres and on-site subsurface wastewater disposal is proposed.	- Mapping units of 1/8 acre or less - Scale is 1-inch equals 100 feet or larger - Ground control – base line and test pits accurately located under the direction of a registered land surveyor or qualified professional engineer - Base map with 2-foot contour lines with ground survey, or aerial survey with ground control - Signed and stamped by a Maine Certified Soil Scientist
B. High Intensity	- Subdivisions ≥20 acres in area with ≥16 lots that includes: - A lot that is <2 acres in area, and - No on-site wastewater disposal, and - New city streets to be constructed. - Project that results in >3 acres of new non-vegetated surface and/or >20 acres in development area.	- Mapping units of 1 acre or less - Scale is 1 inch equals 200 feet or larger - Ground control – test pits located by means of compass by chaining, pacing or taping from known survey points - Base map with 5-foot contour lines survey, or aerial survey with ground control - Signed and stamped by a Maine Certified Soil Scientist.
C. Medium-High Intensity	- Subdivisions where all lots are >2 acres and on-site subsurface wastewater disposal is proposed. - Golf courses, ski areas and trails, and other multi-use recreational developments exceeding 1-acre. - Any project with the City has determined will require a hydrogeological investigation	- Mapping units of 3 acres or less - Scale is 1-inch equals 500 feet or larger - Ground control – as determined by the mapper - Base map – as determined by the mapper - Signed and stamped by a Maine Certified Soil Scientist.

D. Medium Intensity	All other Major Site Plan and Subdivision developments	Published by Soil Conservation Service for Cumberland County
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14.3.2. Additional standards for soil surveys A-C.

- A. The soil survey shall be designed using the National Cooperative Soil Survey as a guide and the soils classified at the series level. Soil map units will be phases of soil series.
- B. The soil map legend shall include a symbol for each map unit and special symbol for areas too small to be mapped, and the name of each map unit. The soil scientist shall provide a description for each map unit.
- C. The soil(s) within an area enclosed by a soil boundary (map unit) will have a minimum of 75 percent of the soil(s) that provide the name of that map unit or similar soil(s). The total amount of dissimilar soils shall not exceed 25 percent of the map unit.
- D. Soil boundaries must be observed throughout their length and their placement must correspond to changes in soils and/or land forms.
- E. The soil survey must be mapped at a scale as required by the Maine Association of Professional Soil Scientists (MAPSS) Soil Survey Guidelines (available through the Department of Public Services or through the MAPSS website at <http://www.mapss.org/publications.htm>). The map must identify the soil mapping intensity under which the mapping was conducted.
- F. A soil report, completed by a Certified Soil Scientist, shall be submitted with the soil survey and identify all major limitations to the proposed development by the soil characteristics, as well as the SCS Hydrologic Soil Group classification for each soil series.
- G. A Maine Certified Soil Scientist shall accurately map and mark in the field the boundaries of any hydric soils identified by the Soil Survey.

14.3.3. Exceptions to soil survey standards.

- A. Depending on the nature of the proposed development, the requirement for a soil survey map and report may be waived if the Planning Authority determines that a geotechnical report completed within the past 2 years will provide sufficient information.
- B. In the event that greater than 50 percent of a proposed development site is currently developed, an applicant may petition the Planning Authority to accept a lower class of soil survey. The Planning Authority shall review the request, and their decision on the appropriate level of mapping shall be final.
- C. The Planning Authority reserves the right to request the preparation of a high intensity soil map or require more intense hydric soil boundary delineation, when special conditions warrant it.

14.4. Stormwater Management ~~Plan and Drainage Plan~~ Requirements

14.4.1. Plan submission requirements.

Applicants are required to submit a stormwater management ~~and drainage~~ plan as part of development review application and to provide the following submission items to demonstrate compliance with the applicable stormwater management standards:

14.4.2. Report submission requirements.

Applicants are required to submit a stormwater management report including the following information:

- [Introduction and Background](#)
- [Pre-Development Conditions*](#)
- [Post Development Conditions*](#)
- [Proposed Design and Stormwater Standards Compliance Review \(see specific sections below\)](#)
- [Conclusion](#)
- [Post Construction Stormwater Inspection and Maintenance Plan](#)
- [Appendix: Calculations and additional information as specified below.](#)

*The report should describe the proposed site layout, the site's pre and post development watershed hydrology, existing and proposed land cover totals, including impervious and developed area and the project's total disturbed area.

14.4.32. Urban impaired stream standard submission requirements.

Calculations for the Compensation Fee or Mitigation Credit per the tables provided in Chapter 500 Rules and other associated Maine DEP regulations. (Note: The City of Portland has an approved Compensation Fee Utilization Plan (CFUP) and can therefore receive in-lieu-fee payments to meet the UIS Standard.)

14.4.43. Water quality treatment submission requirements.

~~Written narrative demonstrating compliance, Site plans depicting proposed showing grading and drainage~~stormwater quality infrastructure BMP(s) and, ~~site plan showing~~ water quality treatment area(s) with a table showing compliance ~~with requirements listed in Section 5 of the Technical Manual, stormwater quality BMP BMP~~-sizing calculations, construction details, and a Post-Construction Stormwater Inspection & Maintenance Plan per Maine DEP Chapter 500 Appendix B with reporting requirements per Chapter 32 of City of Portland Code of Ordinances. ~~A draft, and a Stormwater Maintenance Agreement in accordance with the requirements of Chapter 32 should be provided with the submission.~~ The submission documents should include confirmation of design from the manufacturer for any proprietary systems.

14.4.54. Flooding standard submission requirements.

~~Site plans and construction details depicting proposed stormwater flood control structure(s). Pre and Post development Sub-catchment~~watershed plans ~~with existing and proposed contours, delineated with sub-catchments, time of concentration~~ flow paths, and ~~all project hydrologic analysis points.~~ Full hydrology computations/model output of ~~Ppre- and Ppost-development conditions, a summary of Ppre- and Ppost-development flowrates depicting compliance with the flooding standard,~~ and a written request for waiver with rationale for waiver as noted in Chapter 500 (as applicable). The submission documents should include confirmation of design from the manufacturer for any proprietary systems.

14.4.65. Minimum stormwater detention volume submission requirements.

Applicable ~~drainage~~ calculations, ~~H&H~~ modeling ~~output~~ information, plans and ~~construction~~ details as required to ~~prove-prove~~ that the detention volume and maximum stormwater outflow control requirements are being met. The submission documents should include confirmation of design from the manufacturer for any proprietary systems. Stormwater detention systems shall be included in the project's overall post construction stormwater inspection & maintenance plan and stormwater maintenance agreement.

14.4.76. Small-scale residential project submission requirements.

Provide plans and details as stipulated in section 14 of the Technical Manual. The provided site plan must depict the [type](#), location and sizing of the proposed residential stormwater management system. [Construction details](#) of the proposed systems must also be provided. A short narrative, with supporting calculation documentation, shall be provided to demonstrate that the project is [in compliance](#) with the [treatment requirements listed in for small-scale residential development per](#) Section 5 of the Technical Manual.

14.5. Wetland Delineation Requirements

All wetlands shall be delineated and mapped according to the U.S. Army Corps of Engineers Wetlands Delineation Manual (1987). Maine State Jurisdictional Wetlands and wetlands as defined by the Shoreland Zoning Ordinance (hereafter referred to as wetlands) should be identified according to the Natural Resources Protection Act (Title 38 M.R.S.A. Section 480-B) and identified on a map.

14.5.1. General plan requirements.

- A. A topographic map with wetlands delineated according to the U.S. Army City of Portland Technical Manual 148 Section 8 - Development in and Adjacent to Wetland Adopted 7/19/10 Corps of Engineers Wetlands Delineation Manual (1987). State of Maine Jurisdictional Wetlands will be identified according to the Natural Resources Protection Act on the same map. The scale should be 1-inch equals 100 feet.
- B. A site plan that shows all development activity including lots, common areas, roads, driveways, and building windows in conjunction with wetlands.

14.5.2. Where wetlands filling or alterations is proposed.

- A. Areas of wetland fill or alteration must be clearly marked and individually identified on the site plan.
- B. A report that contains surface area amounts of wetland fill or alteration for the individually identified fill or alteration locations.
- C. A letter from the Department of Inland Fisheries and Wildlife indicating the wetlands on the site contain no significant or valuable wildlife habitat.
- D. A letter of non-jurisdiction, a copy of permits received from other regulatory agencies (i.e. Maine Department of Environmental Protection of the U.S. Army Corps. Of Engineers) or report from a qualified professional stating that the proposed work will not require a permit from state of local agencies must be submitted for all projects proposing work either in or adjacent to wetlands prior to issuance of a building permit. This includes wetlands not regulated by the City of Portland.

Background and Notes for Future Adopters

The performance standards contained in this document were developed to assist municipalities in addressing the 2022 General Permit for Stormwater Discharges to Municipal Separate Storm Sewer Systems (MS4s), which applies to 30 municipalities in Maine.

An Ordinance Committee and Technical Expert Panel reviewed the elements contained in this document. A white paper describing the rationale for the content of this Maine Model Ordinance for Low Impact Development Strategies (Model Ordinance) is a companion to this document.

Text in black in this document reflects elements that the Authors and Technical Expert Panel agreed were important for implementation of Low Impact Development (LID) in Maine. During comment and reviews, it became apparent that not all elements will be appropriate for implementation in all MS4 municipalities. Therefore, the full Ordinance Committee was polled to assess what elements should be removed from this Model Ordinance, and any elements with a 2/3 majority of votes (one vote per municipality) to remove were removed or made to be optional. Even the resulting recommendations provided in black text may not be consistent with some municipal policies, strategies, or Comprehensive Plans.

Municipalities that elect to adopt elements of this Maine Model Ordinance for Low Impact Development Strategies should review its contents, determine if any elements are inconsistent with existing municipal policies, strategies, or Comprehensive Plans, and make appropriate modifications to their municipality's Model LID Ordinance that is submitted to Maine DEP.

On or before 9/1/2022, each permittee must submit to Maine DEP a Model LID Ordinance for stormwater management on new and Redevelopment sites in accordance with the General Permit for their community.

Maine DEP will post the Model LID Ordinance for public comments and approve it, with or without modifications, on or before 11/1/2022.

Then, MS4 communities must adopt an ordinance that is at least as stringent as the required elements of the Model LID Ordinance by 7/1/2024.

Because municipal ordinances are structured differently, with varying thresholds for development review, submittal requirements, and performance standards, this Maine Model Ordinance for Low Impact Development Strategies does not contain complete language for each section. Instead, it is anticipated the municipalities will embed the required elements in their own Subdivision and Site Plan Ordinances or Regulations. Municipalities may need to adjust some text to be consistent with their own ordinance language.

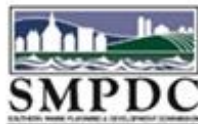
Throughout this Maine Model Ordinance for Low Impact Development Strategies, instructions to Adopters are contained in bounded text boxes in each section.

Optional elements incorporating Maine Climate Council Recommendations or recommendations from other sources are shown in blue in italics. Municipalities may or may not incorporate these elements as they wish.

Some standard ordinance language is shown in green, also in italics. Municipalities may modify this language to conform to their own ordinances and procedures.

Maine Model Ordinance for Low Impact Development Strategies

Final 7/21/2022



Credits: This model ordinance was prepared by SMPDC, CCSWCD, and Integrated Environmental Engineering, Inc. under award CZM NA21NOS4190082 to the Maine Coastal Program from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce. The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the views of NOAA or the Department of Commerce.

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Section 1 Purpose

The Purpose of this Maine Model Ordinance for Low Impact Development Strategies (the “Ordinance”) is to protect, maintain and enhance the public health, safety and general welfare by establishing minimum requirements and procedures to minimize the adverse effects of New Development and Redevelopment on the environment.

Section 2 Definitions

Note to Future Adopters: Review your Subdivision and Site Plan definitions for inclusion of the following definitions:

Buffers – Means all three kinds of buffers listed below unless a subset of the three is specifically called out:

- **Stormwater Vegetative Buffer** – a buffer constructed in accordance with Appendix F in Chapter 500 for the purposes of providing pollutant removal.
- **Shoreland Zoning Setback Buffer** – A buffer required by the municipal Shoreland Zoning Ordinance to protect a water of the State.
- **General Buffer** – a buffer required by the municipal ordinances to provide screening to parcels or developments from light, noise, other parcels, rubbish areas, or other areas.

Chapter 500 – Means Chapter 500 of the Maine Department of Environmental Protection’s Rules (“Stormwater Management Rules”).

Chapter 502 - Means Chapter 502 of the Maine Department of Environmental Protection’s Rules (“Direct Watersheds of Lakes Most at Risk from New Development, and Urban Impaired Streams”).

Climate Resilient Northeast Native Vegetation – Means plants identified as native to the Northeast as identified by the Northeast Regional Invasive Species & Climate Change (RISCC) Network or a Maine Licensed Landscape Architect.

Common Plan of Development or Sale - Means a “subdivision” as defined in Title 30-A M.R.S. §§ 4401 *et seq.* (the Maine Subdivision statute) and in _____ of the Municipality’s code of ordinances.

Note: Common Plan of Dev. Or Sale is same definition as MS4 General Permit.

§§ 4401.4 "Subdivision" means the division of a tract or parcel of land into 3 or more lots within any 5-year period that begins on or after September 23, 1971. This definition applies whether the division is accomplished by sale, lease, development, buildings or otherwise. The term "subdivision" also includes the division of a new structure or structures on a tract or parcel of land into 3 or more dwelling units within a 5-year period, the construction or placement of 3 or more dwelling units on a single tract or parcel of land and the division of an existing structure or structures previously used for commercial or industrial use into 3 or more dwelling units within a 5-year period.

Construction Activity – Means any activity on a Site that results in Disturbed Area.

Discharge - Means any spilling, leaking, pumping, pouring, emptying, dumping, disposing or other addition of pollutants to the Waters of the State, other than groundwater.

Disturbed Area - Means all land areas of a Site that are stripped, graded, grubbed, filled, or excavated at any time during the site preparation or removing vegetation for, or construction of, a Project. Cutting of trees, without grubbing, stump removal, disturbance, or exposure of soil is not considered Disturbed Area. Disturbed Area does not include routine maintenance but does include Redevelopment and new Impervious Areas. “Routine maintenance” is maintenance performed to maintain the original line and grade, hydraulic capacity, and original purpose of the facility. Paving impervious gravel surfaces provided that an applicant or permittee can prove the original line and grade and hydraulic capacity shall be maintained and original purpose of the gravel surface remains the same is considered routine maintenance. Replacement of a building is not considered routine maintenance of the building and is therefore considered Disturbed Area.

Note: Disturbed Area definition is from the MS4 General Permit plus addition of the last sentence to ensure that Redevelopment Projects removing buildings take into account that area as Disturbed Area.

Drainageway – Means the same as “Drainageway” defined in Chapter 500

General Permit – Means the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4) approved October 15, 2020, and modified November 23, 2021, and any amendment or renewal thereof.

High Intensity Soil Survey – Means a Class A survey defined by the March 2009 Guidelines for Maine Certified Soil Scientist for Soil Identification and Mapping, prepared by the Maine Association of Professional Soil Scientists.

High Permeability Soils – Means hydrologic soil groups A or B as determined by on-site soil testing by a certified soil scientist using a High Intensity Soil Survey.

Impervious Area - Means the total area of a Parcel covered with a low-permeability material that is highly resistant to infiltration by water, such as asphalt, concrete, or rooftop, and areas such as gravel roads and unpaved parking areas that will be compacted through design or use to reduce their permeability. Common Impervious Areas include, but are not limited to, rooftops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and macadam or other surfaces which similarly impede the natural infiltration of stormwater. Pervious pavement, pervious pavers, pervious concrete, and under drained artificial turf fields are all considered impervious. *For the purpose of determining whether a Site exceeds the Impervious Area thresholds requiring conformance to LID performance standards, the municipality may exclude these from calculation of Impervious Area if these are designed to be infiltration Stormwater Treatment Measures.*

Note: this definition is the same as Chapter 500 definition of Impervious Area except Chapter 500 has a sentence at the end was removed, saying that the DEP can exclude Pervious pavement from calculation of Impervious Area was modified.

Lot – Means the same as it is defined under the Municipality’s zoning ordinance.

Low Impact Development (LID) - Means a broad approach to site planning that preserves natural resources, processes, and habitat, defines what portions of the Site are suitable for development and then utilizes Stormwater Treatment Measures to manage Runoff from the proposed developed impervious areas. In LID, Stormwater Treatment Measures using natural processes such as vegetated buffers are given preference over constructed treatment Stormwater Treatment Measures. The goals of LID are to minimize the environmental impacts of the development.

Maine Licensed Landscape Architect – Means a person who has an active Landscape Architect license from the Maine Board of Licensure for Architects, Landscape Architects, and Interior Designers.

Maine Native Vegetation – Means vegetation including grass seed mixtures, identified as native to Maine from lists maintained by: US Department of Agriculture Hardiness Zones by the Maine Cooperative Extension, Wild Seed Project, Regional Soil and Water Conservation District, Maine YardScaping Program, or a Maine Licensed Landscape Architect.

Municipal Separate Storm Sewer Systems (MS4) - Means a conveyance or system of conveyances designed or used for collecting or conveying Stormwater (other than a publicly owned treatment works (POTW), as defined at 40 CFR 122.2, or a combined sewer), including, but not limited to, roads with drainage systems, municipal roads, catch basins, curbs, gutters, ditches, human-made channels or storm drains owned or operated by any municipality, sewer or sewage district, Maine Department of Transportation (MDOT), Maine Turnpike Authority (MTA), State agency or Federal agency or other public entity that Discharges to Waters of the State other than groundwater.

Municipality – Means the City/Town of _____.

New Development – Means the same as “New Development or Construction” defined in the General Permit.

The General Permit defines “New Development or Construction” as follows: “New Development or Construction” means activity undertaken to develop property, including but not limited to: the construction of buildings, parking lots, roads and other new impervious surfaces; landscaping; and other activities that disturb land areas. New Development or Construction does not include Redevelopment or maintenance. Permitted municipalities may define New Development more stringently.)

Parcel – Means the same as "Tract or parcel of land" as defined at 30 M.R.S. §4401.6 *et seq.* (or alternately, the municipality may reference their own definition of parcel).

§4401.6 Tract or Parcel of land means all contiguous land in the same ownership, except that lands located on opposite sides of a public or private road are considered each a separate tract or parcel of land unless the road was established by the owner of land on both sides of the road after September 22, 1971.

Permitting Authority - Means the Code Enforcement Officer, Building Inspector, Planning Board, or other official or body authorized by State law or the Municipality’s ordinances to approve Development or Redevelopment of Sites.

Project – Means Construction Activity undertaken for New Development or Redevelopment, both as defined in the General Permit, located on a Site that will Discharge Stormwater to a Small MS4 located partially or entirely within the Urbanized Area.

Protected Natural Resource - Means coastal sand dunes, coastal wetlands, significant wildlife habitat, fragile mountain areas, freshwater wetlands, community public water system primary protection areas, great ponds, or rivers, streams or brooks as defined in the *Natural Resources Protection Act* at 38 M.R.S. §480-B.

Redevelopment – Means the same as “Redevelopment” defined in the General Permit.

The General Permit defines “Redevelopment” as follows: “Redevelopment” means an activity, not including maintenance, undertaken to redevelop or otherwise improve property in which the newly developed area is located within the same footprint as the existing developed area.

Regulated Small MS4 - Means any Small MS4 authorized by the most recent, in-force General Permit or the general permits for the Discharge of Stormwater from MDOT and MTA Small MS4s or state or federally owned or operated Small MS4s including all those located partially or entirely within the Urbanized Area.

Runoff – Means the part of precipitation from rain or melting ice and snow that flows across a surface as sheet flow, shallow concentrated flow or in Drainageways.

Rural Areas – Means those zones or districts designated as follows on the municipal zoning map:

Small MS4 - Means any MS4 that is not already covered by the Phase I MS4 stormwater program including municipally owned or operated storm sewer systems, state, or federally owned systems, such as colleges, universities, prisons, military bases and facilities, and transportation entities such as MDOT and MTA road systems and facilities. See also 40 CFR 122.26(b)(16).

Significant and Essential Wildlife Habitats – Means the areas identified as Significant or Essential Habitats of endangered or threatened species as identified by the Maine Department of Inland Fisheries and Wildlife either on the Beginning with Habitat viewer or in consultation with the Maine Department of Inland Fisheries and Wildlife.

Site - Means the portion of a Lot, Parcel, or Common Plan of Development which is proposed for Construction Activity, including open space, Stormwater Treatment Measures, and Disturbed Area, subject to this Ordinance.

Stormwater- Means the part of precipitation including Runoff from rain or melting ice and snow that flows across the surface as sheet flow, shallow concentrated flow, or in Drainageways. “Stormwater” has the same meaning as “storm water”.

Stream Crossing - Means the mechanism by which any road, sidewalk, or other structural feature of a Site will cross or pass over or through a Water of the State which has a stream bank full width of 6 feet or less.

Stream Crossing designed in accordance with Maine Stream Smart Principles – Means a Stream Crossing designed by a Maine Professional Engineer who has completed the Maine Audubon Society Stream Smart Workshops (Parts I and II), which includes the standards recommended by that program’s stream span, elevation, slope and skew and substrate to promote passage of fish and other organisms and to limit road-damaging flows from extreme weather.

Stormwater Treatment Measure – Means a Stormwater management system or innovative treatment measure as described in Chapter 500 4.c.(3) Types of treatment measures allowed. These measures include wet ponds, vegetated soil filters, infiltration, buffers, or innovative treatment measures. For purposes of this Ordinance these are cumulatively referred to as Stormwater Treatment Measures, or individually referred to as Stormwater Treatment Wet Pond, Stormwater Treatment Vegetated Soil Filter, Stormwater Treatment Infiltration Measure, Stormwater Treatment Buffer, or Stormwater Treatment Innovative Measure.

Suburban Areas – Means those zones or districts designated as follows on the municipal zoning map:

Time of Concentration – Means the same as “Time of concentration” defined in Chapter 500.

Urban Areas – Means those zones or districts designated as follows on the municipal zoning map:

_____.

Urbanized Area - Means the area of the Municipality so defined by the inclusive sum of the 2000 decennial census and the 2010 decennial census by the U.S. Census Bureau.

Waters of the State – See 38 M.R.S. §361-A (7).

Section 3 Applicability

Note to Future Adopters: Thresholds may be updated by inserting the applicability thresholds into applicability sections for Site Plan and Subdivisions. If a municipality has a table of Land Uses, identifying when certain types of reviews are required, a line item should be added specifying that disturbance of one or more acres requires Site Plan review in either *all Zones (optional)* or in the Urbanized Area of the municipality.

The LID Performance Standards contained in Section 7 of this Ordinance apply to any Project for which an application for subdivision or site plan approval is filed with the Municipality on or after 7/1/2024, which results in:

- a. Disturbed Area of one or more acres of land, or
- b. Disturbed Area that is less than one acre of land if the Construction Activity creating Disturbed Area is less than one acre of land and is part of a larger Common Plan of Development or Sale that as approved or amended would create Disturbed Area of one acre or more, *or*
- c. *20,000 square feet or more of new Impervious Area in the watershed of an Urban Impaired Stream or a Lake Most at Risk, both of which are defined in Chapter 502, or*
- d. *5,000 square feet or more new Impervious Area regardless of total Disturbed Area.*

Notwithstanding other provisions in municipal ordinances or state law, requirements to plant “Maine Native Vegetation” or “Climate Resilient Northeast Native Vegetation” shall not be construed as a restriction on the rights of individuals to engage in agricultural practices that are legally protected by the Maine Agriculture Protection Act and the “Right to Food” provision in the Maine Constitution (Constitution, Art. I, §25).

Section 4 Procedure

Note to Future Adopters: No procedure is provided for this Model Ordinance because municipalities will rely on their existing Subdivision and Site Plan procedures for review and approval.

Section 5 Submission Requirements

Note to Future Adopters: Ensure the following elements are contained in your Subdivision and Site Plan submission lists where applicable.

5.1 Project Narrative

The applicant shall provide a Project narrative describing:

- *the overall approach to Stormwater management at the Project Site,*
- *a listing of Stormwater Treatment Measures that will be in use, stating which will be maintained privately and which will be offered to the Municipality for acceptance and operation,*
- *how they have prioritized protection of the sensitive areas from disturbance as required in Section _____, and*
- *a rationale for any waivers from performance standards (see Sections 7 and 10).*

5.2 Project Contacts and Qualifications

The applicant shall provide contact information (i.e., name, company if applicable, phone number, physical address, and email address) as described below:

- Maine Licensed Landscape Architect
- Maine Certified Soil Scientist
- Maine Professional Engineer

5.3 Project Plans Contents

The applicant shall submit Project Plans which shall consist of a graphic representation of the Site at a scale no smaller than 1 inch = 100 feet showing:

- Waters of the State and their associated Shoreland Protection areas
- Protected Natural Resources
- Predevelopment drainage areas, Drainageways and associated Time of Concentration
- High Permeability Soils
- Maine Native and Climate-Resilient Northeastern Native Vegetation in General Buffer areas and Shoreland Zoning Buffer areas

- Significant and Essential Wildlife Habitats
- Limits of disturbance
- Post-development drainage areas, Drainageways and associated Time of Concentration
- Locations of snow storage areas
- Stormwater Treatment Measures to be used

5.4 Submittals related to Infiltration Performance Standard

The applicant shall submit the following to permit review of the Project application under the LID Performance Standards for infiltration:

- Information required by Chapter 500 Section (7)(D)(5)(c) Infiltration Submittals including a plan for use of de-icing materials, pesticides and fertilizers within the drainage area of any infiltration Stormwater Treatment Measures.
- Locations of any Maine Uncontrolled Hazardous Substance Sites, Maine Voluntary Response Action Program sites, federal Resource Conservation and Recovery Act (“RCRA”) Corrective Action sites, or Petroleum Remediation sites on or adjacent to the Site.

Section 6 Approval Standards

Note to Future Adopters: The following text is suggested for inclusion in Findings of Fact to reflect that the LID Performance Standards have been reviewed and adhered to by the applicant. Note that this text is a simple paraphrasing of the intent of the Performance Standards.

The Permitting Authority shall use the following criteria in reviewing applications for Projects for site plan/subdivision review and these criteria shall serve as minimum requirements for approval of the Site application:

- *The proposed Project protects sensitive areas, provides on-site volume control, provides treatment of Stormwater, and minimizes Impervious Areas*

Section 7 Performance Standards

Note to Future Adopters: Review the following elements for addition to your Subdivision and Site Plan Performance Standards under existing Stormwater Management Standards or create a new performance standard titled: Low Impact Development.

To show conformance to the MS4 General Permit Requirements, we have included information about which LID Measure from Table 1 Appendix F of the 2022 MS4 General Permit the performance standard addresses. To assist municipalities in applying these performance standards, we have identified whether the standard could apply to Rural, Urban or Suburban Areas. Municipalities may apply any given standard in an existing Zone for which it is appropriate. For example, the “Time of Concentration” standard may apply in RR1 and RR 2 areas, but not in one or more existing zones in downtown cities where impervious area is already at 100%. Similarly, municipalities may apply the “Rural Open Space” standard to their RR1 (or equivalent) zone and the “Suburban Open Space” standard to their RR2 (or equivalent) zone. It is intended that municipalities will determine which of the zones or districts shown on their zoning maps are included in each of the Rural, Urban or Suburban Area categories, and will list those in the Definitions in Section 2.

Regarding Maintenance of Stormwater Treatment Measures, MS4 communities maintain a Post-Construction Runoff Control Ordinance which automatically covers any Stormwater Treatment Measures required under the LID performance standards. Therefore, no Maintenance requirements are contained here. Non-MS4 communities implementing these LID strategies should also adopt the Post Construction Maintenance Ordinance.

Performance Standard	LID Measure(s) addressed (shown only for informational purposes)	Where Standard Applies within Urbanized Area
Prioritize the protection of the following sensitive areas as listed below (highest priority listed first) by not disturbing land in these areas: i. Waters of the State and associated shoreland protection areas. ii. Protected Natural Resources iii. Predevelopment Drainageways iv. High Permeability Soils v. Maine Native Vegetation and Climate Resilient Northeastern Native Vegetation in General Buffer areas and Shoreland Zoning Setback Buffer areas vi. Significant and Essential Wildlife Habitats	1. Minimize Site Clearing 2. Protect Natural Drainage System 4. Minimize Impervious Area 5. Minimize Effect of Impervious Area 6. Minimize Soil Compaction	Rural, Suburban and Urban

Note that the applicant will need to provide a description in their narrative of how they have prioritized these areas for protection from disturbance. These areas may be counted toward the open space requirements. Exception: Removal of Maine Native Vegetation and Climate Resilient Northeastern Native Vegetation that is diseased or in poor condition is allowed.		
Project Plans shall depict limits of disturbance. Limits of disturbance shall be established on-site prior to disturbance using flagging, fencing, signs or other means to provide a clear indication.	1. Minimize Site Clearing 6. Minimize Soil Compaction	Rural, Suburban and Urban
<i>Optional: Rural New Developments shall preserve at least 40% of the Site as open space and Suburban New Developments shall preserve 25% of the Site as open space.</i> <i>Exception: Municipalities may allow exceptions per their municipal ordinances. For example, applicants may be allowed to pay a fee-in-lieu which is dedicated to open space or may provide open space in an alternate locations within the same watershed.</i>	1. Minimize Site Clearing 4. Minimize Impervious Area 7. Minimize Lawns and Maximize Landscaping that Encourages Runoff Retention.	Rural and Suburban
Stream Crossings for Waters of the State shall be designed in accordance with Maine Stream Smart Principles to preserve natural pre-development Drainageways. Exception: Stream Crossings over portions of streams that are artificially channelized are not subject to this standard.	2. Protect natural Drainage System 3. Minimize Decrease in Time of Concentration	Rural, Suburban and Urban
Rural and Suburban Projects shall preserve the natural pre-development Drainageways on the Site by using the natural flow patterns and pathways for the post-construction drainage system. Exceptions are allowed if the Time of Concentration for a predevelopment Drainageway is the same as or shorter than the post-development Drainageway. Exception: The applicant may submit an “alternative analysis” which demonstrates that this performance standard is impracticable.	2. Protect Natural Drainage System 3. Minimize Decrease in Time of Concentration	Rural and Suburban
Projects that have a Disturbed Area of one acre of land or more shall include Stormwater Treatment Measures in	2. Protect Natural Drainage System	Rural, Suburban and Urban

accordance with Chapter 500 Section 4.C General Standards, 4.C.(2) Treatment requirements, 4.C.(3) Types of treatment measures allowed, and 4.D Phosphorus standard (for lake watersheds only) and additionally: • Individual Stormwater Treatment Measure may not treat more than one acre of Impervious Area • Vegetation used in Stormwater Treatment Measures and General Buffers shall be Maine Native Vegetation or Climate Resilient Northeastern Native Vegetation Note that although Chapter 500 General Standards and Phosphorus standard have higher thresholds for developed and Impervious Area, these standards apply to sites within the Urbanized Area of the Municipality at a lower threshold.	5. Minimize Effect of Impervious Area 7. Minimize Lawns and Maximize Landscaping that Encourages Runoff Retention. 10. Stormwater Quality Treatment and Retention Requirements	
Infiltration Standard: Provide volume control on-site (through infiltration or storage) in accordance with the following: • Volume to be controlled = (total area of Impervious Area after New Development and Redevelopment – total area that existed before New Development and Redevelopment) x Rd • Where Rd is the groundwater recharge depth based on the USDA/NRCDS hydrologic soil group as follows: Rd = 0.40 inches or rain for type A soils, 0.25 inches of rain for type B soils, 0.10 inches of rain for type C soils and 0 for type D soils • Stormwater Treatment Measures with liners may not be used to meet the volume requirement via storage. • Restrictions and requirements identified in Sections D(2) through D(4) of Appendix D Infiltration basins, drywells, and subsurface fluid distribution systems; of Chapter 500 apply. Exception: For Sites in Rural and Suburban areas where infiltration will disrupt the preservation of the predevelopment Drainageways, an exception from the infiltration standard will be allowed. Exception: If any Uncontrolled Hazardous Substance Sites, Voluntary Response Action Program sites, RCRA Corrective Action sites, or Petroleum Remediation sites	2. Protect the Natural Drainage System 3. Minimize the Decrease in Time of Concentration 5. Minimize Effect of Impervious Area	Rural, Suburban and Urban

are on or adjacent to the Site, the Site does not need to meet the volume control standard. Exception: Municipalities may allow infiltration on an alternate site within the same watershed in-lieu of on-site infiltration.		
Minimize Impervious Area and the Effect of Impervious Area from road runoff: - At least 70% of roadway Runoff shall be directed into a Stormwater Treatment Measure <i>Optional:</i> <i>Dead-end streets shall be no longer than 1000 feet (Rural and Suburban Areas).</i> <i>Dead-end roads shall be constructed to provide a hammerhead (when less than 200 feet), or a tear drop cul-de-sac turn-around with a center that is vegetated, used for open space, and/or a Stormwater Treatment Measure as described below (Rural and Suburban Areas).</i> <i>Cul-de-sac roads shall be constructed with the center island used for Stormwater Treatment Measures or vegetation unless type A or B soils are present in the center, in which case this area should be used to promote natural infiltration on-site.</i>	4. Minimize Impervious Area 5. Minimize Effect of Impervious Area	Rural, Suburban and Urban
Minimize Impervious Area from parking areas: - Vehicle parking stall dimension standard: maximum of 9-foot x 18-foot stall Exceptions for public safety <i>Optional: (not fully developed as part of this ordinance)</i> <i>Establish "In-Lieu of" Parking programs with the following components:</i> <i>Fee in-lieu of parking</i> <i>Car-share in-lieu of parking</i> <i>Transit in-lieu</i> <i>Bike/pedestrian infrastructure improvements</i> <i>Note that the in-lieu program may optionally be tied to incentives, such as density or height bonuses.</i> <i>Establish shared parking provisions</i>	4. Minimize Impervious Area	Rural, Suburban and Urban

<i>Minimum parking requirements shall be based on reasonable parking needs instead of peak use, and maximum parking limits should be established for appropriate areas. Establish maximum parking requirements at current minimum standards.</i> <i>Reductions in parking volume requirements should consider presence of transit routes within ¼ mile, existing on-road parking, and transportation/parking demand management plan for Sites over a certain size.</i> <i>Commercial parking space size shall be a maximum 9-foot width and an 18-foot length with an allowance for reduction in length at a 1 to 1 ratio for available overhang (1 foot reduction allowed if 1 foot overhang possible).</i> <i>Parking lot travel aisles shall be a maximum of 22 feet wide.</i> <i>Require garages/under above building where appropriate, optionally tied to a density or height bonus</i>		
Runoff from on-site roofs, sidewalks, and peak-use overflow parking Runoff shall be directed into Stormwater Treatment Buffers or Stormwater Treatment Infiltration Measures.	5. Minimize Effect of Impervious Area 8. Provide Vegetated Open-Channel Conveyance Systems	Rural, Suburban and Urban
Construction equipment movement, laydown areas and parking shall be restricted to the Disturbed Area. Areas to be vegetated shall be tilled and the soils amended with organic matter as needed based on the results of soil tests.	6. Minimize Soil Compaction	Rural, Suburban and Urban
Snow storage areas shall be depicted on site plans. The location of snow storage areas in Stormwater Treatment Measures and Shoreland Zoning Setback Buffers shall be prohibited.	5. Minimize Effect of Impervious Area	Rural, Suburban and Urban
<i>Optional Standard: Require the implementation of precipitation storage (e.g., cisterns or rain barrels) for later reuse for landscaping.</i>	9. Rainwater Capture and Reuse	Rural, Suburban and Urban

Note to Future Adopters: By embedding the performance standards into Site Plan and Subdivision Performance Standards, those ordinances' enforcement provisions, Severability and Conflicts and Waivers provisions will automatically cover the LID Performance Standards. No additional enforcement requirements need apply, so those provisions have not been included here.

Section 8 Enforcement

Section 9 Severability and Conflicts

Section 10 Waivers

Section 11 Authority

The Municipality enacts the Ordinance for Low Impact Development Strategies provisions pursuant to Maine Constitution Art. VIII, Part Second, §1 and 30-A M.R.S. §§3001 et seq. (municipal home rule authority), 38 M.R.S. §413 (the Wastewater Discharge Law), 33 USC §§1251 et seq. (the Clean Water Act), and 40 CFR Part 122 (US Environmental Protection Agency's regulations governing the National Pollution Discharge Elimination System (NPDES)). The Maine Department of Environmental Protection, through its promulgation of the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems has listed the Municipality as having a Regulated Small MS4; under this General Permit, listing as a Regulated Small MS4 necessitates enactment of elements of this Ordinance as part of the Municipality's Stormwater management program in order to satisfy the minimum control measures for Post Construction Stormwater Management in New Development and Redevelopment.



TO: Gregg Wood, Wastewater Licensing Program Manager
Bureau of Water Quality Management
Maine Department of Environmental Protection

FROM: Department of Public Works and Department of Planning and Urban Development
City of Portland, ME

RE: MS4GP: City of Portland – Draft Low-Impact Development Regulatory Mechanism

DATE: September 1, 2022

Dear Mr. Wood,

Thank you, in advance, for your review and consideration of the Low-Impact Development Program (LIDP) developed by the City of Portland (City) in partial compliance of the requirements of the Municipal Separate Storm Sewer General Permit (MS4GP), #MER04100 issued October 15, 2020, and the Final Permit Modification, issued November 23, 2021. The LIDP in Portland strives to ensure development within the City follows low-impact development (LID) goals and objectives to minimize potential negative effects to the natural environment.

The City has embraced the tenets of LID for many years, prioritizing protection of our natural resources in guiding documents such as *Portland's Plan*, the comprehensive plan, *One Climate Future*, our climate action plan, and the Integrated Plan. Further, the City has operationalized LID principles through the requirements for site plan review in both the City's Code of Ordinances and supporting regulatory documents, such as the City of Portland *Technical Manual*. In many ways, the City has been a leader in real-world low-impact development programs, enacting development standards that support tree preservation, reduce impervious surfaces, and embrace green infrastructure, and establishing a stormwater service charge and credit program which incentivizes the reduction of impervious area, promotes stormwater management and allows for a comprehensive approach to stormwater upgrades throughout the City. The City is grateful for the opportunity to refine and advance our practices and standards around LID through this comprehensive program which will help staff and developers alike in realizing the best path forward for development and redevelopment while protecting our fragile water resources.

The City recognizes and applauds the work of Southern Maine Planning and Development Commission, Cumberland County Soil and Water Conservation District, and Integrated Environmental Engineering, Inc. in developing the Maine Model Ordinance for Low Impact Development Strategies (Model Ordinance) under award CZM NA20NOS4190064 to the Maine Coastal Program from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce. This Model Ordinance has been an invaluable resource while considering the City's LIDP in the context of the MS4GP. Given the complexity



of the City's existing Code of Ordinances, the fact that many of the recommended strategies and standards are already in place within the City's regulatory tools, and the current effort to streamline and reorganize the City's Code of Ordinances and *Technical Manual*, the City will be employing a hybrid, multi-prong approach to implementing and enforcing the LIDP required by the MS4GP.

The City of Portland Low-Impact Development Program will:

- Be referenced in the appropriate City Ordinance (Chapter 14 Land Use and/or Chapter 32 Stormwater) so that the LIDP is integrated, by code, in the development review process;
- Include a set of Low-Impact Development Technical Standards (Table 1) within the City of Portland *Technical Manual* (including revisions to existing standards, as necessary) based on Appendix F of the MS4GP (Attachment 1) as provided in the Final Permit Modification and based on the Maine Model Ordinance for Low Impact Development Standards (Attachment 2);
- Integrate LID-related materials within site plan applications to help guide development projects through the LID planning process; and
- Integrate LID standards into the development review process to ensure LID is employed to the maximum extent practicable for new and redevelopment projects within the City.

Authority

The City of Portland will enact the LID Technical Standards based on Table 1 herein pursuant to 30-A M.R.S. §§3001 et seq. (municipal home rule ordinance authority), 38 M.R.S. §413 (the Wastewater Discharge Law), 33 USC §§1251 et seq. (the Clean Water Act), and 40 CFR Part 122 (US Environmental Protection Agency's regulations governing the National Pollution Discharge Elimination System (NPDES)). The Maine Department of Environmental Protection, through its promulgation of the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems has listed the City of Portland as having a Regulated Small MS4; under this General Permit, listing as a Regulated Small MS4 necessitates enactment of a regulatory mechanism as part of the City of Portland's Stormwater Management Program in order to satisfy the minimum control measures for Post-Construction Stormwater Management in New Development and Redevelopment.

Purpose

The purpose of these LID Technical Standards is to protect, maintain, and enhance public health, public safety, and general welfare by establishing minimum requirements and procedures to minimize the adverse effects of development and redevelopment on the environment.



Applicability

The LID Technical Standards in the City of Portland will apply to any development applying for Site Plan approval after 6/30/2024 which has stormwater discharges to the Regulated Small MS4 within the Municipality's Urbanized Area and results in:

- Construction Activity with Disturbed Area of one or more acres of land, or
- Construction Activity with Disturbed Area that is less than one acre of land if the Construction Activity creating Disturbed Area less than one acre of land is part of a larger Common Plan of Development or Sale that as approved or amended would create Disturbed Area of one acre or more.

In considering the LID Program, the City of Portland may explore varying applicability frameworks which recognize the differing contexts for greenfield sites, redevelopment sites, and various urban settings. Any thresholds will be at least as stringent as the above.

Technical Standards

The City's Land Use Code provides the authority and structure under which LID strategies will be required for development projects within the City. The existing *Technical Manual*, incorporated by reference into the Land Use Code, will provide the detailed technical standards against which development projects will be reviewed during the site plan review process. This framework is already in place for technical standards such as stormwater and sewer standards, erosion and sedimentation control standards, and transportation design standards. This structure is familiar to staff and to the development community and will establish the LIDP as a measurable and enforceable program.

The LID Technical Standards to be included in the City of Portland *Technical Manual* will be based on those standards included in the table below. As noted above, some of these standards currently exist within the *Technical Manual*, and will simply require reorganization and refinement. Others represent new policy. In the event of any conflicting regulation – whether municipal, state, or federal – the more stringent standard shall apply.



TABLE 1: LID Technical Standards for Development

Guiding Principal	Applicability	Technical Standard
Minimize Site Clearing & Protect Natural Resources	All development projects	Project must prioritize protection of: - Waters of the State and associated shoreland protection areas - Protected natural resources - Predevelopment drainage pathways - High permeability soils - Maine Native and Climate-Resilient Northeastern Native Vegetation in General Buffer areas and Shoreland Zoning Setback Buffer areas - Significant and Essential Wildlife Habitats
	All development projects (submission requirements, <i>Technical Manual</i> Section 16)	Site Plan application documents shall show any/all resources listed above.
	All development projects (submission requirements, <i>Technical Manual</i> Section 16)	Construction documents shall depict limits of disturbance. Limits of disturbance shall be established on-site prior to disturbance using flagging, fencing, signs or other means to provide a clear indication.
	Projects using vegetated buffers for stormwater treatment, projects that require a percentage of open space (OS)	(OPTIONAL) Projects with OS requirements provide conservation easements (legally enforceable, tied to deed) protecting OS
Protect Natural Drainage System & Maintain or Improve Pre-Development Time of Concentration	Any greenfield site development and for redevelopment projects with existing or proposed crossings of the main stem of urban impaired streams.	Protect Waters of the State (in order of priority): - avoid any crossing or modification of Waters of the State; - if avoidance isn't feasible, any Stream Crossings for Waters of the State shall use Maine Stream Smart Principles to preserve natural pre-development drainage pathways.



	Exception: Stream crossings over portions of streams that are artificially channelized are not subject to this standard.	
	All development projects	Protect waters of the state, natural drainage ways, and intermittent streams by (in order of priority): 1) avoid any modification of or to natural drainage channel; 2) recreate natural drainage channel (above-ground, naturalized) if avoidance isn't feasible; 3) use a culvert, meeting DEP standards, for drainage ways and intermittent stream only if open channel isn't feasible.
Minimize Impervious Area or Effect of Impervious Area	All development projects	Individual Stormwater Treatment Measure may not treat more than 1-acre of impervious cover
		Projects shall minimize impervious surface by minimizing off-street parking, minimizing drive aisle widths, and using compact parking provisions to the extent practicable.
Minimize Soil Compaction	All development projects	Construction equipment movement, laydown areas and parking shall be restricted to the disturbed area.
		Areas to be vegetated shall be tilled and the soils amended with organic matter as needed based on the results of soil tests.
		Areas of proposed revegetation, and which are to be used toward stormwater runoff calculations, shall be tilled according to the DEP BMP Manual, and permanently protected by conservation easement or other equivalent deed restriction.
		Areas of proposed infiltration BMPs should be roped off and protected from construction activity so as to not compact soils. This should be shown on ESC plan.
Minimize Lawns and Maximize Landscaping that	All development projects	Projects must meet Landscape Preservation Standards as specified in the City's <i>Technical Manual</i> Section 4. In meeting those



Encourages Stormwater Retention		standards, priority shall be given to preservation of tree canopy with naturalized, unmanicured vegetated buffers.
		Vegetation used in Stormwater Treatment Measures shall be Maine Native or Climate-Resilient Northeastern Native Vegetation
Stormwater Quality Treatment and Green Infrastructure (including Vegetated Open-Chanel Conveyance Systems)	All development projects	City of Portland and Chapter 500 stormwater requirements as specified in the City's <i>Technical Manual</i> Section 5 apply. In meeting these standards, priority shall be given to vegetated open-channel conveyance systems and green infrastructure treatment devices.



Review and Approval Procedures

Guidance for Applicants

The City recognizes that for the LIDP to be most effective, LID strategies must be part of the initial phases of project planning for development sites within the City. Before a project is laid out for a site, the development team must first identify and flag for preservation any areas on site affecting site hydrology, such as high-permeability soils, large tracts of mature vegetation, natural waterways, or wetlands. The City will develop a comprehensive checklist or other guidance to assist development teams. The City will also modify the overall submission requirements in Section 16 of the *Technical Manual* to ensure that all LID-related documentation is submitted as part of the site plan application package.

Additionally, the City will ensure that the LID Technical Standards are broadly shared prior to project submittal and will discuss the LID requirements with project proponents during pre-application meetings. This will allow development projects to modify plans and designs, if needed, to meet the LID Technical Standards prior to site plan application submission. City staff will also be available for consultation with development teams by request.

Review Mechanism for Review Staff

The City also understands that enforcement of LID Technical Standards consists of ensuring that development projects are meeting the Technical Standards to the maximum extent practicable prior to and as a condition of project approval. This process will be the responsibility of the City staff reviewing the project during site plan review. In order to provide an efficient yet comprehensive review, and to ensure that the review will be consistent among staff, the City will develop and employ a structured review process for LID Technical Standards. The structured review process will include an evaluation of the suitability of each standard for their site and the project's proposed method of meeting the standard, and may include checklists and/or scoring criteria.

Timeline

The City of Portland will have all components of the LIDP in place prior to the July 1, 2024 deadline as stated in the MS4GP and Final Permit Modification. To meet this deadline, interim project milestones are proposed as follows (subject to change):

September 1, 2022	Establish proposed framework for LIDP and submit to MEDEP
June 2023	Draft of LID Technical Standards <u>and</u> Land Use Code amendments (if needed) to City staff for review and comment
September 2023	Finalize LID Technical Standards and Land Use Code amendments (if needed)
November 2023	LID Technical Standards and Land Use Code amendments brought to Planning Board and City Council (as needed) for review and approval



The City of Portland looks forward to DEP's thoughts and comments on the comprehensive Low-Impact Development Program proposed herein. We very much appreciate your careful consideration and look forward to hearing from you and working with you as we move toward full implementation by July 1, 2024.

Kind regards,

William C. Boornazian, P.E.
Water Resources Manager

Enclosures: Attachment 1: Appendix F from the MS4GP
 Attachment 2: Maine Model Ordinance for Low-Impact Development Standards

CC: Jodie W. Keene, Stormwater Program Coordinator, DPW
 Doug Roncarati, Stormwater Program Coordinator, DPW
 Ben Pearson, Compliance Section Coordinator, DPW
 Nell Donaldson, Director of Special Projects, PUD
 Jen Thompson, Acting Corporation Council
 Holliday Keen, DEP

Guidance

Low Impact Development (LID)

LID is a process of developing land that mimics the natural hydrologic regime. LID begins at the design phase of a new development or redevelopment, incorporating planning techniques that minimize site clearing and impervious surfaces to reduce impact and stormwater runoff generated from the site. By reducing the volume of water leaving a site, the pollutant loading is also reduced. Other techniques that will reduce the volume and peak flow rates of runoff from the development are then incorporated throughout the site. LID is an effective tool that reduces pollutant loading, thermal impacts, stream flows, and minimizes stream channel erosion.

LID is not a rigid set of standards, or a one size fits all approach and has many benefits:

- ✓ **Benefits to the Developer:** The owner and developer will see reduced costs for land clearing and grading, infrastructure, and stormwater management while seeing an increased aesthetic value in the development.
- ✓ **Benefits to the Municipality:** The local government and community will benefit from reduced infrastructure maintenance costs and reductions in property damage from flooding, while having more green space, protected natural resources, and increased water quality.
- ✓ **Benefits to the Environment:** The hydrologic cycle is preserved; streams are less prone to erosion, and stream flows are maintained which benefits fish and wildlife.

LID goals and objectives shall be incorporated into the site planning process as early as possible. The following steps serve as a guideline to use in the planning stage:

- ✓ Identify and preserve areas that will affect the hydrology of the site. Features that should be protected are sensitive areas and natural resources including down gradient waterways.
- ✓ Minimize site disturbance and impervious areas with an alternative layout for the development within the constraints of local development criteria.
- ✓ Minimize the impervious surfaces directly connected to drainage conveyance systems to reduce the time of concentration.
- ✓ Break the site into smaller drainage areas that can be handled using basic LID techniques.

PLANNING FOR LID

Minimize Site Clearing: Development typically involves new impervious surfaces such as roads and buildings, and landscaped areas for lawns. Avoid developing soils with high permeability where possible. Protect areas that are sensitive to disturbance and that will sustain groundwater recharge and reduce runoff. For example, developing a vegetated, tight clay soil area will have less impact on stormwater runoff than developing a forested area on sandy soils. Once the sensitive areas have been identified, the layout of the development should be aligned with the conservation of these areas.

Minimize Impervious Areas: The traffic distribution network (roadways, sidewalks, driveways, and parking areas) is generally the greatest source of site imperviousness and should be the focus for reducing impervious area. The following techniques may be considered, where appropriate and permitted by local land use codes and/or ordinances:

Alternative Roadway Layout: Alternative roadway layouts can be used to reduce total pavement, while allowing for the same amount of development. Cluster development, in accordance with and as allowed by local ordinances can decrease imperviousness.

- ✓ Narrow Road Sections: The width of pavement can be reduced by including the primary driving surface, a pervious base for the shoulders, and ditch drainage swale in place of curb and gutter as deemed appropriate. Use of this technique should be evaluated in accordance with site-specific conditions.
- ✓ Sidewalks: Sidewalks can be reduced to one side of the road or eliminated. The use of pervious materials can reduce runoff.
- ✓ On-Street Parking: Reduction to one side or elimination of on-street parking has significant potential to reduce overall site imperviousness. On-street parking may be a desirable practice in highly urbanized areas to reduce on-site disturbance.
- ✓ Rooftops: The number and size of buildings dictates the impervious area associated with rooftops. Vertical construction and/or the use of green roofs can minimize imperviousness.
- ✓ Driveways: Minimizing paved or impervious driveway area can be accomplished through the design of narrower driveways or by reducing the length of driveways. Shared driveways can also reduce imperviousness, where appropriate. In addition, the use of pervious materials can minimize runoff.

Minimize Connected Impervious Areas: The impacts from impervious surfaces can be minimized by disconnecting these areas from piped drainage networks and by managing runoff at the source.

- ✓ Paved driveways and roads can be directed to stabilized, vegetated areas.
- ✓ Flows from large, paved surfaces can be broken up to facilitate on-site management of smaller flows. Breaking flows up allows the flows to be directed to vegetation as sheet flow.
- ✓ LID techniques can be dispersed throughout the development, such as at individual house lots to obtain the most benefit. They can be incorporated into the landscaping of the property to provide a natural treatment system.

Maintain Time of Concentration: When development occurs, the time of concentration (T_c) is often shortened due to the impervious area, causing greater flows over a shorter period of time. LID practices can maintain the pre-development T_c by:

- ✓ Minimizing land disturbance,
- ✓ Detaining flows on site,
- ✓ Increasing the flow length,
- ✓ Increasing the surface roughness of the flow path,
- ✓ Creating flatter slopes, and/or
- ✓ Disconnecting impervious areas, which will decrease their travel rates.

Manage Stormwater at the Source: The impact from a development can be mitigated at the source by reestablishing a more natural hydrologic cycle that sustains a clean stream base flow. Typically, the most economical and simplistic stormwater management strategy is achieved by controlling runoff at the source with a variety of small treatment structures that will result in the reduction of stormwater discharge and more flexibility in the site design.

Soil Considerations:

Minimize Compaction: Compaction reduces the natural infiltrating ability of soils; thus, avoiding disturbance by heavy equipment can benefit infiltration. Designing development to situate impervious surfaces and development disturbances on the more impermeable soils of a site can leave more pervious soils to continue infiltrating runoff.

Increase Organic Content of Soils: When constructing many of the LID vegetated techniques, such as filtration Best Management Practices (BMP), a quality topsoil can optimize pollutant removal. In this case, the soil bed should consist of organic content as described in the relevant filtration BMP. This highly organic layer traps contaminants, absorbs more runoff and provides a medium for biological activity that helps break down pollutants. Planting soil provides a healthy growing medium for vegetation by encouraging strong root growth. In addition, microbes found in healthy soils transform nutrients for plant growth. Compost or other organic amendments can be added at the site preparation level, typically by the truckload. It is also available for little or no cost from many community leaf compost programs. For rain gardens and bioretention areas, organic content can also be valuable in absorbing and retaining moisture for plant life, filtering pollutants, and providing an active layer for microorganisms to reside and reproduce. A healthy microorganism population is key to the decomposition of many pollutants, whether in the home rain garden or in a parking lot.

- Avoid Pesticides/Herbicides: Healthy soil is alive with microorganisms that decompose and inactivate pollutants, but these may be killed by excessive chemicals. Although the soil microorganisms are not typically the target of these chemicals, many of them may fall victim to the use of pesticides. Additionally, insect species that prey on pests are also killed by pesticides. Since the predatory species tend to have slower reproduction than the pest species, a natural defense against insect pests may be lost.

LID TECHNIQUES

Many LID techniques rely on infiltration, retention, and evapotranspiration of stormwater to reduce runoff. When infiltration is not a possibility, the initial planning techniques described above should be the primary focus, followed by the use of small disconnected underdrained systems that rely on soil and vegetation to retain runoff. Examples of LID measures and techniques are shown on Table 1.

- Filters (Bioretention Cells and Rain gardens): Bioretention areas or rain gardens are built with a specific soil filter media (containing organic material and planted with vegetation that can handle wet and dry conditions) that will reduce the volume of runoff through absorption and evapotranspiration. A slight depression allows the ponding of stormwater as it filtrates through the soil media and into the groundwater or to an underdrain for surface discharge.
- Infiltration: Infiltration reduces runoff and mimics the natural hydrologic cycle by redirecting water into the ground rather than to a piped system. Runoff can be reduced by using smaller infiltration basins that fit into the natural landscape.
- Buffers: Vegetated buffers use soils and vegetation to remove pollutants from stormwater. Buffers can be used as a stormwater BMP for small developments by minimizing the amount of runoff generated through infiltration and evapotranspiration. Filter strips are typically used as pretreatment devices for bioretention cells and other infiltration practices.
- Collection Cisterns: In a commercial setting, the collection of rain runoff can be put to use in the building to off-set the cost of water supply. Cisterns can be located either above or below ground, and in out-of-the-way places that can easily be incorporated into a site design. Commercially available systems are typically constructed of high-density plastics and can include pumps and filtration devices. Rain barrels are inexpensive, effective, and easily maintainable when used in residential applications to capture roof runoff for later watering of lawns and gardens.
- Vegetated Rooftops: Vegetated rooftops provide three primary benefits: attenuation of stormwater runoff and peak flows, reductions of the heat island effects with an increase in building insulation, and a longer life expectancy for the base roof material. The stormwater benefit is that the smaller more common storm events are absorbed, which minimizes peak runoff and the net volume of runoff typically produced by roofs.

- ✓ **Porous Pavement:** Porous pavement is a permeable surface (pervious asphalt, concrete or pavers), a granular base, and subbase materials which allow the penetration of runoff into the underlying soils. The efficiency of pavement alternative systems depends on whether the pavement is designed to store and infiltrate most runoff, or only limited volumes of runoff (e.g., "first-flush") with the remainder discharged to a storm drainage system or overland flow. Maintenance is essential for long-term use and effectiveness. Pavement alternatives vary in load bearing capacities but generally can be designed for low traffic areas such as sidewalks, parking lots, overflow parking and residential roads. It is important to choose a material appropriate for the desired use (light, moderate or heavy use).
- ✓ **Other Techniques:** LID is about creativity. Multiple practices can be implemented and adapted into various sites and situations. However, they are mostly dependent upon the layout of the development and the disconnection of its individual elements.

Table 1 – LID Measures and Techniques*

LID Measure	Example Technique	Design
Minimize site clearing	- Promote compact development on the site - Place parking underneath or inside structures - Avoid developing in areas with high-permeable soils to retain natural infiltration - Align development layout with conservation of sensitive areas	
Protect natural drainage system	- Maintain a minimum 25 foot buffer on all natural water resources including intermittent channels - Do not divert stormwater from its natural sub-watershed	Design practices developed at the planning phase that will help mitigate environmental impacts. Ideally, these are cost-effective and environmentally friendly.
Minimize the decrease in time of concentration	- Break up or disconnect the flow of runoff over impervious surfaces - Sheet flow over pavement that is less than 100 feet	
Minimize impervious area or the effect of impervious area	- Build vertically with multi story buildings and parking garages - More than 25% of pavement area (overflow) in pervious pavement. All pedestrian walkways are pavers or pervious pavement. Runoff from paved surfaces should be directed to stabilized, vegetated areas - Disperse LID techniques throughout development and incorporate into the landscaping - Infiltrate as much roof runoff as standards allow Minimize the use of paved areas (sidewalks, driveways and streets) Minimize the use of hardscaped areas.	

Table 1 – LID Measures and Techniques*		
LID Measure	Example Technique	Design
Minimize soil compaction	- Minimize the construction window and target the development area - Rototilling all areas to be revegetated	Design practices developed at the planning phase that will help mitigate environmental impacts. Ideally, these are cost-effective and environmentally friendly.
Minimize lawns and maximize landscaping that encourages runoff retention	- Low maintenance Maine native plants - No invasive plants - Limit the use of pesticides and biocides - Fertilizer application only during initial planting and repair of damaged areas.	
Provide vegetated open-channel conveyance systems	- Evaluate road gutters and roof gutters to determine effective means to direct runoff to treatment BMPs - Level spreaders to buffers where possible - Underdrained swales	
Rainwater is stored for later reuse for the building or landscape	Rain Collection Cisterns	
Stormwater Quality Treatment and Retention Requirements	Buffers	Design, size, install and maintain per the Maine recommended guidelines found in a document entitled <i>Maine Stormwater Management Design Manual, Technical Design Manual, Volume III, May 2016</i>
	Infiltration (basins, trenches, dry wells, etc.)	
	Underdrained grass filters	
	Underdrained filter bioretention	
	Roofline filtration	
	Roof Greening	
	Pervious Pavement	

*LID measures, example techniques and design practices in this table are intended to be illustrative and shall be taken into consideration where applicable, practicable and allowable pursuant to applicable land use planning and development requirements.

Background and Notes for Future Adopters

The performance standards contained in this document were developed to assist municipalities in addressing the 2022 General Permit for Stormwater Discharges to Municipal Separate Storm Sewer Systems (MS4s), which applies to 30 municipalities in Maine.

An Ordinance Committee and Technical Expert Panel reviewed the elements contained in this document. A white paper describing the rationale for the content of this Model Ordinance is a companion to this document.

Text in black in this document reflects elements that the Authors, and Technical Expert Panel agreed were important for implementation of Low Impact Development in most Maine developments. During comment and reviews, it became apparent that not all elements will be appropriate for implementation in all MS4 municipalities. Therefore, the full Ordinance Committee was polled to assess what elements should be removed from this Model Ordinance, and any elements with a 2/3 majority of votes (one vote per municipality) to remove were removed or made to be optional. Even the resulting recommendations provided in black text may not be consistent with some municipal policies, strategies, or Comprehensive Plans.

Municipalities that elect to adopt elements of this model ordinance should review its contents, determine if any elements are inconsistent with existing municipal policies, strategies, or Comprehensive Plans.

On or before 9/1/2022, each permittee must submit to MDEP a Model Low Impact Development Ordinance for stormwater management on new and redevelopment sites in accordance with the General Permit for their community.

Maine DEP will post the model ordinance for public comments and approve it, with or without modifications, on or before 11/1/2022.

Then MS4 communities must adopt an ordinance that is at least as stringent as the required elements of the model ordinance by 6/30/2024.

Because municipal ordinances are structured differently, with varying thresholds for development review, submittal requirements, and performance standards, this Model Ordinance does not contain complete language for each section. Instead, it is anticipated the municipalities will embed the required elements in their own Subdivision and Site Plan Ordinances or Regulations. Municipalities may need to adjust some text to be consistent with their own ordinance language.

Instructions to Adopters are contained in bounded text boxes at each section.

Optional elements incorporating Maine Climate Council Recommendations or recommendations from other sources is shown in blue in italics. Municipalities may or may not incorporate these elements as they wish.

Some standard ordinance language is shown in green, also in italics. Municipalities may modify this to conform to their own ordinances and procedures.

Maine Model Ordinance for Low Impact Development Strategies

Final Draft 6/5/2022



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Section 1 Purpose

The Purpose of this Ordinance is to protect, maintain and enhance the public health, safety and general welfare by establishing minimum requirements and procedures to minimize the adverse effects of development and redevelopment on the environment.

Section 2 Definitions

Note to Future Adopters: Review your Subdivision and Site Plan definitions for inclusion of the following definitions:

Buffers – Means all three kinds of buffers listed below unless a subset of the three is specifically called out:

- **Stormwater Vegetative Buffer** – a buffer constructed in accordance with Appendix F in Chapter 500 for the purposes of providing pollutant removal.
- **Shoreland Zoning Setback Buffer** – A buffer required by the municipal Shoreland Zoning Ordinance to protect a water of the State.
- **General Buffer** – a buffer required by the municipal ordinances to provide screening to parcels or developments from light, noise, other parcels, rubbish areas, or other areas.

Climate Resilient Northeast Native Vegetation – Means plants identified as native to the Northeast as identified by the Northeast Regional Invasive Species & Climate Change (RISCC) Network or a Maine Licensed Landscape Architect.

Common Plan of Development or Sale - Means a “subdivision” as defined in Title 30-A M.R.S. §§ 4401 *et seq.* (the Maine Subdivision statute) and in _____ of the Municipality’s code of ordinances.

Note: Common Plan of Dev. Or Sale is same definition as MS4 General Permit.

§§ 4401.4 "Subdivision" means the division of a tract or parcel of land into 3 or more lots within any 5-year period that begins on or after September 23, 1971. This definition applies whether the division is accomplished by sale, lease, development, buildings or otherwise. The term "subdivision" also includes the division of a new structure or structures on a tract or parcel of land into 3 or more dwelling units within a 5-year period, the construction or placement of 3 or more dwelling units on a single tract or parcel of land and the division of an existing structure or structures previously used for commercial or industrial use into 3 or more dwelling units within a 5-year period.

Construction Activity – Means any activity on a Site that results in Disturbed Area.

Disturbed Area - Means all land areas of a Site that are stripped, graded, grubbed, filled, or excavated at any time during the site preparation or removing vegetation for, or construction of, a Site. Cutting of trees, without grubbing, stump removal, disturbance, or exposure of soil is not considered Disturbed Area. Disturbed Area does not include routine maintenance but does include redevelopment and new Impervious Areas. "Routine maintenance" is maintenance performed to maintain the original line and grade, hydraulic capacity, and original purpose of the facility. Paving impervious gravel surfaces provided that an applicant or permittee can prove the original line and grade and hydraulic capacity shall be maintained and original purpose of the gravel surface remains the same is considered routine maintenance. Replacement of a building is not considered routine maintenance of the building and is therefore considered Disturbed Area.

Note: Disturbed Area definition is from the MS4 General Permit plus addition of the last sentence to ensure that redevelopment sites removing buildings take into account that area as Disturbed Area.

General Permit – Means the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4) approved October 15, 2020 and modified November 23, 2021 and any amendment or renewal thereof.

High Intensity Soil Survey – Means a Class A survey defined by the March 2009 Guidelines for Maine Certified Soil Scientist for Soil Identification and Mapping, prepared by the Maine Association of Professional Soil Scientists

High Permeability Soils – Means hydrologic soil groups A or B as determined by on-site soil testing by a certified soil scientist using a High Intensity Soil Survey.

Impervious Area - Means the total area of a Parcel covered with a low-permeability material that is highly resistant to infiltration by water, such as asphalt, concrete, or rooftop, and areas such as gravel roads and unpaved parking areas that will be compacted through design or use to reduce their permeability. Common Impervious Areas include, but are not limited to, rooftops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and macadam or other surfaces which similarly impede the natural infiltration of stormwater. Pervious pavement, pervious pavers, pervious concrete, and under drained artificial turf fields are all considered impervious. For the purpose of determining whether a Site exceeds the Impervious Surface thresholds requiring conformance to LID performance standards, the municipality may exclude these from calculation of Impervious Area if these are designed to be infiltration Stormwater Treatment Measures.

Note: this definition is the same as Chapter 500 definition of Impervious Area except Chapter 500 has a sentence at the end was removed, saying that the DEP can exclude Pervious pavement from calculation of Impervious Area was modified.

Low Impact Development (LID) - Means a broad approach to site planning that preserves natural resources, processes, and habitat, defines what portions of the site are suitable for development and then utilizes Stormwater Treatment Measures to manage runoff from the proposed developed

impervious areas. In LID, Stormwater Treatment Measures using natural processes such as vegetated buffers are given preference over constructed treatment Stormwater Treatment Measures. The goals of LID are to minimize the environmental impacts of the development.

Maine Licensed Landscape Architect – Means a person who has an active Landscape Architects license from the Maine Board of Licensure for Architects, Landscape Architects, and Interior Designers.

Maine Native Vegetation – Means vegetation including grass seed mixtures, identified as native to Maine from lists maintained by: US Department of Agriculture Hardiness Zones by the Maine Cooperative Extension, Wild Seed Project, Regional Soil and Water Conservation District, Maine YardScaping Program, or a Maine Licensed Landscape Architect.

Municipal Separate Storm Sewer Systems (MS4) - Means a conveyance or system of conveyances designed or used for collecting or conveying stormwater (other than a publicly owned treatment works (POTW), as defined at 40 CFR 122.2, or a combined sewer), including, but not limited to, roads with drainage systems, municipal roads, catch basins, curbs, gutters, ditches, human-made channels or storm drains owned or operated by any municipality, sewer or sewage district, Maine Department of Transportation (MDOT), Maine Turnpike Authority (MTA), State agency or Federal agency or other public entity that Discharges to Waters of the State other than groundwater.

Municipality – Means the City/Town of _____.

Parcel – Means the same as "Tract or parcel of land" as defined at 30 M.R.S. §4401.6 *et seq.* *(or alternately, the municipality may reference their own definition of parcel).*

§4401.6 Tract or Parcel of land means all contiguous land in the same ownership, except that lands located on opposite sides of a public or private road are considered each a separate tract or parcel of land unless the road was established by the owner of land on both sides of the road after September 22, 1971.

Permitting Authority - Means the Code Enforcement Officer, Building Inspector, Planning Board, or other official or body authorized by State law or the Municipality's ordinances to approve development or redevelopment of Sites.

Protected Natural Resource - Means coastal sand dunes, coastal wetlands, significant wildlife habitat, fragile mountain areas, freshwater wetlands, community public water system primary protection areas, great ponds, or rivers, streams or brooks as defined in the *Natural Resources Protection Act* at 38 M.R.S. §480-B.

Regulated Small MS4 - Means any Small MS4 authorized by the most recent, in-force MS4 General Permit or the general permits for the Discharge of stormwater from MDOT and MTA Small MS4s or state or federally owned or operated Small MS4s including all those located partially or entirely within an Urbanized Area.

Runoff – Means the part of precipitation from rain or melting ice and snow that flows across a surface as sheet flow, shallow concentrated flow or in drainage ways.

Rural Areas – Areas designated as follows on the municipal zoning map: _____

Small MS4 - Means any MS4 that is not already covered by the Phase I MS4 stormwater program including municipally owned or operated storm sewer systems, state, or federally owned systems, such as colleges, universities, prisons, military bases and facilities, and transportation entities such as MDOT and MTA road systems and facilities. See also 40 CFR 122.26(b)(16).

Significant and Essential Wildlife Habitats – Means the areas identified as Significant or Essential Habitats of endangered or threatened species as identified by the Maine Department of Inland Fisheries and Wildlife either on the Beginning with Habitat viewer or in consultation with the Maine Department of Inland Fisheries and Wildlife.

Site - Means the portion of a Parcel or Common Plan of Development, which is proposed for Construction Activity including open space, Stormwater Treatment Measures, and Disturbed Area, subject to this Ordinance.

Stream Crossing - Means the mechanism by which any road, sidewalk or other structural feature of a Site will cross, or pass over or through a Water of the State which has a stream bank full width of 6 feet or less.

Stream Crossing designed in accordance with Maine Stream Smart Principles – Means a Stream Crossing designed by a Maine Professional Engineer who has completed the Maine Audubon Society Stream Smart Workshops (Parts I and II), which includes the standards recommended by that program’s stream span, elevation, slope and skew and substrate to promote passage of fish and other organisms and to limit road-damaging flows from extreme weather.

Stormwater Treatment Measure – Means a stormwater management system or innovative treatment measure as described in Maine DEP Chapter 500 4.c.(3) Types of treatment measures allowed. These measures include wet ponds, vegetated soil filters, infiltration, buffers, or innovative treatment measures. For purposes of this Ordinance these are cumulatively referred to as Stormwater Treatment Measures, or individually referred to as Stormwater Treatment Wet Pond, Stormwater Treatment Vegetated Soil Filter, Stormwater Treatment Infiltration Measure, Stormwater Treatment Buffer, or Stormwater Treatment Innovative Measure.

Suburban Areas – Means areas designated as follows on the municipal zoning map: _____

Time of Concentration – Means the same as “Time of concentration” defined in Maine DEP Chapter 500.

Urban Areas – Means areas designated as follows on the municipal zoning map: _____

Urbanized Area - Means the area of the Municipality so defined by the inclusive sum of

the 2000 decennial census and the 2010 decennial census by the U.S. Census Bureau.

Waters of the State – See 38 M.R.S. §361-A (7).

Section 3 Applicability

Note to Future Adopters: Thresholds may be updated by inserting the applicability thresholds into applicability sections for Site Plan and Subdivisions. If a municipality has a table of Land Uses, identifying when certain types of reviews are required, a line item should be added specifying that disturbance of one or more acres requires Site Plan review in either all Zones (optional) or in the Urbanized Area of the municipality.

The LID Performance Standards contained in Section 7 apply to any Site initially applying for a permit from the municipality after 6/30/2024, with stormwater discharges to the Regulated Small MS4 within the Municipality's Urbanized Area, that results in:

- a. Construction Activity with Disturbed Area of one or more acres of land, or
- b. Construction Activity with Disturbed Area that is less than one acre of land if the Construction Activity creating Disturbed Area less than one acre of land is part of a larger Common Plan of Development or Sale that as approved or amended would create Disturbed Area of one acre or more, or
- c. *20,000 square feet or more of new Impervious Area in the watershed of an Urban Impaired Stream, or*
- d. *5,000 square feet or more new Impervious Area regardless of total Disturbed Area.*

Section 4 Procedure

Note to Future Adopters: No procedure is provided for this Model Ordinance because municipalities will rely on their existing Subdivision and Site Plan procedures for review and approval.

Section 5 Submission Requirements

Note to Future Adopters: Ensure the following elements are contained in your Subdivision and Site Plan submission lists where applicable.

5.1 Site Narrative

The applicant shall provide a Site narrative describing:

- *the overall approach to stormwater management at the site*
- *a listing of Stormwater Treatment Measures that will be in use and which will be maintained privately and which will be offered to the municipality for operation*
- *how they have prioritized protection of the sensitive areas from disturbance as required in Section _____,*
- *a rationale for any exceptions from performance standards (see Sections 7 and 11)*

5.2 Site Contacts and Qualifications

The applicant shall provide contact information (i.e., name, company if applicable, phone number, physical address, and email address) as described below:

- Maine Licensed Landscape Architect
- Maine Certified Soil Scientist
- Maine Professional Engineer

5.3 Plan Content

The Site Plans shall consist of a graphic representation of the Site at a scale no smaller than 1 inch = 100 feet showing:

- Waters of the State and their associated Shoreland Protection areas
- Protected Natural Resources
- Predevelopment drainage areas, pathways and associated Time of Concentration
- High Permeability Soils
- Maine Native and Climate-Resilient Northeastern Native Vegetation in General Buffer areas and Shoreland Zoning Buffer areas
- Significant and Essential Wildlife Habitats
- Limits of disturbance
- Post-development drainage areas, pathways and associated Time of Concentration
- Locations of snow storage areas
- Stormwater Treatment Measures to be used

5.4 Submittals related to Infiltration Performance Standard

The LID Performance Standards for Infiltration require the following submittals:

- Information required by Chapter 500 Section (7)(D)(5)(c) Infiltration Submittals including a plan for use of de-icing materials, pesticides and fertilizers within the drainage area of any infiltration Stormwater Treatment Measures.
- Locations of any Uncontrolled Hazardous Substance Sites, Voluntary Response Action Program sites, RCRA Corrective Action sites, or Petroleum Remediation sites on or adjacent to the Site.

Section 6 Approval Standards

Note to Future Adopters: The following text is suggested for inclusion in Findings of Fact to reflect that the LID Performance Standards have been reviewed and adhered to by the applicant. Note that this text is a simple paraphrasing of the intent of the Performance Standards.

The following criteria shall be used by the Permitting Authority in reviewing applications for site plan/subdivision review and shall serve as minimum requirements for approval of the Site application:

- The Site protects sensitive areas, provides on-site volume control, provides treatment of stormwater, and minimizes impervious areas*

Section 7 Performance Standards

Note to Future Adopters: Review the following elements for addition to your Subdivision and Site Plan Performance Standards under existing Stormwater Management Standards or create a new Performance Standard titled: Low Impact Development.

To show conformance to the MS4 General Permit Requirements, we have included information about which LID Measure from Table 1 Appendix F of the 2022 MS4 General Permit the performance standard addresses. To assist municipalities in applying these performance standards, we have identified whether the standard should apply to Rural, Urban or Suburban Areas.

Regarding Maintenance of Stormwater Treatment Measures, MS4 communities maintain a Post-Construction Runoff Control Ordinance which automatically covers any Stormwater Treatment Measures required under the LID performance standards. Therefore, no Maintenance requirements are contained here. Non-MS4 communities implementing these LID strategies should also adopt the Post Construction Maintenance Ordinance.

Performance Standard	LID Measure(s) addressed (shown only for informational purposes)	Where Standard Applies within Urbanized Area
Prioritize the protection of the following sensitive areas as listed below (highest priority listed first) by not disturbing land in these areas: i. Waters of the State and associated shoreland protection areas. ii. Protected Natural Resources iii. Predevelopment drainage pathways iv. High Permeability Soils	1. Minimize Site Clearing 2. Protect natural drainage system 4. Minimize Impervious Area 5. Minimize Effect of Impervious Area	Rural, Suburban and Urban

v. Maine Native and Climate-Resilient Northeastern Native Vegetation in General Buffer areas and Shoreland Zoning Setback Buffer areas vi. Significant and Essential Wildlife Habitats Note that the applicant will need to provide a description in their narrative of how they have prioritized these areas for protection from disturbance. These areas may be counted toward the open space requirements. Exception: Removal of Maine Native and Climate-Resilient Northeastern Native Vegetation that is diseased or in poor condition is allowed.		
Construction documents shall depict limits of disturbance. Limits of disturbance shall be established on-site prior to disturbance using flagging, fencing, signs or other means to provide a clear indication.	1. Minimize Site Clearing	Rural, Suburban and Urban
Rural new developments shall preserve at least 40% of the development as open space and Suburban new developments shall preserve 25% of the development as open space.	1. Minimize Site Clearing 4. Minimize Impervious Area 7. Minimize lawns and maximize landscaping that encourages runoff retention.	Rural and Suburban
Stream Crossings for Waters of the State shall use Maine Stream Smart Principles to preserve natural pre-development drainage pathways. Exception: Stream crossings over portions of streams that are artificially channelized are not subject to this standard.	2. Protect natural drainage system 3. Minimize decrease in time of concentration	Rural, Suburban and Urban
Rural and Suburban developments shall preserve the natural pre-development drainage pathways on site by using the natural flow patterns and pathways for the post-construction drainage system. Exceptions are allowed if the Time of Concentration for predevelopment drainage pathways is the same as for post development drainage pathway. Exception: The applicant may submit an “alternative analysis” which demonstrates that this performance standard is impracticable.	2. Protect natural drainage system 3. Minimize decrease in time of concentration	Rural and Suburban
Sites that disturb one acre of land or more shall include Stormwater Treatment Measures in accordance with	2. Protect natural drainage system	Rural, Suburban and Urban

Maine DEP Chapter 500 Section 4.C General Standards 4.C.(2) Treatment requirements, 4.C.(3) Treatment Measures, and 4.D Phosphorus standard (for lake watersheds only) and additionally: • Individual Stormwater Treatment Measure may not treat more than 1-acre of impervious cover • Vegetation used in Stormwater Treatment Measures shall be Maine Native or Climate-Resilient Northeastern Native Vegetation • Note that although Chapter 500 General Standards and Phosphorus standard have higher thresholds for developed and impervious area, these standards apply to sites within the urbanized area of the municipality at a lower threshold.	5. Minimize Effect of Impervious Area 10. Stormwater Quality Treatment and Retention Requirements	
Provide volume control on-site (through infiltration or storage) in accordance with the following: • Volume to be controlled= (total area of impervious cover after development – total area that existed before development) x Rd • Where Rd is the groundwater recharge depth based on the USDA/NRCDS hydrologic soil group as follows: Rd = 0.40 inches or rain for type A soils, 0.25 inches of rain for type B soils, 0.10 inches of rain for type C soils and 0 for type D soils • Restrictions and requirements identified in Sections D(2) through D(4) of Appendix D Infiltration basins, drywells, and subsurface fluid distribution systems; of Chapter 500 apply. Exception: For sites in Rural and Suburban areas where infiltration will disrupt the preservation of the predevelopment drainage pathways, an exception from the infiltration standard will be allowed. Exception: If any Uncontrolled Hazardous Substance Sites, Voluntary Response Action Program sites, RCRA Corrective Action sites, or Petroleum Remediation sites are on or adjacent to the Site, the Site does not need to meet the volume control standard.	5. Minimize Effect of Impervious Area	Rural, Suburban and Urban
Minimize Impervious Area and the Effect of Impervious Area from road runoff: • Dead-end streets shall be no longer than 1000 feet (rural and suburban areas).	4. Minimize Impervious Area 5. Minimize Effect of Impervious Area	Rural, Suburban and Urban

• Dead-end roads shall be constructed to provide a hammerhead (when less than 200 feet), or a tear drop cul-de-sac turn-around with a center that is vegetated, used for open space, and/or a Stormwater Treatment Measure as described below (rural and suburban areas). • Cul-de-sac roads shall be constructed with the center island used for Stormwater Treatment Measures or vegetation unless type A or B soils are present in the center, in which case this area should be used to promote natural infiltration on-site. • At least 70% of Roadway runoff shall be directed into a Stormwater Treatment Measure		
Minimize Impervious Area from parking areas: a. Commercial parking space size shall be a maximum 9-foot width and an 18-foot length with an allowance for reduction in length at a 1 to 1 ratio for available overhang (1 foot reduction allowed if 1 foot overhang possible). b. Compact car parking standards 9-foot x 16-foot space c. Parking lot travel aisles shall be a maximum of 22 feet wide. d. Parking volume requirements shall be based on reasonable parking needs instead of peak use, and maximum parking limits should be established for appropriate areas. Establish maximum parking requirements at current minimum standards. e. Reductions in parking volume requirements should consider presence of transit routes within ¼ mile, existing on-road parking, and transportation/parking demand management plan for Sites over a certain size. <i>Optional: (not fully developed as part of this ordinance) Establish "In Lieu of" Parking programs with the following components:</i> • <i>Fee in lieu of parking</i> • <i>Car-share-in-lieu of parking</i> • <i>Transit-in-lieu</i> • <i>Bike/pedestrian infrastructure improvements</i> <i>Note that the in-lieu program may optionally be tied to incentives, such as density or height bonuses.</i>	4. Minimize Impervious Area	Rural, Suburban and Urban

Establish shared parking provisions		
Require garages/under above building where appropriate, optionally tied to a density or height bonus		
Runoff from on-site roofs, sidewalks, and peak-use overflow parking runoff shall be directed into Stormwater Treatment Buffers or Stormwater Treatment Infiltration Measures.	5. Minimize Effect of Impervious Area	Rural, Suburban and Urban
Construction equipment movement, laydown areas and parking shall be restricted to the disturbed area. Areas to be vegetated shall be tilled and the soils amended with organic matter as needed based on the results of soil tests.	6. Minimize Soil Compaction	Rural, Suburban and Urban
Snow storage areas shall be depicted on site plans. The location of snow storage areas in Stormwater Treatment Measures and Shoreland Zoning Setback Buffers shall be prohibited.	5. Minimize Effect of Impervious Area	Rural, Suburban and Urban
<i>Optional Standard: Require the implementation of precipitation storage (e.g., cisterns or rain barrels) for later reuse for landscaping.</i>	9. Rainwater Capture and Reuse	Rural, Suburban and Urban

Note to Future Adopters: By embedding the performance standards into Site Plan and Subdivision Performance Standard, those enforcement provisions, Severability and Conflicts and Waivers provisions will automatically cover the LID Performance Standards. No additional Enforcement requirements need apply, so those provisions have not been included here.

Section 8 Enforcement

Section 9 Severability and Conflicts

Section 10 Waivers

Section 11 Exceptions

Some exceptions are allowed from the Performance Standards listed in Section 7 provided the applicant provides a narrative rationale justifying the exception and the municipality accepts the rationale and grants the exception.

Additionally, Notwithstanding other provisions in municipal ordinances or state law, requirements to plant “Climate-Resilient Maine Native Vegetation”, “Maine Native Plants” or “Climate Resilient Northeast Native Vegetation” shall not be construed as a restriction on the rights of individuals to engage in agricultural practices that are legally protected by the Maine Agriculture Protection Act and the “Right to Food” provision in the Maine Constitution (Constitution, Art. I, §25).

Section 11 Authority

The Municipality enacts the LID Model Ordinance Strategies Provisions pursuant to 30-A M.R.S. §§3001 et seq. (municipal home rule ordinance authority), 38 M.R.S. §413 (the Wastewater Discharge Law), 33 USC §§1251 et seq. (the Clean Water Act), and 40 CFR Part 122 (US Environmental Protection Agency’s regulations governing the National Pollution Discharge Elimination System (NPDES)). The Maine Department of Environmental Protection, through its promulgation of the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems has listed the Municipality as having a Regulated Small MS4; under this General Permit, listing as a Regulated Small MS4 necessitates enactment of elements of this Ordinance as part of the Municipality’s stormwater management program in order to satisfy the minimum control measures for Post Construction Stormwater Management in New Development and Redevelopment.

City of Portland | Low-Impact Development Scoring Tool

Background

The City of Portland (City) has long embraced and prioritized low-impact development strategies by enacting thoughtful development standards that preserve natural resources, reduce impervious surfaces, embrace green infrastructure, and more. And with the development of the stormwater service charge and credit program, the City further incentivized the reduction of impervious area, the use of innovative stormwater management techniques, and comprehensive approaches to stormwater upgrades throughout the City. The comprehensive Low-Impact Development Program (LIDP) was developed in 2024 by the City to further improve public health, public safety, and general welfare through better protection of the natural environment. The LIDP was developed in partial compliance of the requirements of the Municipal Separate Storm Sewer General Permit (MS4GP), #MER04100 issued October 15, 2020, and the Final Permit Modification, issued November 23, 2021.

The LIDP sets minimum standards for development projects through the Land Use Code and the City's Technical Manual, strives to provide clear guidance for internal and external audiences through proactive communication and education, and ensures that projects are meeting the City's LID requirements with consistent, clear, and measurable review by City staff. This LID Scoring Tool is a critical component of the LIDP and provides both clear guidance to development teams of how to meet the City's LID requirements and ensures consistent and clear review of project proposals by City staff.

The City put forth considerable, intentional effort to ensure that the LID requirements are applicable to all development projects, from small-scale infill urban redevelopment to relatively untouched greenfield sites. The City also worked to ensure that LID requirements did not unintentionally encourage greenfield development nor penalize urban redevelopment projects while still scoring them against the core methods of LID: wetland, stream, and drainage protection; protection of natural areas and habitat; protecting and preserving native soils; promoting sustainable landscaping practices; and reducing impervious and effectively managing stormwater on site.

Applicability & Review Process

The City of Portland's LID requirements apply to any development project subject to Site Plan approval which submits an application after 6/30/2024 and which requires a stormwater management plan. As part of the site plan application package applicants must submit a completed Low-Impact Development self-score using the LID Scoring Tool. Project proponents are strongly encouraged to use the LID Scoring Tool at the earliest stages of site design and to bring a completed worksheet to a pre-application meeting with the City.

Minimum Score & Approval

Development projects that are subject to the City's LID requirements must obtain LID Approval from the Water Resources Division within the Department of Public Works. In order for a site plan application to obtain LID Approval, a project must attain a minimum LID Score of 80pts, based upon the LID Scoring Tool.

Using the LID Scoring Tool

The LID Scoring Tool should be used to self-evaluate the use of Low-Impact Development planning and site design and should serve to inform design priorities early on in the development planning process.

Projects determine which LID Standards / Approaches are going to be utilized on their site and award their project the corresponding points on the spreadsheet. Some Core Methods allow for stacking of points; others require an applicant to select only one applicable approach. Applicants are encouraged to use this tool to help identify which approaches are most appropriate for their site while still obtaining a passing score of 80 pts. When the LID Scoring Tool is used in the original Excel spreadsheet form, the site's total score will be automatically calculated. If an applicant uses a PDF or a printed version, they will need to tabulate their total score.

City of Portland ME . Low-Impact Design Requirements				
Owner / applicant name:				
Representative name:				
Project address:				
Project CBL:				
Application ID (if known):				
Maximum Points	How to Apply	Points Awarded		
CORE METHODS: Wetlands, Streams, & Drainage				
Protect natural drainage paths	Required			
Shoreland Zoning	Required			
Meeting DEP standards for stream crossings	Required			
Protect wetlands	12	Select one option	Select a site that does not have wetlands or vernal pools = 12pts Project maintains a 50' set-back / no-disturb buffer to all wetlands = 10pts Project maintains a 25' set-back / no-disturb buffer to all wetlands = 7pts Project does not place structures in wetlands and avoids wetlands impacts from construction and stormwater discharges = 5pts Project replicates impacted wetlands elsewhere on site or within watershed = 3pt Project pays wetlands impact fee = 0pts	
Permanently protect stream (intermittent and perennial) and riparian buffers (exclusive of approved stream crossings; must include a no-disturb zone with markers installed and deed restriction recorded at registry of deeds)	12	Select one option	Select a site with no streams = 12pts Permanently protect all 100ft shoreline buffers = 10pts Permanently protect all 75ft shoreline buffers = 7pts Permanently protect all 50ft shoreline buffers = 5pt	
Stream crossings	12	Select one option	Select a site with no streams = 12pts Avoid any stream crossings = 10pts All stream crossings use a bridge or open bottom culvert structure sized at 1.2 times the bank full width of the stream = 10pts All stream crossings use Maine Stream Smart Principles to preserve natural pre-development drainage pathways = 6pts	
CORE METHODS: Natural Areas & Habitat				
Preserve threatened or endangered species habitat	Required (Beginning with Habitat Maps at a minimum)			
Protect 30% of trees over 10" DBH	Required (Tree survey required)			
Protect intact, contiguous forests and native trees over 10" DBH	8	Select one option	All development and land disturbance outside of existing wooded/forested areas (no site clearing in prior 10 years) = 8pts Protect 50% of trees over 10" DBH = 6pts Protect 40% of trees over 10" DBH = 4pt	
CORE METHODS: Soils & Slopes				
USDA Web Soil Survey	Required (provide details how soil limitations will be mitigated)			
Avoid steep slope disturbance	5	Select one option	Selecting a site without slopes 15% or greater = 5pts Maintain >20' undisturbed vegetated buffer to all slopes 15% or greater = 3pts Maintain 10-20' undisturbed vegetated buffer to all slopes 15% or greater = 2pts Maintain 1-10' undisturbed vegetated buffer to all slopes 15% or greater = 1pt Disturbance of any slope 15% or greater = 0pts	
Protect soils	5	Select one option	Redevelopment sites = 5pts Detailed, site-specific soil survey; preparation of a Soil Management and Protection Plan; protect highly permeable soils = 5pts	

The only parts the applicant / representative fills in are the top section and the points awarded column. If using the Excel spreadsheet, the table will automatically score the project, otherwise applicants will need to tabulate the total score.

For some Core Methods categories only one answer is possible. In the example below, the site does not have any wetlands or vernal pools and is therefore awarded the full 12pts. If a site chosen did have wetlands and/or vernal pools but the project was able to maintain a 50' undisturbed vegetated buffer to all wetlands on site, it would be awarded 10pts.

	Maximum Points	How to Apply	Points Awarded	LID Standard
CORE METHODS: Wetlands, Streams, & Dr				
Protect natural drainage paths				
Shoreland Zoning				
Meeting DEP and ACOE standards for stream crossings				
Protect wetlands	12	Select one option	12	Select a site that does not have wetlands or vernal pools = 12pts Project maintains a 50' set-back/ no-disturb buffer to all wetlands = 10pts Project maintains a 25' set-back/ no-disturb buffer to all wetlands = 7pts Project does not place structures in wetlands and avoids wetlands impacts from construction and stormwater discharges = 5pts Project replicates impacted wetlands elsewhere on site or within watershed = 3pt Project pays wetlands impact fee = 0pts
Permanently protect stream (intermittent and perennial) and riparian buffers (exclusive of approved stream crossings; must include a no-disturb zone with markers installed and deed restriction recorded at registry of deeds)	12	Select one option		Select a site with no streams = 12pts Permanently protect all 100ft shoreline buffers = 10pts Permanently protect all 75ft shoreline buffers = 7pts Permanently protect all 50ft shoreline buffers = 5pt Select a site with no streams = 12pts
Stream crossings	12	Select one option		Avoid any stream crossings = 10pts All stream crossings use a bridge or open bottom culvert structure sized at 1.2 times the bank full width of the stream = 10pts All stream crossings use Maine Stream Smart Principles to preserve natural pre-development drainage pathways = 6pts

If your site does not have wetlands or vernal pools, you award 12 points.

Some Core Methods allow for multiple approaches to be used, such as in the example below. If a redevelopment site reduces existing lawn area by 50% (meaning existing lawn becomes densely landscaped using low-impact landscaping methods), they are awarded 2 pts. On that same site, if they use only native vegetation and use only locally-sourced landscape materials, they are awarded an additional 4 pts.

Soil preparation & minimizing compact		Select all options that apply		Till soils to a depth of at least 10" prior to revegetation = 3pts Organic matter amendments as needed based on soil tests = 3pts
CORE METHODS: Landscaping				
Low-Impact Landscaping	6	Select all options that apply	2	Redevelopment sites reduce lawn area by 50%, provided no increase in impervious area (lawn becomes landscaping) = 2pt
			2	New development results in >50% non-impervious developed area is landscaping = 2pt
			2	Use only native vegetation for landscaped areas = 2pts
			2	Using only locally-sourced landscape materials = 2pt

In this Core Method category, it's possible to stack points by using more than one approach.

Feedback & Support

Applicants / representatives are urged to reach out to the Department of Public Works Water Resources Division with any questions or if anything is unclear. Regular, open communication is critical to the success of the City of Portland's Low-Impact Development Program and we welcome your thoughts and feedback so we can continue to make program improvements.

DEP Chapter 500/Proposed City of Portland Regulation Comparison

2024-08-30

Justin Pellerin, P.E.

COP Water Resources

ESC, WATER QUALITY TREATMENT, and FLOODING STANDARDS

Stormwater Management Thresholds

When standards apply: DEP Chapter 500

General Treatment Standards and Basic ESC Standards

- A project that requires a Stormwater Management Law permit, other than a stormwater permit by rule (PBR) issued pursuant to Section 6 of this Chapter;
 - Non UIS Watershed Trigger: when a project results in 1 acre of impervious or 5 acres of developed area.
 - UIS Watershed Trigger: when a project results in 20,000 sf of impervious or 5 acres of developed area
- A project that requires a Site Law permit; and **(3 Acres or more of Impervious, 20 acres of developed area)**
- Changes to a project licensed pursuant to the Stormwater Management Law or Site Law that requires a modification of a project's license, as described in Section 16 of this Chapter.

Flooding Standards:

- The flooding standard must be met if the project
 - Results in three acres of more of impervious area or 20 acres or more of developed area; or
 - Requires a site law permit or permit modification.

When standards apply: Proposed City of Portland Regulation

ESC Standards:

- Any work / project with 5,000sf of disturbance will be required to meet the City's ESC standards.
 - Basic ESC Plan required for projects requiring minor site plan approval, or those projects which don't require site plan approval and result in less than 1 acre of disturbed area
 - Comprehensive ESC Plan for projects requiring major site plan approval or those projects which don't require site plan approval and result in 1 acre or more of disturbed area

- Minor residential projects must use effective erosion and sedimentation controls for the duration of the Construction Activity, but are not required to submit an Erosion and Sedimentation Control Plan.
- In all circumstances, the City reserves the right to require a Comprehensive Erosion and Sedimentation Control Plan, or any component thereof, when site conditions dictate (e.g. proximity to sensitive natural resources, steep grades)

Treatment, Flooding Standards:

- A minor/major site plan or subdivision in Portland which results in
 - 1,000 SF of new impervious area, or;
 - 10,000 SF of disturbed area, or;
 - 5,000 SF of non-roof redeveloped impervious area.

Minimum Detention Volume Standard:

- A minor/major site plan or subdivision in Portland which results in
 - 1,000 SF of new impervious area, or;
 - 10,000 SF of disturbed area, or;
 - 5,000 SF of non-roof redeveloped impervious area, AND;
 - More than 500 gallons of average daily sewer flow is being added to the system and a new private stormwater connection is being proposed into the combined sewer system.

Stormwater Management Requirements

ESC Standards

Chapter 500 Basic Standard:

What is required:

- The basic standards apply to all projects described above. The applicant must demonstrate that the erosion and sedimentation control, inspection and maintenance, and housekeeping standards specified in Appendices A, B, and C to this Chapter, respectively, are met, and that the grading or other construction activity will not impede or otherwise alter drainageways so as to have an unreasonable adverse impact on a wetland or waterbody, or an adjacent downslope parcel.

Proposed City of Portland Standard:

City Chapter 32 Stormwater Ordinance and section 6 of the technical manual, recently updated to comply with DEP MS4 Permit Requirement.

What is required:

- Submission and approval of ESC Plan in accordance city ordinance chapter 32 and section 6 of the technical manual.

When standards apply:

- Any work / project with 5,000sf of disturbance will be required to meet the City's ESC standards.
 - Basic ESC Plan required for projects requiring minor site plan approval, or those projects which don't require site plan approval and result in less than 1 acre of disturbed area
 - Comprehensive ESC Plan for projects requiring major site plan approval or those projects which don't require site plan approval and result in 1 acre or more of disturbed area
 - Minor residential projects must use effective erosion and sedimentation controls for the duration of the Construction Activity, but are not required to submit an Erosion and Sedimentation Control Plan.
 - In all circumstances, the City reserves the right to require a Comprehensive Erosion and Sedimentation Control Plan, or any component thereof, when site conditions dictate (e.g. proximity to sensitive natural resources, steep grades).

Water Quality Treatment Standards

Chapter 500 General Standard:

What is required:

- New Development
 - Provide treatment of no less than 95% of the impervious area and no less than 80% of developed area in accordance with Chapter 500-4-3 standards.
 - Note: There are certain stipulations that allow for the reduction of treatment not identified in this summary (i.e. linear projects).
- Redevelopment
 - Treatment requirements based on Pollutant Impact Ranking in accordance with chapter 500-4-3 standards.
 - **Note: For site law projects, a minimum of 50% of redeveloped area must be treated**

Table 3
Treatment Levels for Redevelopment Projects

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

Proposed City of Portland Treatment Standard:

What is required:

- For all minor/major site plans and subdivision projects triggering the City's stormwater standards, treatment¹ must be provided for;
 - 95% of new impervious area
 - 80% of new developed area
 - **95% of non-roof redeveloped impervious area**
- Projects which are regulated by a new or existing Maine DEP site law permit, or meets the threshold requirements for a DEP stormwater management law permit treatment¹ must be provided for;
 - 95% of new impervious area
 - 80% of new developed area
 - **95% of non-roof redeveloped impervious area**
 - **Total redeveloped area as determined by Table's 2 and 3 in the Maine DEP Chapter 500 section 4-3 rules.**

Notes:

1. In accordance with Maine DEP Chapter 500-4-3 and Volume III of the Stormwater BMP Manual.

Flooding Standard

CHAPTER 500 FLOODING STANDARD

What is required:

- The system must detain, retain or result in the infiltration of stormwater from 24-hour storms of the 2-year, 10-year and 25-year frequencies such that peak flows of stormwater from the project site do not exceed the peak flows of stormwater prior to undertaking the project;
- Other stipulations as noted in chapter 500.
- Waivers allowable as described in chapter 500.

PROPOSED CITY REGULATION: CHAPTER 500 FLOODING STANDARD

- No deviations from requirements of Chapter 500 flooding standard other than differing thresholds as noted above.

Minimum Detention Standards (COP REGULATION ONLY)

What is required:

- Projects which trigger City of Portland Post Construction Stormwater Requirements and are proposing stormwater connections to the City's separated storm drain system shall provide
 - a minimum detention volume equal to 1" of rainfall times the TOTAL impervious area within the project's disturbance limits
 - Stormwater discharge rates into the separated storm drain system must be controlled to meet a maximum flow rate of 0.1 CFS until the storage system reaches its design capacity.
- Projects which trigger City of Portland Post Construction Stormwater Requirements and are proposing stormwater connections to the City's Combined Sewer System shall provide
 - A minimum detention volume equal to the greater of 1" of rainfall times the TOTAL impervious area within the project's disturbance limits or the project's proposed increase in average daily sanitary sewer flows being added to the combined sewer system.
 - Stormwater discharge rates into the separated storm drain system must be controlled to meet a maximum flow rate of 0.1 CFS until the storage system

Costs of Low Impact Development

LID Saves Money and Protects Your Community's Resources

Are Low Impact Development (LID) Practices More Economical Than Conventional Practices?

In many cases, the answer is yes. LID typically includes a variety of low-cost elements such as bioswales that retain rain water and encourage it to soak into the ground rather than allowing it to run off into storm drains where it would otherwise contribute to flooding and pollution problems. LID projects typically include smaller overall development footprints, reduce the amount of runoff generated and increase the amount of natural areas on a site, thereby reducing costs when compared to traditional stormwater management and flood control.

Example Economic Benefits of LID Elements

- Adding roadside bioswales, making roads narrower and designing smaller or porous parking lots with on-site runoff retention **saves money by reducing the amount of pavement, curbs and gutters needed.**
- Installing green roofs, disconnecting roof downspouts from impervious surfaces (driveways or streets), and incorporating bioretention areas to capture on-site runoff **saves money by eliminating the need for costly runoff detention basins and pipe delivery systems.**
- Designing more compact residential lots **saves money by reducing site grading and building preparation costs, and can increase the number of lots available for sale.**
- Preserving natural features in the neighborhood **can increase the value and sale price of residential lots.**
- Using existing trees and vegetation **saves money by reducing landscaping costs and decreasing stormwater volume.**

Cost-Savings Nationwide: LID Case Studies

A U.S. Environmental Protection Agency study of 17 LID case studies around the country found that, in the majority of cases, total capital cost savings ranged from 15 to 80 percent when LID methods were used. (For details, see www.epa.gov/nps/lid/costs07.)

- **Sherwood, Arkansas:** Gap Creek subdivision included 23.5 acres of open, buffered natural drainage areas and traffic-calming circles that allowed the developer to reduce street widths. Results? The lots sold for \$3,000 more and cost \$4,800 less to develop than comparable conventional lots. The LID design required less land for stormwater control features, which allowed the developer to create and sell 17 additional lots.

FAQ

Isn't LID too costly?

Barrier Busted!

Communities recognize that using LID can save money.



EPA's LID Barrier Busters fact sheet series...helping to overcome misperceptions that can block adoption of LID in your community



This 4-acre grassed overflow parking lot at a mall in West Hartford, CT cost \$500,000—half the cost of a traditional parking lot.



Street drainage flows into this roadside bioswale in Lenexa, Kansas. The city found that on-site detention with LID practices cost 25 percent less than traditional stormwater management retrofits.

- **Seattle, Washington:** Seattle's 2nd Avenue Street Edge Alternative project redesigned an entire block with LID techniques such as bioswales in the rights-of-way. Results? Reducing street widths and sidewalks lowered paving costs by 49 percent. Overall, incorporating LID techniques cost \$651,548—a savings of \$217,255 compared to a conventional retrofit of the block, which would have cost an estimated \$868,803.
- **Naperville, Illinois:** Developers at the 55-acre Tellabs corporate campus preserved much of the site's natural drainage features and topography, reducing grading and earthwork costs. They used bioswales and other infiltration techniques in parking lots to manage stormwater. They maximized the amount of natural areas, eliminating the need for irrigation systems and lowering maintenance costs when compared to turf grass. Results? As seen in the table below, total LID project costs were \$461,510 less than a conventional design would have been.

Sample Costs: Comparing Conventional Stormwater Controls with LID Techniques in a Corporate Development (Tellabs) in Naperville, Illinois

Construction Item	Cost of Conventional Development	Cost When Using LID Practices	Dollars Saved with LID
Site preparation	\$2,178,500	\$1,966,000	\$212,500
Stormwater management	\$480,910	\$418,000	\$62,910
Landscape development	\$502,750	\$316,650	\$186,100
Total	\$3,162,160	\$2,700,650	\$461,510

LID Provides Added Value for Communities

Besides reducing the capital and other actual costs, using LID practices provides numerous additional economic benefits, some of which are difficult to quantify, including:

- Improved aesthetics for communities
- Expanded recreational opportunities
- Increased property values due to the desirability of the lots and their proximity to open space
- Increased marketing potential and faster sales for residential and commercial properties
- Reduced stream channel damage and pollutant loadings in downstream waters
- Reduced drinking water treatment costs
- Reduced costs associated with combined sewer overflows, where applicable

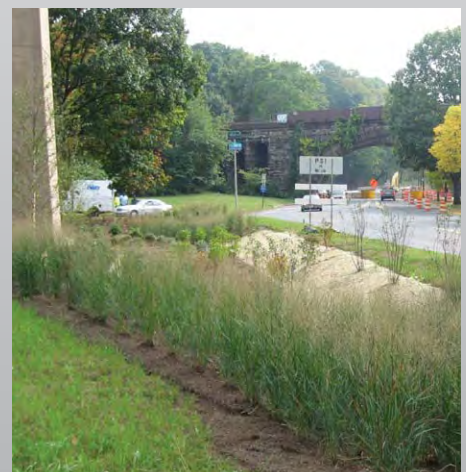
LID offers great flexibility for developing and re-developing properties. A wide range of LID technology choices are available to match the needs of individual sites and the desires of the parties developing or buying the property.



A roadside swale captures and retains runoff in Seattle, Washington. The city saves money with LID by avoiding costly stormwater infrastructure and reducing paving costs.



This bioretention pond in Wilsonville, Oregon collects runoff from the rooftops, sidewalks and yards. The pond offers valuable aesthetic and wildlife habitat benefits while also reducing stormwater control costs.



Philadelphia has been expanding its use of LID by implementing new policies and demonstration projects, such as this roadside bioswale that treats runoff from an adjacent parking lot. The city's use of LID has reduced stormwater runoff volume, saving approximately \$170 million in combined sewer overflow costs since 2006.