PLANNING BOARD

Tuesday, February 28, 2023 at 4:30 PM
The meeting will be held remotely via Zoom

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

REMOTE ACCESS INFORMATION:
The Planning Board will conduct this meeting remotely via Zoom pursuant to the Remote Meeting Policy adopted by the Planning Board. Allow your computer to install the free Zoom app to get the best meeting experience. If you are not able to attend live either in person or via Zoom, a recording will be available in the Agenda Center following the meeting.

For public comment via Zoom, you will need to use the "raise your hand" feature. To raise your hand via the telephone, please hit *9. You will be unmuted by the host when it is time for public comment.

You are invited to a Zoom webinar.
When: Feb 28, 2023 04:30 PM Eastern Time (US and Canada)
Topic: Planning Board Workshop and Public Hearing 2/28/2023

Please click the link below to join the webinar:
https://portlandmaine-gov.zoom.us/j/84981276908
Or One tap mobile :
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US: +1 646 931 3860 or +1 929 205 6099 or +1 301 715 8592 or +1 305 224 1968 or +1 309 205 3325 or +1 312 626 6799 or +1 253 205 0468 or +1 253 215 8782 or +1 346 248 7799 or +1 360 209 5623 or +1 386 347 5053 or +1 507 473 4847 or +1 564 217 2000 or +1 669 444 9171 or +1 669 900 6833 or +1 689 278 1000 or +1 719 359 4580
Webinar ID: 849 8127 6908
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PUBLIC COMMENT INFORMATION:
To submit written public comment on an agenda item, email planningboard@portlandmaine.gov. Submissions must be received by 12:00 pm the day before the Planning Board meeting to guarantee their inclusion in the agenda packet. All submissions must include the commenter's name and legal address. To help ensure your comment is submitted for the correct item, please include the name of the agenda item (see below).

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

AGENDA:

WORKSHOP - 4:30 PM

i. Major Site Plan; 111 Bedford Street (USM Center for the Arts); University of Southern Maine, Applicant. (estimated time 4:30 – 5:30 p.m.) The Planning Board will hold a remote workshop to consider a proposal to construct a new 40,000 square foot performing arts facility with 200-seat

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performance hall, flexible Arts Lab, rehearsal room, classrooms, practice rooms and offices at 111 Bedford Street. The development is situated on the southern side of the USM Portland campus, which occupies 16.41 acres and is located within the R-5 Residential Zone as well as the USM Overlay Zone. A project and plan summary are available for viewing on the city's CSS Portal (https://css.portlandmaine.gov/) by referencing Plan Number PL-002314-2022.

PUBLIC HEARING - 5:30 PM

1. ROLL CALL AND DECLARATION OF QUORUM

2. COMMUNICATION AND REPORTS

3. REPORT OF ATTENDANCE AT THE MEETING HELD ON FEBRUARY 14, 2023

Afternoon Workshop
185 Commercial Street: Barker, Chann, Mazer, Murphy, Smith and Stanley present. Silk absent.
73 Powsland Street: Barker, Chann, Mazer, Murphy, Smith and Stanley present. Silk absent

Evening Hearing
385 Congress Street: Barker, Chann, Mazer, Murphy, Smith and Stanley present. Silk absent.

4. REPORTS OF DECISIONS AT THE MEETING HELD ON FEBRUARY 14, 2023

i. Major Site Plan, Conditional Use and Traffic Movement Permit; 385 Congress Street, Fathom Congress, LLC. Applicant. Mazer moved, and Barker seconded a motion to approve the Traffic Movement Permit associated with the 385 Congress Street Master Development Plan (MDP). Vote 6-0, Silk absent. Mazer moved, and Barker seconded a motion to approve the conditional use for inclusionary zoning. Vote 6-0, Silk absent. Mazer moved, and Barker seconded a motion to approve the major site plan for Phase 1 of the 385 Congress Street MDP. Vote 6-0, Silk absent. Mazer moved, and Barker seconded a motion to modify impact fees associated with the major site plan. Vote 6-0, Silk absent.

5. NEW BUSINESS

i. Major Site Plan; 185 Commercial Street; 185 Commercial Street, LLC, Applicant. (estimated time 5:30 p.m.) The Planning Board will hold a remote public hearing to consider a proposal to construct a new six-story mixed-use building with four residential units and 5,440 square feet of new commercial space at 185 Commercial Street. The subject property is 4,319 square feet in area, and is zoned B-3 Downtown Business, and is located within the Old Port Historic District, the Downtown Entertainment Overlay Zone and the Pedestrian Activities District. A project and plan summary are available for viewing on the city's CSS Portal (https://css.portlandmaine.gov/) by referencing Plan Number PL-002235-2022.

ii. Major Site Plan; 165 Lambert Street; Maine Cooperative Development Partners, Applicant. (estimated time 6:00 p.m.) The Planning Board will hold a remote public hearing to consider the development of a Planned Residential Unit Development (PRUD) with 165 affordable units totaling 143,935 square feet of floor area, along with associated site improvements, located at 165 Lambert Street and 622 Auburn Street. The subject properties total 17.95 acres in size and are zoned R-3 Residential. A project and plan summary are available for viewing on the city's CSS Portal (https://css.portlandmaine.gov/) by referencing Plan Number PL-002078-2022.

iii. Zoning Map Amendment and Contract Zone Termination; 22 Park Ave; Community Housing of Maine (CHOM), Applicant. (estimated time 7:30 p.m.) The Planning Board will hold a remote public hearing to consider a zoning map amendment from C-5 Contract Zone to B-2b Community Business for property located at 22 Park Avenue, as well as the termination of the

C-5 Contract Zone to facilitate an increase in the stock of supportive and affordable housing at property located at 22 Park Avenue. The subject property (026 P004001) is approximately 3,492 square feet in area. A project and plan summary are available for viewing on the city's CSS Portal (https://css.portlandmaine.gov/) by referencing Plan Number ZN-002238-2022.

iv. Zoning Map Amendment; 211 Cumberland Ave; Portland Housing Authority (PHA), Applicant. (estimated time 8:00 p.m.) The Planning Board will hold a remote public hearing to consider a zoning map amendment from R-6 Residential to B-3 Downtown Business, as well as an amendment to the Downtown Height Overlay for property located at 211 Cumberland Avenue, site of the Franklin Towers building. The requested zoning amendments are intended to facilitate much needed renovations to Franklin Tower and permit infill development of an existing surface parking area. The subject property is approximately 1.62 acres in size. A project and plan summary are available for viewing on the city's CSS Portal (https://css.portlandmaine.gov/) by referencing Plan Number ZN-002321-2022.

Memorandum
Planning and Urban Development Department

To:	Chair Stanley & Members of the Planning Board
From:	Maya Balassa
Date:	February 24, 2023
Re:	Major Site Plan Application at 111 Bedford Street
Project ID:	PL-002314-2022
CBL:	114A A001001
Meeting Date:	February 28, 2023

I. INTRODUCTION

The University of Southern Maine (USM) has submitted a major site plan application to develop a new performing arts facility, to be called the 'Center for the Arts', at 111 Bedford Street on the USM's Portland campus. This development is identified in the University's 2019 Facilities Master Plan, and is considered an anchor element of the University's proposed Portland Campus expansion, which includes the previously approved Student Success Center, Campus Quadrangle and Residence Hall, along with the anticipated Graduate Center for Professional Studies. As a point of reference, this master plan is separate and distinct from the City's 'Master Development Plan' and 'Institutional Overlay Zone', which are City approved development and regulatory frameworks intended to facilitate comprehensive planning around either large scale phased developments or Institutional campus development.

The Planning and Urban Development Department mailed 175 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in February 17th and 21st, 2023 editions of the *Portland Press Herald*.

Applicant:	John Souther
Applicant Representatives:	Jonah DeWaters at Oak Point Associates

II. REQUIRED REVIEWS

Review	*Applicable Standards*
Major Site Plan	Site Plan Ordinance

Waiver Requests	*Applicable Standards*
The applicant is proposing to remove three trees within the building setback that have a greater DBH of 10 inches or greater, which is all of the trees that meet that criteria.	Standard 14.6.2.B.3 in the Land Use Code requires sites to preserve at least 30% of the trees within the building setback that have a DBH of 10 inches or greater. The applicant is proposing to replace each of the three trees being removed with a greater DBH than 10 inches with two trees along Bedford Street.

III. PROJECT DATA

Existing Zoning	R-5 Residential and USM Overlay

Property Size	29.33 acres
Existing Use	Institutional
Proposed Use	Institutional
Proposed Development Program	USM Center for the Arts

	Existing	*Proposed*	*Net Change*
Building Footprint (square feet)	336,725	376,800	+40,075
Building Floor Area (square feet)	377,230	417,305	+40,075
Impervious Surface Area (square feet)	690,861	714,819	+23,958
Parking Spaces (site)	0	0	0
Bicycle Parking Spaces (site)	0	10	+10

IV. BACKGROUND AND EXISTING CONDITIONS

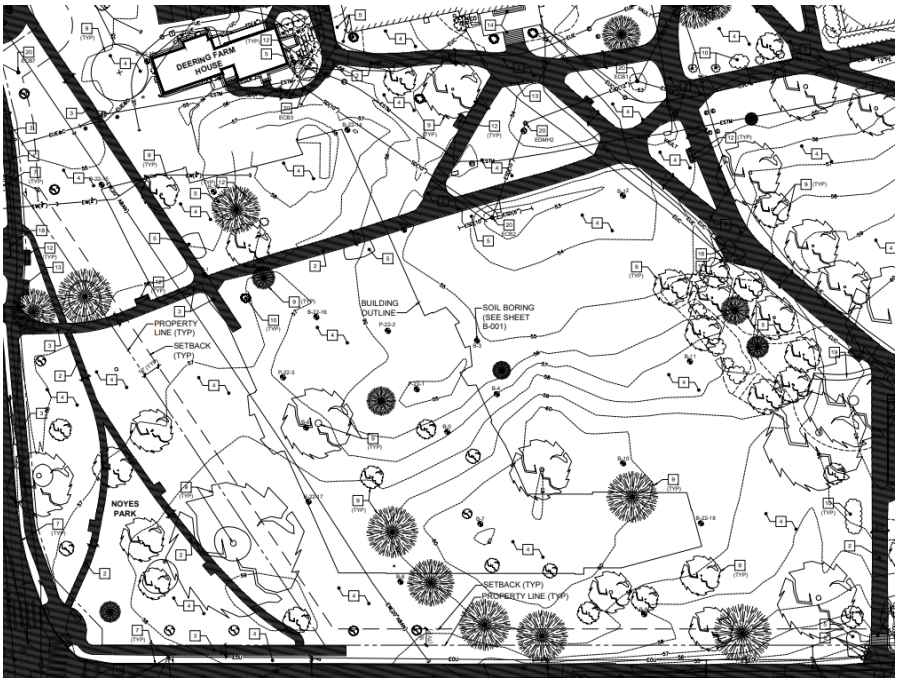

Figure 1. Existing conditions site plan

The development site is largely vegetated with areas of lawn, stands of mature trees, and multiple pathways connecting the various areas of campus. The Deering Farmhouse is currently located within the proposed footprint of the proposed Center for the Arts building, and is being relocated towards Falmouth street on USM property in order to make space for the Center for the Arts building. The site plan for the relocation of the Deering Farmhouse was reviewed as a Minor Site Plan Application, PL-002251-2022, and was approved on February 21, 2023. The development site is situated directly across Deering Avenue from the former USM Law School building. Abutting this area to the east are other USM buildings including, Luther Bonney Hall. The site abuts Noyes Park to the west. The site used to have a section of Bedford Street

running through that has since been incorporated into the green space as part of the Deering's Corner Roundabout project, which was completed in 2021.

USM has recently had several projects approved through site plan review, including a new 41,219 square foot student center, 580-bed dormitory and associated one-acre quad at 25 Bedford Street, approved by the Planning Board on November 10, 2020 (PL-001040-2020). On January 11, 2022 the Planning Board approved a 504 space parking garage at 50 Bedford Street (PL-001729-2021). The student center, residence hall and the parking garage are currently under construction.

Figure 2. USM Student Center and dormitory under construction

V. PROPOSED DEVELOPMENT

The proposed 40,075 square foot building will serve as the new Center for the Arts (CFA) for the University of Southern Maine. The building includes a 200-seat Performance Hall, a flexible Arts Lab, rehearsal room, classrooms, practice rooms, and office for the Center of Book Arts.

The applicant is also proposing landscaping changes, new walkways connecting the CFA building to the surrounding context, a pull off lane along Bedford Street to function as a drop off/pick up lane as well as emergency vehicle access, and a loading area off Falmouth Street for the CFA building. Several areas for new plantings have been proposed, including along Bedford Street and around the relocated Deering Farmhouse. Walkways will be added to the site to connect the CFA building to the surrounding campus buildings and street network.

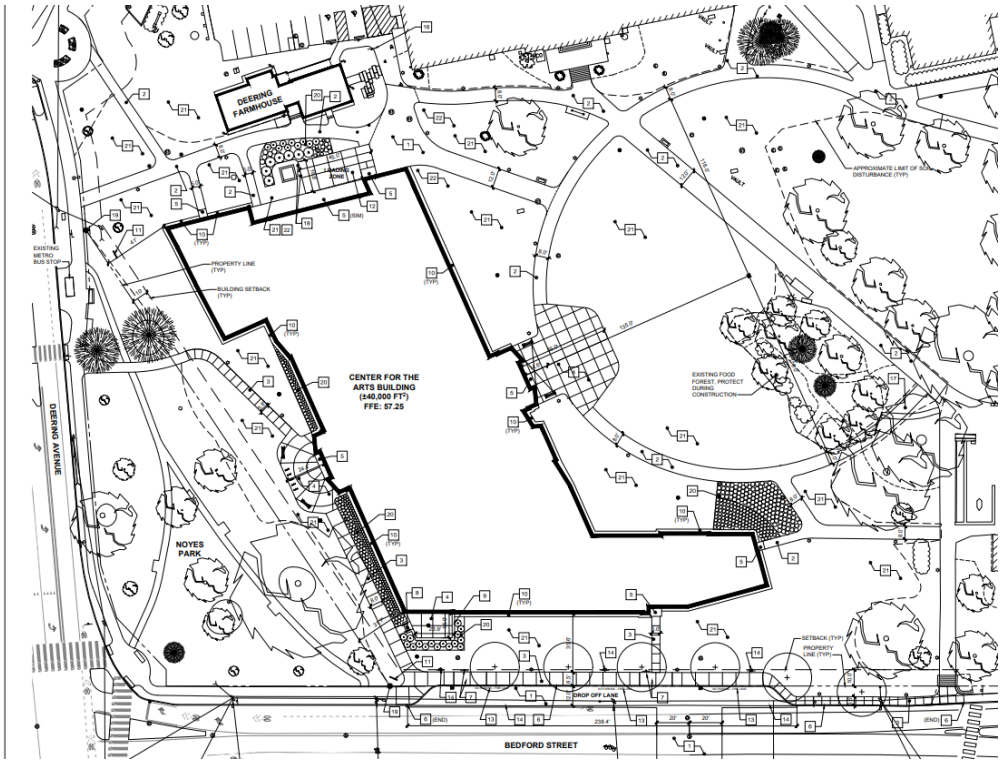

Figure 3. 111 Bedford St. CFA Site Plan

Figure 4. Rendering of the proposed Center for the Arts from campus green

VI. RIGHT, TITLE, & INTEREST

The applicant has demonstrated right, title, and interest through the property deed (Attachment D).

VII. FINANCIAL & TECHNICAL CAPACITY

Documentation to verify financial capacity is a letter from Alexander Porteous, the Chief Operation Officer & Chief Business Officer stating the University will fund the project. Documentation for technical capacity has also been included. The applicant team includes Oak Point Associates and Pfeiffer.

VIII. ZONING ANALYSIS

The site is located within the R-5 Residential zone and is within the USM Overlay Zone. The purpose of this zone is to "establish an overlay zone in which existing university campus can be continued and reasonably expanded within defined boundaries, in addition to those uses permitted in the underlying zone or zones" and to "recognize the unique qualities of a university campus while at the same time protecting the value and integrity of established neighborhoods". The USM Overlay zone was created prior to the City Council's adoption of the Institutional Overlay Zone (IOZ) mechanism. With respect to use requirements, the USM Overlay zone permits the types of uses planned including classrooms, auditoriums, and concert halls. The project also meets zoning dimensional requirements including building setback and height requirements. The impervious surface ratio proposed (55%) is below the maximum allowed for the USM campus, which is 66%. The maximum building coverage allowable for the campus is 40%; this project meets that standard at a building coverage of 33%.

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 is proposing a 12-foot-wide pull-off lane along Bedford Street for emergency vehicle access and for vehicle loading and unloading. This pull-off is not anticipated to impact the existing vehicle and bicycle lanes along Bedford Street. The existing sidewalk along Bedford Street, which runs the length of the area of disturbance will be reconstructed as part of this project.

   The proposed project anticipates an increase of 40 AM/45 PM new trips to the site per day. The anticipated increase in trips puts the project below the threshold for a Traffic Movement Permit. As part of the 2020 student center and dormitory proposal (PL-001040-2020), the Planning Board approved a TMP, which required USM to construct and financially contribute to a number of traffic calming and pedestrian improvements outlined in the approval letter (Report Attachment 4).

   B. Access and circulation

   The proposed Center for the Arts does not involve the construction of new off-street parking, and generally relies on available capacity within existing off-street parking areas, notably the existing and newly constructed parking garages located on the south side of Bedford Street. Trips to and from these parking areas were anticipated as part of the 2020 TMP as noted under the preceding standard. In general, faculty, staff, students and the public will arrive at the Center for the Arts via existing and newly proposed pedestrian pathways. Regarding sidewalks along public rights-of-way, the campus is located within a brick sidewalk district, and any sidewalk repair or construction will need to incorporate brick as a surface material.

   There is a loading area proposed off Falmouth Street to the Center of the Arts via a widened sidewalk. A turning template for 30-foot box trucks has been submitted.

   C. Public transit access

   There is a bus stop at the top of Noyes Park along Deering Ave. This bus stop is within a quarter mile of the site, approximately 65 feet from the proposed building.

D. Parking

There are no changes to parking proposed as part of this application, with all off-street parking associated with this development being provided within the parking garage located off of Bedford Street.

E. Transportation demand management (TDM)

The University of Southern Maine has an existing Transportation Demand Management (TDM) Plan (Report Attachment 5). USM speaks to multiple strategies in addressing transportation demand on campus in Portland, including two major principles: mobility and sustainability. The development of the parking garage along Bedford was intended to cover parking demand created by several new developments, including the Center for the Arts.

2. Environmental Quality Standards (Section 14.6.2)

A. Preservation of significant natural features

There are several large trees on the site that are being preserved including a large Beech tree.

B. Landscape preservation

Tree clearing and turf removal is proposed as part of this project. There will be tree protection fences placed around preserved trees near construction.

C. Site landscaping and buffers

The landscaping plan submitted includes several planted areas to provide visual buffers and to better restrict pedestrian movements to existing and proposed pathways. There are also six street trees proposed along Bedford Street. City staff have also requested a landscaping buffer between the existing parking lot and Falmouth Street.

D. Water quality/storm water management/erosion control

A minor amendment to the Site Location of Development permit has been requested alongside this project. The project proposes addressing stormwater by connecting to the University's existing internal storm drain system with an under drained subsurface sand filter that will collect and treat roof runoff before discharging into the separated storm drain system in Bedford Street.

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

A. Consistency with City Master Plans

The project is following all zoning requirements, and is therefore in line with the Portland's Plan 2023.

B. Public safety and fire prevention

Emergency vehicle access would be provided via a 12-foot pull off along Bedford Street. The project will also introduce additional site lighting to ensure that pedestrian areas are adequately lit per the City's Crime Prevention Through Environmental Design (CPTED) standards.

C. Availability and capacity of public utilities

The building is proposed to connect into existing water and gas infrastructure below Falmouth Street and the sanitary sewer and stormwater system below Bedford Street. Electrical and communications service will be provided from USM's campus-wide electrical and communications

infrastructure. The applicant has requested ability to serve confirmation from Unitil regarding the proposed gas service. A letter confirming wastewater capacity has been included in the application from the Public Works Department. The City is still waiting on written confirmation from the Portland Water District.

4. Site Design Standards (Section 14.6.4)

A. Massing, ventilation, and wind impact

The bulk, location or height of the proposed building is not anticipated to result in any adverse impacts to the surrounding property or areas accessible to the public. The proposed single-story building will be a maximum height of 44 feet, less than the 45-foot minimum which would trigger review of shadow impacts.

B. Snow and ice loading

Snow storage has been identified on the submitted site plan.

C. View corridors

Not applicable. The site is not in a view corridor.

D. Historic resources

Not applicable. This site is not designated as historic.

E. Exterior lighting

A photometric plan has not yet been submitted with the application materials. The applicant has been made aware of the requirements.

F. Noise and vibration

The project is not expected to create noise and vibration impacts.

G. Zoning-related design standards

This project is subject to zoning-related design standards. A design review was completed by the Urban Designer (Report Attachment 3). The applicant has proposed a window glazing treatment. To verify conformance with visual transmittance (VT) standards, the applicant has been asked to submit documentation to show the VT values with the proposed window glazing.

X. SITE LOCATION OF DEVELOPMENT

A Site Location of Development (SLOD) amendment has been submitted alongside this application. As the City of Portland has delegated review authority for site location reviews, staff will evaluate the submitted application for compliance with the City's local site location standards listed under Section 14 of the Technical Manual.

XI. NEIGHBORHOOD MEETING & PUBLIC COMMENT

A neighborhood meeting was held on February 2, 2023. The city received the subsequent documentation (Attachment S). There were several questions concerning how the pull off along Bedford Street will function, tree preservation efforts, and preservation during the relocation of Deering Farmhouse. There has been one public comment submitted in support of relocating the Deering Farmhouse from Greater Portland Landmarks.

XII. NEXT STEPS

The applicant should address any outstanding staff or Planning Board review comments and resubmit plans, materials, and a written response to comments prior to this application being scheduled for a Planning Board Public Hearing.

XIII. ATTACHMENTS

1. Applicant Submittal
    A. Cover Letter
    B. Contents
    C. Application Form and Project Description
    D. Right Title and Interest
    E. Evidence of State or Federal Approvals
    F. Zoning Analysis
    G. Waiver Requests
    H. Financial Capacity
    I. Technical Ability
    J. Transportation Standards
    K. Environmental Standards
    L. Pub Infrastructure and Safety
    M. Site Design Standards
    N. Compliance with USM Standards
    O. Cover_Back
    P. USM Site Location of Development – Minor Amendment
    Q. USM CFA Stormwater Report
    R. Transmittal Letter
    S. Neighborhood Meeting Notes

2. Plans
    1. Title Sheet
    2. Civil Notes Legend and Abbreviations
    3. Existing Conditions Plan
    4. Boundary Survey
    5. Removals Plan
    6. Site Plan
    7. Utility Plan
    8. Grading and Drainage Plan
    9. Erosion and Sediment Control Notes and Details
    10. Site Details
    11. Site Details
    12. Site Details
    13. Boring Logs
    14. Landscape Plan
    15. Landscape Details

16. Floor Plan
17. Exterior Elevations
18. Rendered Views
19. Rendered Views
20. Rendered Views
21. Solar Study

3. Public Comments
   PC 1. Ian Stevenson 2-7-2023

4. Report Attachments
   1. Staff Review Comments
   2. Third Party Stormwater Comments
   3. Design Review Memo
   4. 25 Bedford PL-001040-2020 Approval Letter
   5. USM TDM Plan

Review Criteria:

- Portland's Site Plan Ordinance

Att. 1

GENERAL

- Please submit a photometric plan with a cutsheet to show conformance with lighting standards in the Tech Manual.

ZONING

- Please update the boundary survey to show the changes to the right of way and new roundabout.

TRANSPORTATION

- At the bus pullout along Bedford Street, the proposed catch basins along the curb line are not sufficiently placed. Please adjust.
- At the bus pullout along Bedford Street, the proposed gutter line shall be moved to the proposed curb line and not along the street lane.
- Please adjust the site plan to conform to sidewalk materiality standard and construct the sidewalk along Bedford Street.

WATER QUALITY, STORMWATER, & INFRASTRUCTURE

- Please update the Grading and Drainage plan to fade non-stormwater related items. Additionally, please label the underground sand filter (box 14) within the proposed area.
- The applicant proposes to install street/landscape trees in close proximity to the subsurface stormwater storage & sand filter treatment system. Verify that the location and type of tree are appropriate for this application and will not adversely impact the functionality or maintenance of the stormwater management system.
- The plans should clarify the design invert of the proposed 12" storm drain connection into the City's storm drain system in Bedford Street.
- The proposed 12" storm drain connection into the Bedford Street manhole shall be revised such that the pipe does not discharge against flow in the main line channel.
- The technical manual does not allow for private connections into public catch basins. The plans show two of these connections into Bedford Street which don't meet the City's technical standards.
- CB #2 is located about 50' downstream of the high point in Bedford Street. DPW feels the location of this basin is unnecessary. It appears that if the 12" SD running from CB-2 to CB-1 was shifted to private property it would eliminate the need for CB-2.
- Ensure all City sewer and storm details match the updated technical manual approved in November of 2022.

LANDSCAPING & ENVIRONMENTAL QUALITY

- Please add plantings in the strip between the existing parking lot and Falmouth Street to buffer Falmouth.

Att. 2

WATER QUALITY, STORMWATER, & INFRASTRUCTURE

- DMH-2 shows two outlets in the structure. One outlet is a 12" diameter pipe to the treatment area and the other outlet is a 12" diameter pipe used as an "overflow" to CB-5. There is a 4" orifice placed lower than any invert in the structure. Based on the HydroCAD model, the majority of flow is bypassed during the more frequent storm events (2-year storm) to CB-5 including the "first flush" which is presumably when pollutants would be the most concentrated. Please consider treating more flow during the more frequent storm events and bypass flows during the larger storm events while still meeting the requirements of MEDEP Chapter 500 and City of Portland standards.
- The typical catch basin/drain manhole detail located on sheet C-504 calls for a 2' sump. However, per the City of Portland Technical Manual Section 2.9.5, all catch basins shall be constructed with a minimum sump of three feet. Please correct.

Basic Standard

- Note A.3 on sheet C-501 currently states "temporarily stabilize any area of disturbed soil that remains unworked for more than 14 days..." This should be revised to 7 days in accordance with MEDEP Chapter 500 Appendix A.3.

Stormwater Design

- In the post-development model for Pond 1P: Treatment Area – RTANK, the project appears to be modelling the sand filter system. However, it does not appear that the routing is correct based on the plans. The appliccation indicates a 12" diameter culvert at invert 46.29'. However, there is no 12" diameter culvert shown on the plans at that elevation. Please provide further detail on this routing or revise the routing to reflect actual site conditions.
- It is unclear how the flow between the Cultec chamber and RTank works. There is no direct connection between the 2 devices which assumes that there is leaching from the Cultec chamber, through the stone layer, and into the RTank. As stated in the comment above in 2.a, the orifice in DMH-2 is shown lower than the 12" dia pipe leading to the stormwater treatment area, so it appears that some of this flow is in fact bypassing the stormwater treatment area. The applicantion also delineates the entire roof area as being "Treated Area" on sheet WS103. However, it is unclear how the entire roof area will be treated if flows are being bypassed within the diversion structure before getting to the stormwater treatment area. Please provide further detail on how this system functions and how the stormwater is actually treated, and not bypassed entirely.
- In the post-development model for Pond 1P: Treatment Area – RTANK, under device #4 the applicant is anticipating 1.33 in/hr of exfiltration to DMH-3. Based on the site plan however, DMH-3 does not appear to be connected to the RTANK system and is on the opposite side of the building. This appears to be a typo and should read "exfiltration to DMH-1." Please confirm the correct routing and revise appropriately.
- In the post-development model for Pond CB10: Catch Basin, the invert elevations for the storm drain do not match the elevations shown on the plan set. Please confirm the correct elevation and revise the model or plans accordingly.

- The pre-development total runoff area (263,727) is slightly less than the post-development total runoff area (265,701). Please provide a narrative as to why these areas are different or revise the model to represent the total area for the development.

Att. 3

Subject: 111 Bedford Street
Zone: R-5
Date of Review: January 20, 2023
Reviewer(s): Sean King (Urban Designer), Maya Balassa (Planner), Kevin Kraft (Deputy Director)
Project ID: PL-002314-2022

I. INTRODUCTION

The project to develop the Center for the Arts (CA) was reviewed against the University of Southern Maine (USM) Overlay Zone (Appendix 3 of the Design Manual) and shall apply to all development on the USM Portland campus.

(e) University of Southern Maine Overlay Zone

(1) STANDARDS. All major and minor development . . . 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 . . . included as Appendix 3 of this manual.

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

PRINCIPLE A – Campus Design – *The campus design shall create a strong identity and sense of place.* - **Met**

STANDARD A-1 – Campus Edges: Met
The proposed development of the Center for the Art (CA) is sensitive to the surrounding neighborhood to provide transitions in building scale and form through mitigations in height, arrangement of exterior materials and provides accessible pedestrian connections.

STANDARD A-2 – Building Orientation: Met
The proposed CA is oriented towards existing streets to parallel Bedford Street along with the orientation perpendicular at the existing public open space of Noyes Park that maximizes solar exposure.

STANDARD A-3 – Pedestrian Environment: Met
The proposed development enhances the pedestrian environment through connectivity to all building entries accessible from public right of ways, inclusion of pedestrian scaled lighting, exterior gathering spaces at main entrance and internal Gallery program.

STANDARD A-4 – Gateways: Met
The proposed CA building creates a distinct visual gateway at the corner of Bedford Street and Deering Avenue with a distinct termination for the campus clearly articulated by symmetrical arrangement of

building elements as indicated by central curtainwall, materiality that breaks the uniformity of facades and architectural lighting.

STANDARD A-5 – Views and Landmarks: Met
The proposed CA building responds to prevailing view corridors and campus buildings in placement and presence at the corner of Bedford Street and Deering Avenue. Building design elements include central Gallery with curtainwall system, contemporary fenestration pattern at ground level, metal panel system at outer building forms and distribution of lawn that protects existing tree and plant demonstration areas within proposed campus green.

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. –* Met

STANDARD B-1 – Connectivity: Met
The proposed development connects internal campus circulation with neighboring streets at multiple access points located along Bedford Street, Deering Ave and Falmouth Street.

STANDARD B-2 – Circulation: Met
The proposed circulation includes a network of sidewalks at ground level that connect to existing internal campus sidewalks, public right of ways and buildings entrances at every facade of the building.

STANDARD B-3 – Multi-modality: Met
The proposed development includes pedestrian connection to existing campus circulation and serves to connect existing public transportation at transit shelter located on Deering Avenue. Emergency access is provided from adjacent streets and at rear of building at loading and service area.

STANDARD B-4 – Traffic-calming: Not applicable
The proposed development does not proposed internal vehicular circulation.

STANDARD B-5 – Sidewalks: Met
The proposed eight-foot width concrete sidewalk along frontage of CA building is an exception from the clay brick sidewalk provision on both sides of public streets. City staff finds the exception for concrete sidewalk in lieu of clay brick sidewalk to be appropriate as a continuation of the existing concrete sidewalk along the north side of Bedford Street.

STANDARD B-6 – Street Lights: Met
The proposed CA utility plan indicates lightpole locations and shall be reviewed to meet site lighting standards per site plan review. The proposed post top light fixtures closely match the installed fixtures along Bedford Street adjacent to the Library and Parking Structure to provide consistency.

PRINCIPLE C – Parking, Loading and Service Access *– 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. -* Met

STANDARD C-1 – Structures: Not applicable

No parking structure proposed for CA development.

STANDARD C-2 – Active Uses: Not applicable
No parking structure proposed for CA development.

STANDARD C-3 – Decks and Ramps: Not applicable
No parking structure proposed for CA development.

STANDARD C-4 – Surface Lots: Not applicable
No surface lots for parking proposed for CA development.

STANDARD C-5 – Loading and Service Areas: Met
A consolidated loading and service area is proposed at the rear of building, shown on the west elevation with entrances recessed from the predominate façade and screened by a landscape buffer from campus sidewalk.

STANDARD C-6 – Utility Services: Met
A transformer for electrical service is proposed at the rear of building with vertically screened landscaping.

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.* – Not Met

STANDARD D-1 – Height: Met
The building heights transition along campus edges to the scale of the adjacent residential structures across Bedford Street and Noyes Park through variations of building height stepdown towards the neighboring streets.

STANDARD D-2 – Setbacks: Met
The proposed front yard setback along Bedford Street exceeds the ten feet standard from the street right of way and seeks exception to conform to the existing campus building Luther Bonney Hall. Staff finds this proposed exception for a forty-four front setback to be appropriate to complement the existing placement of Luther Bonney Hall setback approximately fifty feet from the street right of way and promote a cohesive open space experience that connects Noyes Park to the campus green.

STANDARD D-3 – Stepbacks: Not applicable
The proposed CA building is located adjacent to Bedford Street & Deering Avenue and setback significantly from Falmouth to not apply this standard.

STANDARD D-4 – Massing: Met
The proposed facades as visible from the street create an overall symmetry expressed by the central curtainwall spine and vertically flared forms that extend to the edges of the overall structure. Building design elements to extend the façade above roofline assist to shield views of rooftop appurtenance not visible from the street.

STANDARD D-5 – Entrances: Met
Building entrances are clearly visible from the street, with the primary entrance as the centralized curtainwall facing Noyes Park and secondary entrances visible along the east and west elevations as identified doorways adjacent to full height windows facing the street.

STANDARD D-6 – Windows: Not Met
Proposed windows are appropriate to the contemporary arrangement of building's massing that reinforces the first floor and expression of main spine/lobby. **The applicant shall submit proposed translucent ceramic frit film application to clear glazing to meet .7 or greater visible transmittance.**

STANDARD D-7 – Materials: Not Met
Exterior materials in the façade visible from public right of ways are expressed by the vertical curtainwall comprised of timber and glass with outer forms of the building cladded with highly durable and dynamic metal panel system with vertical and horizonal orientation that respond to each facade plane. **The applicant shall submit proposed window screen specification to observe level of tint for staff review.**

STANDARD D-8 – Signage: Met
New building address signage is incorporated into the street facing south elevation, along with building name centralized above the main entrances at street facing south elevation and campus facing north elevation.

STANDARD D-9 – Historic Structures: Not applicable
The existing Farmhouse is to be located, independent and not incorporated into the proposed CA building.

STANDARD D-10 – Original Residential Structures: Not applicable
Proposed CA building is located on undeveloped land where no original residential structures currently exist.

CITY OF PORTLAND, MAINE

PLANNING BOARD

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

11/18/2020

Alec Porteous
University of Southern Maine
P.O. Box 9300
Portland, Maine 04101

Darrin Stairs
Woodard & Curran
41 Hutchins Drive
Portland, ME 04102

Project Name:	Student Center, Dorm, & Quad	**Project ID:**	PL-001040-2020
Address:	25 Bedford Street	**CBL:**	114A G009
Applicant:	University of Southern Maine		
Planner:	Christian Roadman		

Mr. Porteous,

On November 10, the Planning Board approved your application to construct a 218,612 square foot student housing facility, a 41,249 square foot student center, and associated open space at 25 Bedford Street in the B-2 and R-5 zones and the University of Southern Maine overlay zone.

The Planning Board reviewed the proposal for conformance with the site plan and site location of development standards of Portland's Land Use Code. The Planning Board voted 7-0 to approve the application with the following waivers and conditions as presented below.

Waivers

1. The Planning Board voted unanimously (7-0) based upon the submitted materials, that extraordinary conditions exist or undue hardship may result from strict compliance with the Design Manual standard (e) University of Southern Maine Overlay Zone, Appendix 3 Standard D-7 Materials which prohibits use of fiber cement panels. The Planning Board waived the Design Manual standard (e) University of Southern Maine Overlay Zone, Appendix 3 Standard D-7 Materials to allow use of fiber cement panel.

Site Plan and Site Location of Development Review

The Planning Board voted unanimously (7-0) that the plan is in conformance with the site plan standards of the Land Use Code and the Site Location of Development Act standards subject to the following conditions of approval:

PRIOR TO APPLYING FOR A BUILDING PERMIT

1. The applicant shall submit an ability to serve letter from the Portland Water District.

2. The applicant shall submit confirmation of adequate wastewater capacity from the Department of Public Works.

3. The applicant shall submit a dewatering plan for review and approval by the Department of Public Works.

4. The applicant shall submit an updated construction management plan for review and approval by the Department of Public Works.

5. The applicant shall submit a request to connect to the municipal storm drain system with updated calculations for review and approval by the Department of Public Works.

6. The applicant shall submit an updated stormwater management report, including calculations and updated stormwater infrastructure designs and details, for review and approval by the Planning Authority and consulting civil engineer.

7. If modifications to the stormwater management design impact design plans, then the applicant shall submit an updated grading and drainage plan for review and approval by the Planning Authority and consulting civil engineer.

SIX MONTHS AFTER ISSUANCE OF A BUILDING PERMIT

8. The applicant shall provide proof of parking commitments sufficient to provide the 396 parking spaces required by the proposed development, or shall submit a site plan application for a parking garage providing these spaces, for review and approval by the Planning Authority.

PRIOR TO CERTIFICATE OF OCCUPANCY

9. The applicant shall obtain a certificate of occupancy for a parking garage providing the 396 parking spaces required by the proposed development, or shall provide a final parking management plan and executed leases providing these spaces, for review and approval by the Planning Authority.

Traffic Movement Permit

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board report for the public hearing on November 10, 2020 for application PL-001040-2020 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 (7-0) to find that the plan is in conformance with 23 MRSA 704-A and Chapter 305 Rules and Regulations pertaining to Traffic Movement Permits, subject to the following conditions of approval:

1) The applicant shall provide conceptual design plans, preliminary and final plans and specifications for Traffic calming / pedestrian improvements at the Falmouth Street / Oakdale Street intersection for review and approval by the Department of Public Works and Planning Authority. Said improvements shall be constructed by the applicant prior to completion of a parking garage structure or five years from TMP approval, whichever is sooner.

PRIOR TO CERTIFICATE OF OCCUPANCY

2) The applicant shall provide a $10,000 contribution to the City towards Forest Avenue traffic signal optimization at the Forest Avenue / Bedford Street / Baxter Boulevard and Forest Avenue / Falmouth Street / Preble Street Extension intersections with the intent of improving mobility efficiencies.

3) The applicant shall provide conceptual design plans, preliminary and final plans and specifications for improvements at the Forest Avenue/Bedford Street/Baxter Boulevard intersection based on the Smart Corridor Study recommendations for review and approval by the Department of Public Works and Planning Authority. These shall include geometric modifications to the corners on the Baxter Boulevard approach and upgrades to pedestrian traffic signal equipment on those corners. The applicant shall construct the said improvements prior to Certificate of Occupancy, with all work complying with ADA standards.

4) The applicant shall provide conceptual design plans, preliminary and final plans and specifications for improvements at the Forest Avenue/Falmouth Street/Preble Street Extension intersection based on the Smart Corridor Study recommendations for review and approval by the Department of Public Works and Planning Authority. These shall include geometric modifications to the southeast corner, a crosswalk on the southerly Forest Avenue approach, and upgraded pedestrian traffic signal equipment. It should be noted that the new crosswalk will require installation of a new sidewalk ramp on the westerly side of Forest Avenue. Thus, improvements are proposed on the southeast and southwest corners of the intersection as a part of this condition. The applicant shall construct the said improvements prior to Certificate of Occupancy, with all work complying with ADA standards.

The approval is based on the submitted plans and findings related to site plan review, site location of development review, and traffic movement permit review as contained in the Planning Board report dated 11/106/2020 for application PL-001040-2020 which is attached.

Standard Procedures

Please Note: The following standard procedures apply to all approved site plans:

1. Stormwater Management Agreement The developer / contractor / subcontractor must comply with the 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.

2. Site Plan Expiration 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.

3. 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.

4. Performance Guarantee and Inspection Fees A performance guarantee covering the site improvements and an inspection fee payment of 2.0% of the guarantee amount 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.

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. Preconstruction Meeting 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. It shall be the contractor's responsibility to arrange a mutually agreeable time for the pre-construction meeting.

7. 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 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)

8. 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 approved exterior elevations, which was 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.

9. 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.

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. 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) 874-8632. 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 Christian Roadman at (207) 874-8984.

Sincerely,

Brandon Mazer
Chair, Portland Planning Board

Attachments:
1. Planning Board Report for Application PL-001040-2020
2. Draft Stormwater Maintenance Agreement
3. Performance Guarantee Packet

PLANNING BOARD REPORT
PORTLAND, MAINE

Student Center, Dormitory, & Quad
25 Bedford Street
Level III Site Plan and Site Location of Development Review
PL-001040-2020
University of Southern Maine, Applicant

Submitted to: Portland Planning Board **Public Hearing Date:** 11/10/2020	**Prepared by:** Christian Roadman, Planner **Date Prepared:** 11/6/2020

I. INTRODUCTION / PROPOSED DEVELOPMENT

The University of Southern Maine (USM) seeks to redevelop a portion of their campus, replacing two existing buildings and a parking lot with a 42,000 square foot student center, a 580 bed dormitory, and one-acre quad.

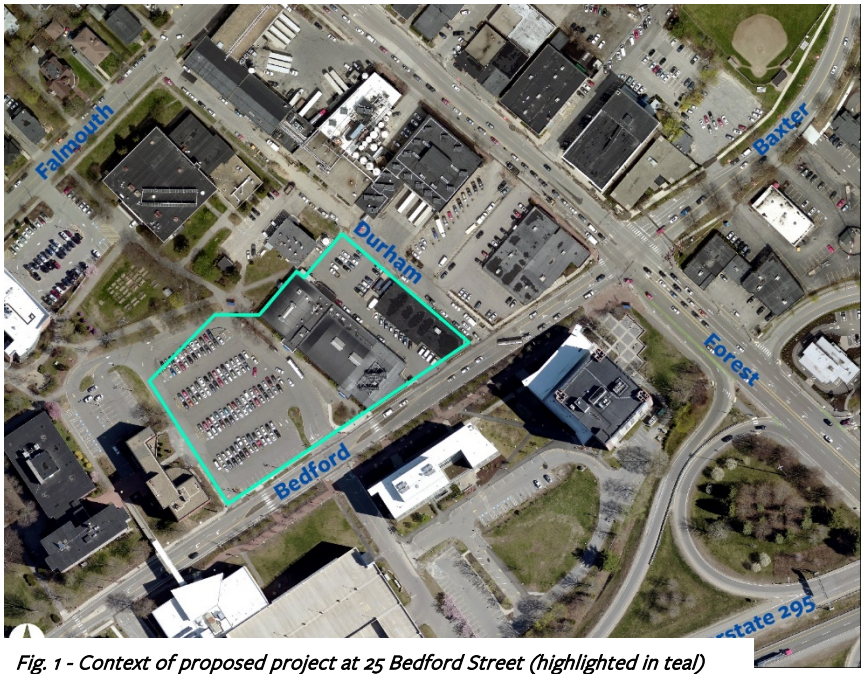

Fig. 1 - Context of proposed project at 25 Bedford Street (highlighted in teal)

The proposed project is located mostly within the R-5 Residential Zone, with a portion at the easternmost edge of the site in the B-2 Community Business Zone. USM's entire Portland campus also lies within the USM overlay zone, created to allow the University the flexibility to operate uses typical of an institution of higher education.

In addition to the City's site plan review requirements, this development is subject to a Site Location of Development (SLODA) review and requires a Maine DOT Traffic Movement Permit (TMP). The City of Portland is the delegated review authority for both.

Between removal of an existing 171 space parking lot and the new buildings, the development as currently proposed would result in a deficit of approximately 400 parking spaces. The University plans to construct a parking garage prior to completing this project; however, the Planning Board cannot assume that an appropriate facility would be planned, reviewed, permitted, and constructed within the necessary time frame. Because of this, USM developed a contingency plan (**Attachment D**) involving remote parking at offsite lots along METRO routes (or utilizing shuttles) and potential changes to existing parking operations to increase efficiency. Progress towards, and then provision of, adequate parking is suggested as a **condition of approval**.

Notices have been sent to 190 property owners and a legal advertisement was published in the October 30 and October 31 editions of the *Portland Press Herald*.

Fig. 2 - Rendering of proposed project at 25 Bedford Street in context viewed from the southwest (image: Applicant)

Applicant: University of Southern Maine
Consultants: Woodard & Curran, Inc. (civil engineering); SMRT Architects & Elkus Manfredi Architects (building design) Capstone Development Partners (student housing developer)

II. REQUIRED REVIEWS

Waiver Requests	Applicable Standards
Use of materials (fiber cement panel) identified as 'low quality' Staff support this waiver based on improved quality of fiber cement paneling	City of Portland Design Manual – (e) University of Southern Maine Overlay Zone, Appendix 3 Standard D-7 Materials
Review	**Applicable Standards**
Site Plan	Section 14-526
Site Location of Development	Technical Manual Section 14
Traffic Movement Permit	Delegated Review from Maine DOT

III. PROJECT DATA

Existing Zoning	R-5 Residential, B-2 Community Business, USM Overlay Zone
Existing Use	Student center, university facilities building, parking
Proposed Use	Student center, dormitory, quad
Property Size (sf.)	~673,000 (~144, 600 disturbed)

	Existing	Proposed	Net Change
Building Footprint (sf.)	36,906	48,477	+8,571
Building Floor Area (sf.)	36,906	259,861	+222,955
Impervious Surface Area (sf.)	123,178	70,334	-52,844
Parking Spaces	~171	0 (offsite spaces plan intended to offset need)	-171
Bicycle Parking Spaces	14	~36	+22

Fig. 3 - Rendering of the proposed project Bedford Street; the proposed dorm is to the right, partially visible. (image: applicant)

IV. EXISTING CONDITIONS

The University of Southern Maine's Portland Campus occupies more than 15 acres of land just outside of Portland's peninsula in the Oakdale neighborhood, and is bounded by Forest Avenue and Durham Street to the East, Falmouth Street to the North, Exeter Street to the West and I-295 and Chamberlain Street to the South. The campus operates in conjunction with USM's two other campuses located in Gorham and Lewiston, and at present, largely serves a commuter student population, with residence halls housed on the university's Gorham campus. The campus consists of 34 buildings ranging from repurposed single-family homes to large academic buildings, ten surface parking lots, one parking garage, and pathways across campus.

The buildings proposed for demolition as part of the redevelopment house campus services and facilities management.

V. PUBLIC COMMENT AND NEIGHBORHOOD MEETING

The applicant held a required neighborhood meeting virtually via Zoom on July 15, 2020. 21 members of the public attended. Those who spoke commented their appreciation for the architecture of the new buildings and overall design. The neighborhood meeting notification, sign-in sheet and minutes are included as **Attachment B**.

As of this writing, public comment received (**PC1 – PC7**) generally expresses neighborhood concern regarding potential traffic and parking impacts on the nearby residential neighborhood and also the business operations of Oakhurst Dairy. One "comment" is a neighborhood petition supported by approximately 44 neighbors which expresses particular concern regarding the applicant's intended parking garage and how it is not included in this application.

VI. RIGHT, TITLE, & INTEREST AND FINANCIAL & TECHNICAL CAPACITY

The applicant provided four deeds (**Attachment F**) to evidence ownership of the property.

The applicant provided a letter listing voter-approved general obligation debt, philanthropic contributions, and revenue bonds as financial resources facilitating the proposed project (**Attachment F**).

The applicant cited consultant experience and expertise as evidence of technical capacity (**Attachment F**).

VII. ZONING ANALYSIS

The development site is located within the R-5 Residential Zone, the B-2 Community Business Zone, and the USM Overlay Zone. The purpose of the USM Overlay Zone is to allow the University's existing campus to "be continued and reasonably expanded within defined boundaries" while recognizing "the unique qualities of a university campus while at the same time protecting the value and integrity of established neighborhoods."

University buildings and structures are subject to the requirements of the underlying zoning districts, except as modified by the USM Overlay Zone. The Overlay Zone allows for an 85 foot building height in the area of the campus where this development is to occur, with required setbacks of 10 feet along Bedford Street, 0 feet along Durham Street, and 20 feet along Falmouth Street.

The uses proposed for this project, which are classified as 'university uses', are permitted within the USM Overlay Zone. These include classrooms, student unions, dining halls, bookstores, auditoriums, outdoor use areas, student housing and offices.

The proposed buildings conform to height restrictions in the zone – a portion of one building exceeding the height limit (**Attachment P17**) is for a stair tower and elevator overrun, which is allowable.

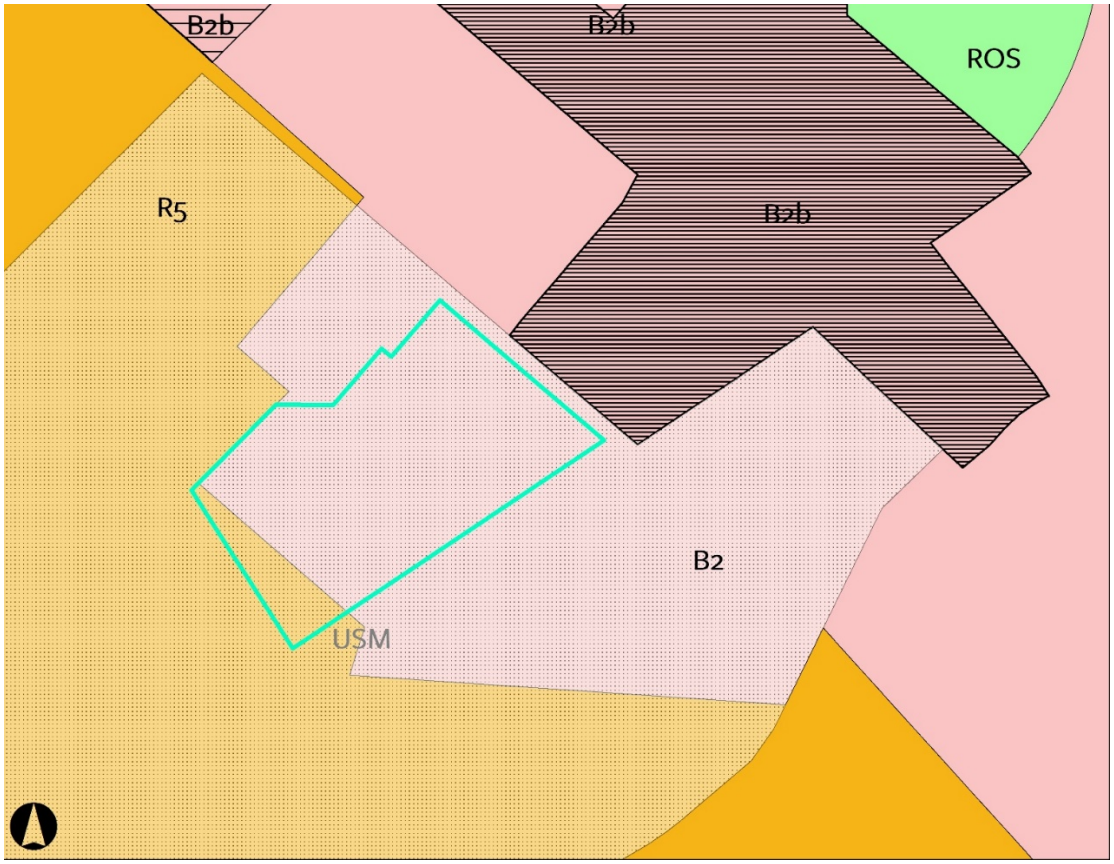

Fig. 4 - Zoning context of the proposed project at 25 Bedford Street (highlighted in teal). The stippled portion of the map represents the USM overlay zone.

VIII. DEVELOPMENT REVIEW

A. SITE PLAN STANDARDS (Section 14-526)

Staff reviewed the proposed development for conformance with the relevant review standards of Portland's site plan ordinance and applicable regulations, and staff comments relative to each standard are below:

a) Transportation Standards

Impact on Surrounding Street Systems and Access and Circulation; Access and Circulation; Public Transit Access; Parking; Transportation Demand Management

The proposed development is not expected to significantly impact the surrounding street system as the proposed uses are not expected to generate more traffic than current uses; the residence hall may reduce traffic demand on campus. Two curb cuts along Bedford Street would be eliminated, which should improve traffic flow on campus. Prior to the completion of this development, a new roundabout will be built at the intersection of Brighton Avenue and Deering Avenue, which at present is the most deficient intersection in the vicinity of the university. The roundabout is anticipated to improve traffic flow through that intersection and is currently under construction.

The University is located along the 2, 4, and Husky METRO (the latter connects its Gorham and Portland campuses). On campus, proposed pedestrian infrastructure connections are intended to improve pedestrian mobility.

In the short term, this development is expected to result in an overall decrease in the supply of off-street parking, as 171 surface spaces are being eliminated. As noted above, the University plans to construct a parking garage prior to completing this project; however, the Planning Board cannot assume that an appropriate facility would be planned, reviewed, permitted, and constructed within the necessary time frame.

Because of this, USM developed a contingency plan (**Attachment D**) involving remote parking at offsite lots along METRO routes or shuttle service, and potential changes to existing parking operations; utilizing parking attendants would allow cars to be "parked in" to maximize efficiency, and then be retrieved when needed by attendants. Additionally, USM proposed leasing parking spaces at one of two locations in Westbrook: Rock Row or 183 County Road in Westbrook. At the former, the existing Husky Line would allow students to then take the bus to campus and back. At the latter, the University would need to coordinate additional bus service or institute a shuttle service to that lot.

Progress towards, and then provision of, adequate parking is suggested as a **condition of approval**.

The University provided a Transportation Demand Management (TDM) plan (**Attachment C**) including a trip reduction goal of between 3% and 6%, and a parking reduction of between 10% and 14 % by the year 2025 (after presumed completion of the student center, residence hall and desired garage). The plan was reviewed and approved by the City's Transportation Programs Manager (**Attachment 1**), who noted that previous staff comments based on commitment to core strategies, development of greenhouse gas and mode split targets, expansion of monitoring / reporting on trip and parking reductions were addressed substantively to the satisfaction of staff.

The Department of Public Works senior engineer (**Attachment 3**) and consulting traffic engineer (**Attachment 2**) also participated in review of the project. Both are generally satisfied with the current application, but request specific conditions of approval tied to the applicant's Traffic Movement Permit (addressed below) and improvements to the applicant's construction management plan.

b) Environmental Quality Standards

Preservation of Significant Natural Features; Landscaping & Landscape Preservation; Water Quality, Storm Water Management and Erosion Control

The proposed project site is entirely developed, and as such, contains no significant natural features. The project introduces two new major green spaces: a one-acre campus quadrangle and a semi-private half-acre courtyard partially surrounded by the residence hall.

The proposed redevelopment will reduce the amount of impervious surface for this site but still must treat at least 50% of impervious area. To meet this threshold, the applicant proposes grassed underdrained soil filters and bioretention cell soil filters. The City's consulting civil engineer reviewed the applicant's proposal (**Attachment 4**) and requested updates and clarifications to several stormwater calculations and details. Revisions are anticipated prior to the Planning Board's public hearing on Tuesday. Otherwise, additional conditions of approval may be necessary.

The Department of Public Works requires (**Attachment 5**) a dewatering plan from the applicant. This is suggested as a **condition of approval**.

c) Public Infrastructure and Community Safety Standards

a. Consistency with related Master Plans; Public Safety and Fire Prevention; Availability and Capacity of Public Utilities

The project as shown appears consistent with master plans adopted by the City. The application was reviewed for compliance with relevant life/safety requirements and deemed satisfactory in this regard. The project proposes new utility connections for water, gas, electric and sewer. Confirmation of adequate wastewater capacity by the Department of Public Works and confirmation of ability to serve by the Portland Water District are suggested as **conditions of approval**.

d) Site Design Standards

1. Massing, Ventilation and Wind Impact; Shadows; Snow and Ice Loading; View Corridors; Historic Resources; Exterior Lighting; Noise and Vibration; Signage and Wayfinding

   The proposed building massing complements the existing campus environment, and promotes an improved pedestrian experience along Bedford Street with a more uniform street wall. The development is not anticipated to have adverse impacts related to either ventilation or wind, nor adverse impacts related to building shadows or snow and ice loading.

   There are no designated view corridors within the project vicinity, and lighting proposed (**Attachments G and P11**) meets City standards for light trespass and full cutoff fixtures. Lighting consists of bollard, wall pack and pole mounted fixtures that are concentrated along walkways, at building entrances and within the residence hall courtyard.

   No adverse impacts related to noise and vibration are anticipated as mechanical equipment is to be roof-mounted and away from public open spaces and other residential areas.

2. Zoning Related Design Standards

   The City's Urban Designer reviewed the proposed project (**Attachment 6**) against the USM Campus Design Principles and Standards (Appendix 3 of the Design Manual), and generally supported the proposed project design.

B. COMPREHENSIVE PLAN

Portland's Plan 2030 identifies a vision statement and policy goals for the City. Several of these are applicable to the proposed project and are reproduced below.

Vision statement:

- Equitable:
  "We will incorporate the needs of all our residents in planning for our future."

- Sustainable*:*

  "Portland will grow in order to sustain our community, infrastructure, and economy."

- Dynamic:

  "We will welcome new residents into our community because they enrich and sustain our community."

- Secure:
  "We will be committed to accessible housing and healthy food for all our residents."

- Authentic:
  "We will invest in and support our local economy.

  Policy goals:

- Environment:

  "Adopt sustainable land use and transportation policies that support connectivity, walkable neighborhoods, and multi-modal transportation."

- Economy:

  "Support sustainable growth in our educational, medical, and cultural institutions."

- Housing:
  "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."

- Transportation:
  "Promote multi-modal accessibility, enabling residents and visitors of all ages and abilities to participate fully in the social and economic life of the community."

C. SITE LOCATION OF DEVELOPMENT

The City of Portland has delegated review authority from the Maine DEP for large projects that trigger Site Location of Development Act (SLODA) review. The standards for this review include the items below, which largely dovetail with Portland's existing site plan review standards:

- *Financial & Technical Capacity*: see section VI, above.
- *Traffic Movement*: see site plan standards, a, above, and Traffic Movement Permit, below.
- *No Adverse Effect on the Natural Environment, Ground Water, Flooding, Storm Water Management & Erosion and Sedimentation Control*: see site plan standards, b, above. The development is not located within a flood hazard zone, as shown on the FEMA Flood Insurance Rate Map provided in this application. The proposed development is not anticipated to cause or increase flooding or cause an unreasonable hazard to any adjacent structures.
- *Soil Types:* The applicant provided a draft geotechnical report and information regarding strategies to appropriately stabilize the building (**Attachment X**).
- *Infrastructure*: see site plan standards, c, above.

D. TRAFFIC MOVEMENT PERMIT

As defined under Maine state statute 704—A, a traffic movement permit is required of any project that generates 100 or more passenger car equivalents at peak hour. Any project surpassing this threshold is required to make adequate provision for traffic movement of all types into and out of the project area such that any traffic increase that is attributable to the project will not result in unreasonable congestion or unsafe conditions within the vicinity of the development.

Per the applicant's TMP materials (**Attachment U**) The proposed development is expected to generate 160 new morning peak hour trips am peak hour trips, and 160 new evening peak hour trips. Based on staff and

reviewer feedback, the applicant agreed to help fund and implement, in coordination with the City, physical infrastructure and signal timing improvements intended to mitigate traffic impacts and increase pedestrian safety in the area of the USM campus. Specifically, the applicant is required as a condition of approval, to:

1) Implement improvements at the Forest Avenue/Bedford Street/Baxter Boulevard intersection based on the Smart Corridor Study recommendations. This shall include geometric modifications to the corners on the Baxter Boulevard approach, upgrading pedestrian traffic signal equipment with all work complying with ADA standards.

2) Implement improvements at the Forest Avenue/Falmouth Street/Preble Street Extension intersection based on the Smart Corridor Study recommendations. This shall include geometric modifications to the southeast corner, implementing a crosswalk on the southerly Forest Avenue approach, upgrading pedestrian traffic signal equipment with all work complying with ADA requirements. It should be noted that the new crosswalk will require installation of a new sidewalk ramp on the westerly side of Forest Avenue.

3) Contribute $10,000 towards Forest Avenue Traffic Signal Optimization at the Forest Avenue/Bedford Street/Baxter Boulevard and Forest Avenue/Falmouth Street/Preble Street Extension intersections with the intent of improving mobility efficiencies.

4) Implement traffic calming / pedestrian improvements at the Falmouth Street / Oakdale Street intersection (including a raised intersection with supporting features for review and design by the Portland Department of Public Works) before completion of a parking garage structure or five years from TMP approval, whichever is sooner.

IX. 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 November 10, 2020 for application PL-001040-2020 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 submitted materials, that extraordinary conditions exist or undue hardship may result from strict compliance with the Design Manual standard (e) University of Southern Maine Overlay Zone, Appendix 3 Standard D-7 Materials which prohibits use of fiber cement panels. The Planning Board **[waives / does not waive]** the Design Manual standard ((e) University of Southern Maine Overlay Zone, Appendix 3 Standard D-7 Materials) to allow use of fiber cement panel.

B. SITE PLAN REVIEW & SITE LOCATION OF DEVELOPMENT

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 November 10, 2020 for application PL-001040-2020 relevant to the site plan and Site Location of Development Act 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 and the Site Location of Development Act standards, subject to the following conditions of approval:

PRIOR TO APPLYING FOR A BUILDING PERMIT

1. The applicant shall submit an ability to serve letter from the Portland Water District.

2. The applicant shall submit confirmation of adequate wastewater capacity from the Department of Public Works.

3. The applicant shall submit a dewatering plan for review and approval by the Department of Public Works.

SIX MONTHS AFTER ISSUANCE OF A BUILDING PERMIT

4. The applicant shall provide proof of parking commitments sufficient to provide the 396 parking spaces required by the proposed development, or shall submit a site plan application for a parking garage providing these spaces, for review and approval by the Planning Authority.

PRIOR TO CERTIFICATE OF OCCUPANCY

5. The applicant shall obtain a certificate of occupancy for a parking garage providing the 396 parking spaces required by the proposed development, or shall provide a final management plan and executed leases providing these spaces, for review and approval by the Planning Authority.

C. TRAFFIC MOVEMENT PERMIT

On the basis of the application, plans, reports, and other information submitted by the applicant; findings and recommendations contained in the Planning Board report for the public hearing on November 10, 2020 for application PL-001040-2020 relevant to Portland's technical and design standards 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 23 MRSA 704-A and Chapter 305 Rules and Regulations pertaining to Traffic Movement Permits, subject to the following conditions of approval:

1. The applicant shall provide conceptual design plans, preliminary and final plans and specifications (for review and approval by the Department of Public Works and Planning Authority) and then implementation of Traffic calming / pedestrian improvements at the Falmouth Street / Oakdale Street intersection (including a raised intersection with supporting features for review and design by the Portland Department of Public Works) before completion of a parking garage structure or five years from TMP approval, whichever is sooner.

PRIOR TO CERTIFICATE OF OCCUPANCY

2. The applicant shall provide a $10,000 contribution to the City towards Forest Avenue traffic signal optimization at the Forest Avenue / Bedford Street / Baxter Boulevard and Forest Avenue / Falmouth Street / Preble Street Extension intersections with the intent of improving mobility efficiencies.

3. The applicant shall provide conceptual design plans, preliminary and final plans and specifications (for review and approval by the Department of Public Works and Planning Authority) and then implementation of the following:

    - Improvements at the Forest Avenue/Bedford Street/Baxter Boulevard intersection based on the Smart Corridor Study recommendations. This shall include geometric modifications to the corners on the Baxter Boulevard approach, upgrading pedestrian traffic signal equipment with all work complying with ADA standards.

- Improvements at the Forest Avenue/Falmouth Street/Preble Street Extension intersection based on the Smart Corridor Study recommendations. This shall include geometric modifications to the southeast corner, implementing a crosswalk on the southerly Forest Avenue approach, upgrading pedestrian traffic signal equipment with all work complying with ADA requirements. It should be noted that the new crosswalk will require installation of a new sidewalk ramp on the westerly side of Forest Avenue.

XI. ATTACHMENTS

Report Attachments

1. Transportation Programs Manager TDM Memo
2. Consulting Transportation Engineer TMP Comments
3. Department of Public Works Senior Engineer CM Plan Memo
4. Consulting Civil Engineer Comments Memo
5. Department of Public Works Water Resources Comments
6. Urban Designer Review Memo

Public Comment

PC1 - PC 7.

Applicant's Submittals

A. Cover Letter and Project Summary
B. Neighborhood Meeting Materials
C. Transportation Demand Management
D. Interim Parking Management Plan Memo
E. Site Location of Development Application
F. Site Plan Requirements Narratives
G. Lighting Cut Sheets
H. Stormwater Report
I. USM Facilities Master Plan
J. Traffic Memo
K. Street Parking Memo
L. Design Narrative
M. Response to Comments Letters
N. Portland Commons Window to Wall Ratio
O. Landscape Design Concept Memo
P. Housing Survey Market Analysis
Q. Parking Analysis
R. Parking Garage Feasibility Study
S. Preliminary Plan for Move-In
T. Sightline Diagrams
U. TMP Section 7

Plans

P1. Cover Sheet
P2. Site Notes & Legends

P3. Existing Conditions & Removals Plan
P4. Building Demolition Plan
P5. Site Layout
P6. Utilities
P7. Planting & Landscape
P8. Grading & Drainage
P9. Erosion & Sedimentation Controls
P10. Steam Line
P11. Photometric
P12. Post Development Watershed Plan
P13. Post Development Water Quality Plan
P14. Construction Management
P15. USM Survey
P16. Floor Plans
P17. Elevations
P18. Renderings

CITY OF PORTLAND

Planning & Urban Development

Performance Guarantee, Inspection Fee, and Infrastructure Financial Contribution Packet

A. Site Plan/Subdivision Performance Guarantees Required

Portland's Land Use Code requires all developers with approved site plan and/or subdivision applications to submit a performance guarantee to the City prior to the start of any construction or site improvements. The performance guarantee represents 100% of the total cost of site improvements, as determined by the City.

The code further requires developers to pay an inspection fee of 2% of the performance guarantee amount to the City for the administrative costs associated with inspecting construction activity to ensure that it conforms with plans and specifications.

(Portland's Land Use Code, Sections 14-501 and 14-530)

B. Cost Estimate Form and Inspection Fee

The performance guarantee covers major site improvements related to site plan and subdivision review, such as paving, roadway, utility connections, drainage, landscaping, lighting, etc. Please submit an itemized cost estimate form to determine the detailed costs of both public and private site improvements to the Planning Division for review and approval. The cost estimate form (excel format) can be downloaded from the city's website here: http://portlandmaine.gov/costestimate The approved amount on the Cost Estimate form is the amount to be covered by the performance guarantee and is the basis for calculating the 2% inspection fee.

C. Acceptable Types of Performance Guarantees

The accepted forms of a performance guarantee, covering the amount approved on the Cost Estimate form, must be one of the following options consistent with the attached templates, with **NO** exceptions. The templates and instructions be located on our website at: https://www.portlandmaine.gov/2157/Performance-Guarantee

1. A letter of credit from a bank/credit union
2. A deposit into a bank-held escrow account
3. A deposit into a City-held escrow account

NOTE: No land use application of any kind shall be processed, reviewed or issued, no signed subdivision plat shall be released or recorded, and no building permit of any kind shall be issued unless all fees have been paid and every aspect of the proposed development is in compliance with City Codes as determined by the Development Review Coordinator in the Planning Division.

The developer is eligible to receive up to three reductions from the performance guarantee in a calendar year equal to the estimated cost of the completed improvements. In no case, however, shall any performance guarantee be reduced 1) in any line item where improvements remain to be completed; or 2) to a value which is less than the estimated cost of completing all remaining required improvements; or 3) to a value less than 10% of the Performance Guarantee. *(The Cost Estimate Form can also be used during the construction phase to submit reductions of fully completed site work items)*

At the conclusion of the project, the City will release 90% of the performance guarantee after the Development Review Coordinator determines that site improvements have been satisfactorily completed at the time of the final inspection. The City will then retain a 10% defect guarantee to cover the workmanship and durability of materials used in construction. The defect guarantee will be released one
(1) year from date of acceptance, subject to the Development Review Coordinator inspecting the site and finding it in compliance with the approved site plan.

D. Housing Replacement Performance Guarantees

For those projects that are subject to Portland's Housing Preservation and Replacement Ordinance (Section 24-
483) and have an approved plan, then a performance guarantee is required for housing replacement. An owner or developer must post a performance guarantee in the form of a letter of credit in the amount equivalent to the amount the applicant would have been required to contribute to the City's Housing Fund, if the applicant had chosen that option. The guarantee shall be valid for no more than three years, after which the full amount shall be provided to the City's Housing Trust Fund, if replacement units meeting the code do not have certificates of occupancy. The guarantee can be released upon the issuance of a certificate of occupancy for the replacement units. A suggested template for a Housing Replacement Performance Guarantee is included as Attachment 4.

E. Infrastructure Accounts

Contributions to infrastructure accounts may be required as part of the conditions of site plan approval. The contributions must be submitted prior to the issuance of any permits, unless stated otherwise in the approval. The form for submitted required contributions is included as Attachment 5.

F. Administrative Process for Submitting Performance Guarantee

- **Step 1 – Submit a Cost Estimate for Review**

  Submit completed cost estimate form to the Planning Division for review and approval. Once approved, use this total amount as the performance guarantee amount in Step 2.

- **Step 2 – Drafting a Performance Guarantee**

  Complete a draft of 1 of the 3 attached performance guarantee templates, inputting project specific information (Reference Guide for Drafting for help) into blank and bracketed areas, and submit to the Planning Division for final approval. Submit a draft to **planning@portlandmaine.gov** to

ensure fields are correctly entered. Once staff approved the draft, the applicant shall submit the official signed original performance guarantee document, which for option 1) or 2) must be on Bank/Credit Union letterhead with original signatures.

- **Step 3 - Submit Performance Guarantee, Inspection Fee, and Infrastructure Contributions** Submit the final original Performance Guarantee, the required inspection fee, and any infrastructure contributions (Include Attachment 6 form) to the Planning Division. The Planning Division will confirm that the final documents are accurate and acceptable.

- **Step 4 - Release of Recording Plat and Permits**
  Only after the performance guarantee is issued, fees paid, and all other conditions of site plan approval and compliance are met, will the recording plat be released for recording at the Cumberland County Registry of Deeds and/or City permits issued.

Contact: Please email the Cost Estimate Form to Jodie Keene at **jkeene@portlandmaine.gov** After the cost estimate is approved, all Performance Guarantees and Infrastructure Contributions can be submitted by mail to: **City of Portland Planning Division, 389 Congress Street, 4th Floor, Portland, ME 04101**. Please call our office with any questions: 207-874-8632

STORMWATER DRAINAGE SYSTEM
MAINTENANCE AGREEMENT

For SITE PLANS (THAT ARE NOT SUBDIVISIONS)

IN CONSIDERATION OF the site plan approval granted by the Planning Board/Planning Authority of the City of Portland to the proposed _____ (*name of development and project number)*), and the associated Grading, Drainage & Erosion Control Plan (*insert correct name of plan)* (Exhibit A) submitted by_____, prepared by _____ (*engineer/agent*) of _____(address) dated _____, and pursuant to a condition thereof, _____ (*name of owner*) a Maine limited liability company with a principal place of business in Portland, Maine, and having a mailing address of _____, the owner of the subject premises, does hereby agree, for itself, its successors and assigns (the "Owner"), as follows:

Maintenance Agreement

That it, its successors and assigns, will, at its own cost and expense and at all times in perpetuity, maintain in good repair and in proper working order the _____ (*details of the system such as underdrained subsurface sand filter BMP system, rain gardens, storm drain pipes, underdrain pipes, catch basins*), (hereinafter collectively referred to as the "stormwater system"), as shown on the _____Plan in Exhibit A and in strict compliance with the approved Stormwater Maintenance and Inspection Agreement (*insert correct name of document)* prepared for the Owner by _____ (copy attached at Exhibit B) and Chapter 32 of the Portland City Code.

Owner of the subject premises further agrees, at its own cost, to keep a Stormwater Maintenance Log. Such log shall be made available for inspection by the City of Portland upon reasonable notice and request.

Said agreement is for the benefit of the said City of Portland and all persons in lawful possession of said premises and abutters thereto; further, that the said City of Portland and said persons in lawful possession may enforce this Agreement by an action at law or in equity in any court of competent jurisdiction; further, that after giving the Owner written notice and a stated time to perform, the said City of Portland, by its authorized agents or representatives, may, but is not obligated to, enter upon said premises to maintain, repair, or replace said stormwater system in the event of any failure or neglect thereof, the cost and expense thereof to be reimbursed in full to the said City of Portland by the Owner upon written demand. Any funds owed to the City under this paragraph shall be secured by a lien on the property.

This Agreement shall also not be construed to allow any change or deviation from the requirements of the site plan most recently and formally approved by the Planning Board/Planning Authority of the City of Portland.

This agreement shall bind the undersigned only so long as it retains any interest in said premises, and shall run with the land and be binding upon the Owner's successors and assigns as their interests may from time to time appear.

The Owner agrees to record a copy of this Agreement in the Cumberland County Registry of Deeds within thirty (30) days of final execution of this Agreement. The Owner further agrees to provide a copy of this Agreement to any Condominium Association or management company, and to any successor or assign and to forward to the City an Addendum signed by any successor or assign in which the successor or assign states that the successor or assign has read the Agreement, agrees to all its terms and conditions and the successor or assign will obtain and forward to the City's Department of Public Services and Department of Planning and Urban Development a similar Addendum from any other successor or assign.

For the purpose of this agreement and release "Owner" is any person or entity who is a successor or assign and has a legal interest in part, or all, of the real estate and any building. The real estate shown by chart, block and lot number in the records on file in the City Assessor's office shall constitute "the property" that may be entered by the City and liened if the City is not paid all of its costs and charges following the mailing of a written demand for payment to the owner pursuant to the process and with the same force and effect as that established by 36 M.R.S.A. §§ 942 and 943 for real estate tax liens.

Any written notices or demands required by the agreement shall be complete on the date the notice is attached to one or more doors providing entry to any buildings and mailed by certified mail, return receipt requested or ordinary mail or both to the owner of record as shown on the tax roles on file in the City Assessor's Office.

If the property has more than one owner on the tax rolls, service shall be complete by mailing it to only the first listed owner. The failure to receive any written notice required by this agreement shall not prevent the City from entering the property and performing maintenance or repairs on the stormwater system, or any component thereof, or liening it or create a cause of action against the City.

Dated at Portland, Maine this _____ day of _____, 2014.

_____
(*name of company*)

_____
(*representative of owner, name and title*)

STATE OF MAINE
CUMBERLAND, ss. Date: _____

Personally appeared the above-named _____(*name and title*), and acknowledged the foregoing instrument to be his free act and deed in his said capacity.

Before me,

_____
Notary Public/Attorney at Law

Print name: _____

Exhibit A: Approved Grading and Drainage Plan *(name of the plan showing the Stormwater System in detail)*

Exhibit B: Approved Stormwater Maintenance and Inspection Agreement

University of Southern Maine (USM) Portland Campus

Transportation Demand Management (TDM) Plan

University of Southern Maine
96 Falmouth Street
Portland, Maine 04103
(207) 780-4718

PREPARED WITH SUPPORT FROM

500 Southborough Drive, Suite 105B
South Portland, Maine 04106
207.889.3150

January 20, 2023

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1

Introduction

This Transportation Demand Management (TDM) plan provides a cohesive strategy for continuing a successful TDM program for the University of Southern Maine (USM) Portland campus. This plan seeks to enhance multimodal accessibility, ensure the use of non-vehicular modes, and discourage the use of driving through parking management, to achieve and build upon the parking demand reduction goals for the campus.

The TDM Plan expresses a TDM program of strategies and timeframe for when USM intends to implement the various strategies. The strategies aim at promoting walking and bicycling, improving transit service to promote ridership, promoting carpooling, , and managing parking demand via changes to USM's pricing and permit policies.

USM Portland

The University of Southern Maine (USM) Portland campus encompasses approximately 30 acres, with 27 buildings comprising 1,190,929 assignable square feet (ASF). Located less than one mile from the heart of downtown Portland, the Portland campus provides excellent access to social, cultural and internship opportunities. Linked to the Gorham campus ten miles to the west and the Portland city center via frequent bus service (METRO's Husky Line), the Portland campus also has convenient access and visibility from Interstate Highway 295,

with Forest Avenue serving as the primary roadway arrival point. A second important arrival point onto the campus is the roundabout at the intersection of Deering Avenue, Brighton Avenue, and Falmouth Streets. Bedford Street bisects the campus providing access to most of the parking lots and structured parking for the campus.

The campus is in a completely developed urban neighborhood. The adjacent land consists of Interstate Highway 295 on the south-east border, commercial uses on the north east (along Forest Avenue), and residential uses on the northwest, west and south west. The largest adjacent land use is the Oakhurst Dairy distribution center between the campus and Forest Avenue. The adjacent residential areas provide housing for some of USM's students but are generally a set of very solid and cohesive neighborhoods. Currently, no students reside on the Portland campus, but that will change in the summer of 2023 when a new residence hall will come online.

In 2017 and 2018, the University of Southern Maine undertook a process that resulted in a final *Facilities Master Plan* approval by the Board of Trustees in January 2019.[1] The process included information gathering via tours of all three campuses, extensive internal and external stakeholder interviews, and public input. The plan incorporates the visions, goals, facilities assessments, and the campus space needs assessments into a set of campus physical development recommendations. USM is now embarking in implementing specific capital projects identified in the plan.

Commitment to TDM

USM has a history of promoting Transportation Demand Management (TDM) strategies on its campuses. For starters, TDM clearly falls within two guiding principles of the University's Facilities Master Plan through its attempt to increase non-private vehicular transportation and reduce related transportation emissions:

- **Mobility**—the Master Plan supports robust pedestrian, bicycle, shuttle bus, ride share and metropolitan and regional public transit systems that look beyond private vehicular parking to meet the transportation needs of the campus community.
- **Sustainability**—the plan supports all existing sustainability policies of the University.

TDM also indirectly relates to several other guiding principles as a result of potential outcomes from a TDM program:

- **Student Experience**—the process, plan, and implementation focuses upon improving the students' academic, co-curricular and living experience on each of the campuses.
- **Public Safety**—the plan and subsequent implementation seeks to provide the safest campus environment possible through physical, programmatic, and operational improvements, including those in response to public health threats like Covid-19.

[1] For more details, please visit *usm.maine.edu/president/master-plan*.

- **Neighbors**—the plan seeks to establish campuses and campus communities that are positive members of the neighborhoods, mitigating negative impact and providing a beautiful and inviting campus landscape for all neighborhood members to enjoy.
- **Aesthetics**—the visual quality of the campus facilities is important to creating an environment that meets the mission and goals of the University.

The implementation of TDM measures provides USM with the ability to make access to the campus more enjoyable and safer for affiliates (because of reduced traffic), improved relations with neighbors (because of decreased traffic and parking concerns), and decreased campus space dedicated to parking.

As a result, the University introduced TDM for the first time within its 2017 Sustainability Plan. The sustainability plan set a quantitative goal for sustainability efforts related to transportation and established a baseline of strategies to achieve that goal. Per the sustainability plan, the goal related to transportation was to reduce greenhouse gas emissions from transportation by 20 percent from a Fiscal Year (FY) 2006 baseline. TDM-related strategies suggested by the Sustainability Plan are presented in Chapter 3; one recommendation was to develop a TDM plan.

To further understand how TDM will play a role as the campus continues to transform, USM hired VHB to develop a comprehensive TDM Plan that will allow the University to meet their sustainability goals while responsibly meeting user parking demands (and limiting the additional parking supply requirements). To develop a strategic approach for USM transportation that leverages current realities in developing future outcomes, VHB and USM hosted a series of stakeholder meetings and interviews. These conversations helped inform the proposed strategies presented in the first generation of this TDM plan, which was published in 2020. The plan presented here builds on the 2020 plan, modifying strategies to address lessons learned and behaviors observed through the first two years of implementation.

Development Proposal: Facilities Master Plan Program Elements

Consistent with the USM *Facilities Master Plan* approved January 27, 2019, USM has several development program aspirations that have triggered the initial development of this TDM Plan and continue to influence it. The University is actively building the new campus "heart", consisting of the following capital projects:

- **Career and Student Success Center**—This building, now named the McGoldrick Center, will replace the dining and cocurricular activity space formerly in the Woodbury Campus Center. In addition, the vision for this building is to provide a common place for programs and functions that support both the academic success and long-term professional success of the USM student. The building is anticipated to be approximately 41,000 square feet.
- **Student Housing**— This approximately 216,000 square-feet building will house upwards of 580 beds to accommodate upper class undergraduate students and graduate students.

- **"Quad"**—A key component of the transformation of the Portland Campus is a second campus open space, located adjacent to the residence halls and the Career and Student Success Center.
- **Center for the Arts Building**- Framing the west side of campus along the former Brighton Ave. Extension, this building will include classroom space, a recital hall, and a visual arts gallery.
- **Structured Parking**- A four-level structured parking garage is being built next to the existing parking garage adjacent to the Abromson Center. Not only will the facility accommodate approximately 504 automobile spaces and six motorcycle spaces, it will also contain 250 covered, secured long-term bike parking spaces and 58 level-two electric vehicle charging plugs.

The development noted above may be followed by additional capital projects on USM's Portland campus.

Parking Supply and Demand

To accommodate parking needs for the new construction laid out above, the master plan proposed an increase to the supply of parking. To verify this assumed need, the University hired VHB to conduct a parking study in 2019. The study, published in March of 2020, showed that the Portland campus would, indeed, be short on parking supply at the opening of the new buildings, even in a 0% enrollment increase scenario.

In the Fall of 2020, the University submitted site plans to the City of Portland for the new career and student success center and residence hall described above. Upon review of the University's parking study and the anticipated demand for parking stemming from the new residence hall, the City drafted a condition of approval for the project that mandated the provision of 396 net new parking spaces. The accounting within the condition of approval is listed in the table below. It incorporates a significant loss in surface parking as a result of the construction project and the creation of a large campus green.

Table 1: City of Portland's Condition of Approval for Supply of Parking

Item	Peak Demand or Supply Impact
Residence Hall (Provision of Parking for 68% of 580 residents)	394
Displacement by Closure of Woodbury Lot	130
Displacement by Closure of Facilities Lot	41
Displacement by Revision of Central Heat Plant Lot	6
Displacement for Future Salt Shed in Law School Lot	4
Wishcamper Parking Lot Expansion Plan	-115
Reduction from TDM Strategies Applied to this Parking Pool	-64
TOTAL NEED	396

After the Planning Board approved the career and student success center and residence hall buildings, the University moved forward with plans to meet the condition of approval for net new parking by submitting site plans for a structured parking garage in the Fall of 2021. Given that the new structured parking garage would be situated on the Wishcamper surface lot, 92 current spaces would be lost in addition to 115 future spaces. The future spaces had been previously anticipated to be gained by a City-approved expansion and re-striping of that lot that had also been incorporated into the condition of approval for the career and student success center and residence hall. Due to this displacement of parking in the Wishcamper lot, the University proposed that the size of the structured parking garage be 504 automobile spaces in order to reach the City's condition of approval for 396 net new spaces. With the planned departure of the Maine Law School from campus set to occur prior to opening the new buildings, the University estimated it would see reduced demand of at least 152 vehicles during the peak hour, allowing for a 504-space garage to sufficiently meet the condition of approval for 396 net new spaces. VHB reviewed and verified the numbers, and in January of 2022, the City of Portland's Planning Board approved the parking garage project.

In December of 2022, the University submitted site plans for the Center for the Arts building (CFA). The University estimates that this building will create new demand for 32 parking spaces at peak time. The combination of the new parking garage, the departure of the Maine Law School, and the TDM initiatives outlined in this plan are anticipated to collectively accommodate 32 parking spaces for the CFA building, and still leave 75 spaces of surplus

available for future growth in enrollment. The loss of the Brighton Ave. lot from the City's 2021 roundabout project (26 spaces) is factored into this projected net surplus. Reduced demand from TDM campus-wide (144 spaces), as opposed to only lots impacted by construction in the condition of approval, is also factored into the net surplus explained here. This additional TDM impact is estimated to reduce demand by another 80 vehicles over the original 64 vehicles accounted for in the condition of approval.

2

Mobility Context

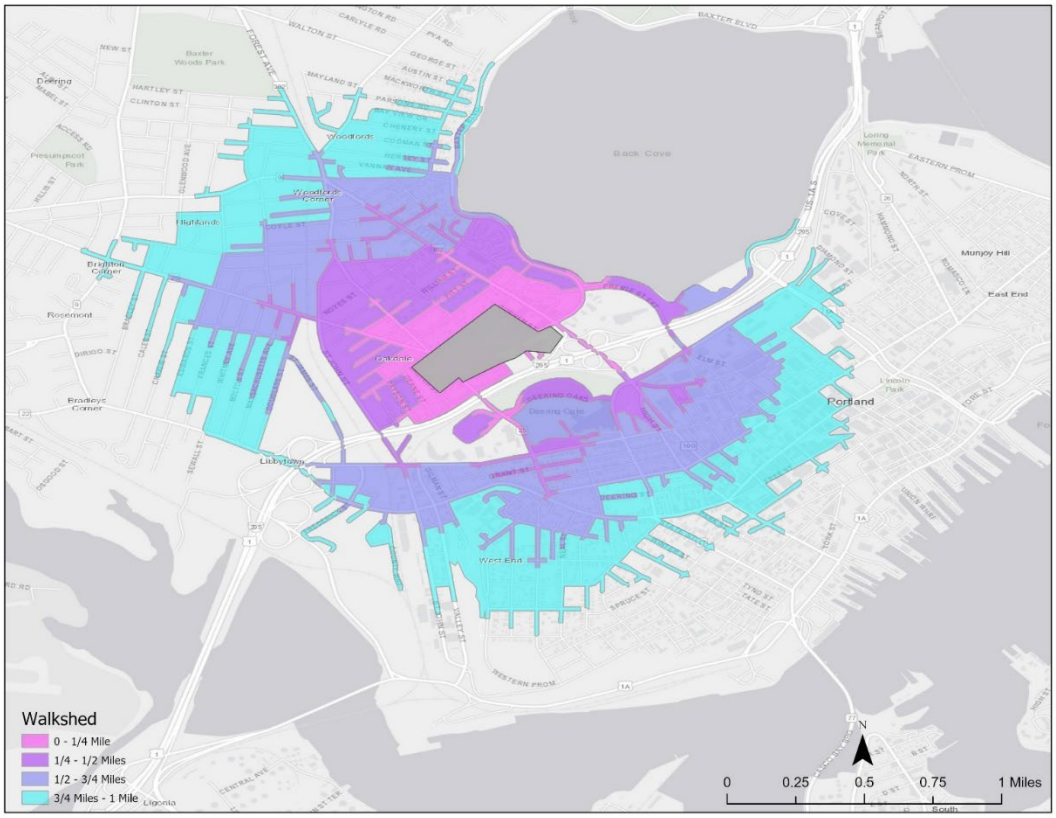
Understanding the transportation context that is available for students, faculty, staff, and visitors at USM Portland is important to be able to recommend targeted TDM program elements. This section summarizes VHB's findings from 2019 when assessing the different ways that one can access the USM campus as well as opportunities and challenges related to those options.

Walking and the Pedestrian Environment

USM's Portland campus is located on the edge of the Portland peninsula adjacent to the Oakdale residential neighborhood. Oakdale maintains a grid of streets, a majority with sidewalks, and low-volume, low-speed streets that make it generally comfortable and conducive for walking. The University is also adjacent to Forest Avenue, which offers local retail (including a grocery shop) within a short walk of the University. *Walkscore.com*, a real-estate site that evaluates walkability and transportation when choosing where to live, scores USM a 78 out of 100 and considers it to be a "Very Walkable" location where most errands can be accomplished on foot.

Some built and natural barriers limit accessibility to areas on the south side because of the I-295 highway, to the west and southwest because of a below-grade railroad, and to the northeast because of the Back Cove. Although there is a comfortable shared use path under the interstate, I-295 can pose as a psychological barrier to some people for walking trips to downtown. Figure 1 shows the walkshed in quarter-mile increments out to a mile from the USM Portland campus.

Figure 1: 1-Mile Walkshed from USM Portland Campus



On campus, there is a robust network of pedestrian paths that connect all campus buildings (Figure 2). There are also information kiosks and wayfinding to assist pedestrians in their orientation around campus.

Figure 2: Portland Campus Map

In summary, walking is easy in and around USM; however, natural or human-made barriers may provide some real barriers and some psychological barriers. For example, the primary walk route to downtown from campus is on Forest Ave, which is a wide, fast street with large intersections and long wait times, despite the fact that there is a safe and comfortable shared used pathway crossing the on and off ramps of 295.

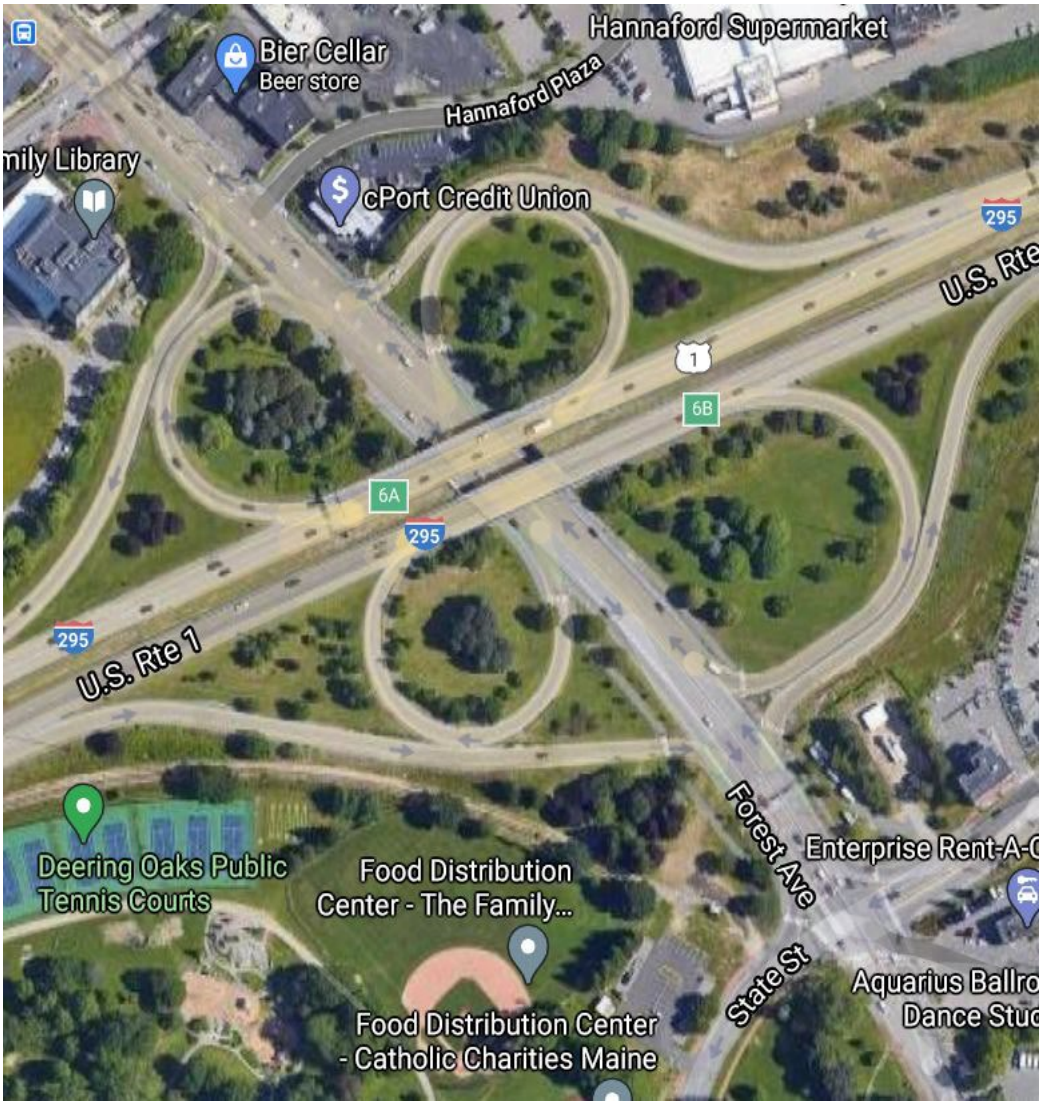
TDM strategies within this plan will seek to better connect the University despite these perceived or real barriers.

Bicycling Environment and Infrastructure

The *Walkscore.com* website lists USM at a Bikescore of 93 out of 100, the equivalent of a "Biker's Paradise." In fact, USM is located at the convergence of several key bike routes in the region that ultimately connect to the Portland Peninsula. Bike lanes around USM can be found along Brighton Avenue, Deering Avenue, Bedford Street, and Forest Avenue.

Some work is needed to teach the University community how to overcome certain psychological barriers. The best example, arose in stakeholder input sessions, was the perception that traveling on Forest Avenue to downtown is difficult. The root of the perception may be from the fact that there are six intersections, on ramps, or off ramps on each side of the road for a 1,200 foot-long stretch. See the aerial image in Figure 3 below:

Figure 3: Forest Avenue Bi-Secting I-295



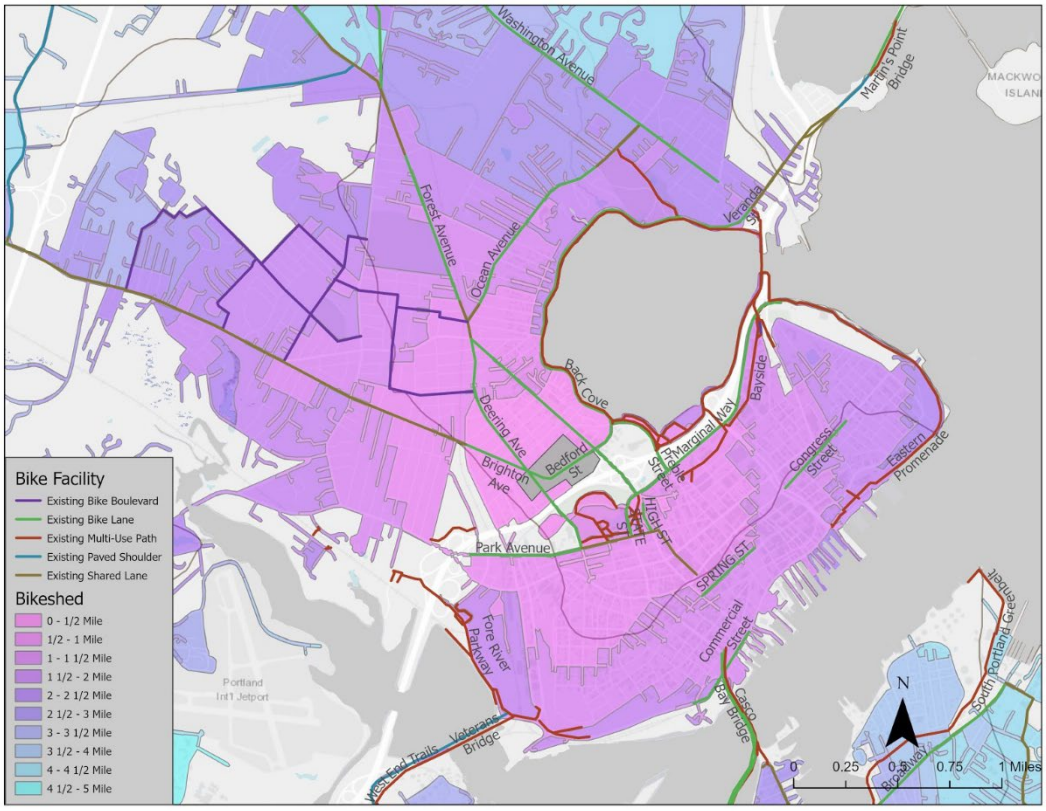
The City has worked hard to increase the safety and comfort of this area by building and maintaining a shared used path on each side of Forest Avenue.

Figure 4: Shared Use Path Available on Forest Avenue Provides Access Under I-295

There is also a shared use path that runs parallel along the Back Cove. In addition to providing beautiful vistas of the downtown skyline, this path provides comfortable and safe bike/ped access to numerous Portland neighborhoods including the Back Cove, Woodfords, East Deering, and Bayside. Even the East End and the Old Port can be accessed this way, via the Eastern Prom Trail connected to the Back Cove path. Through the various shared use paths near the University, the entire Portland peninsula can be accessed within 2 miles of USM.

Within 5 Miles, one can also reach South Portland to the south, Westbrook to the west, and the border of Falmouth to the north. For the bike-to-transit trips, METRO buses serving the University are equipped with bike racks. The Husky line buses have slots for three bikes, and the other METRO buses serving the Portland campus have slots for two.

Figure 5: Bikeshed from USM



On-campus, there are 16 locations with bicycle racks and a bicycle repair stand adjacent to the Woodbury Campus Center. The locations of most of these racks are readily visible within the campus map (Figure 2) posted on kiosks throughout the campus and online. The majority of the racks are easily visible when on foot, except for the covered racks under Masterton's awning and in Abromson parking garage. The condition of the on-campus bicycle racks is fair; however, the Bike Fix-it Station needs repair: its tools have rusted and are bent and unusable. Shower access for campus affiliates is available at the Sullivan Gym. In order to gain access, they must show their campus ID.

In comparison to most places in the United States, the biking network in and around Portland and USM Portland campus is robust. On-campus, commuters have a place to store these bikes. TDM strategies related to biking should focus on marketing this commute option to overcome any fears about perceived barriers and thereby expand the potential pool of people that can bike. The University should also collaborate with the City as they seek to expand and improve the bicycle network.

Public Transit

USM affiliates are granted unlimited free METRO transit access as part of their enrollment and employment at USM. Transit access is paid by way of the student transportation fee and

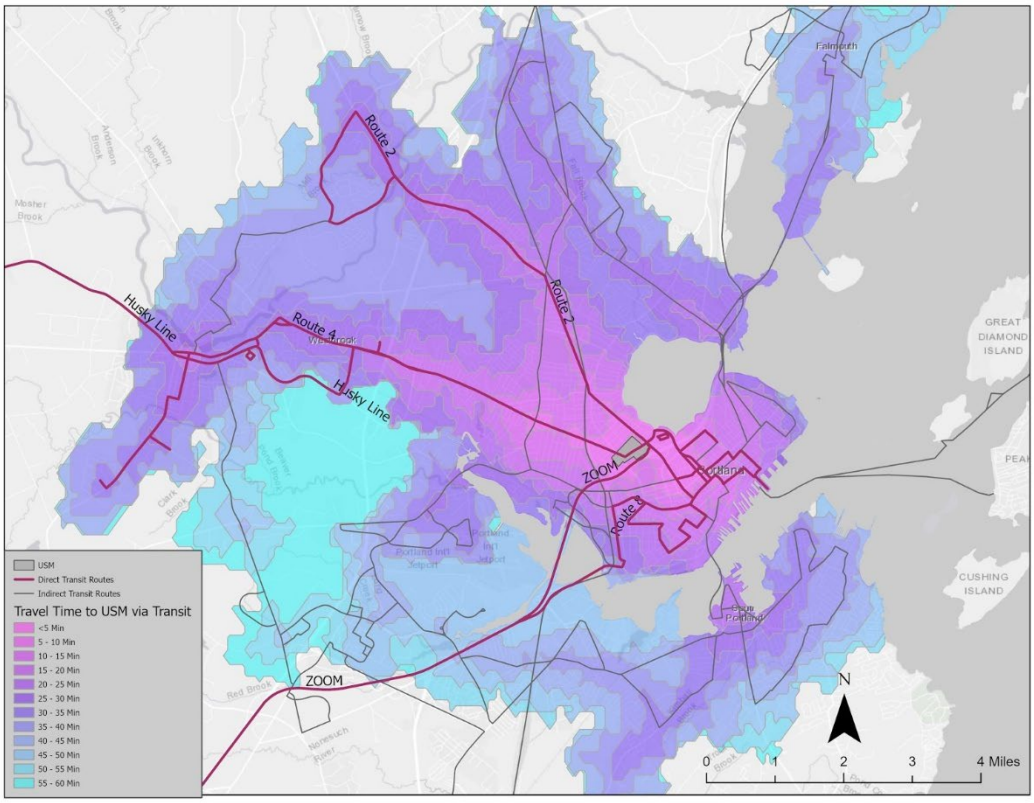
the employee parking permit fee. When boarding a METRO bus, USM affiliates must show their ID to the bus driver.

Four METRO bus routes serve the USM Portland campus: Route 4 and Husky Line serve the campus directly with a stop on Bedford Street, and within a quarter-mile, the Route 2 (via Forest Avenue) and Route 8 (at Hannaford Plaza). In addition to METRO service, the Lakes Region Explorer Bus ($2 one-way) is also nearby. Among the four, only the Husky Line has limited stop service all the way between the Portland and Gorham campuses.

On Bedford Street, at the heart of campus, there are shelters for Route 4 (Westbrook–Portland Pulse) and the Husky Line (USM Gorham via Westbrook–Portland Pulse). Route 2 (Forest Avenue) and Route 8 (Peninsula Loop) can be accessed at nearby Hannaford Plaza roughly a quarter-mile from campus. The Lakes Region Explorer (Windham Route), run by RTP, stops at the corner of Forest Avenue and Bedford Street.

Transit "accessibility" was determined by travel time, including time required to walk to the stop, wait for a transfer when applicable, ride the bus, and walk to the final destination. This differs from accessibility for walk and bike sheds where distance from campus generally determines accessibility. Expected transit travel time to the campus using the existing Portland transit network was mapped out in 5-minute increments (Figure 6). These increments include up to a maximum of a 15-minute walk for the total trip (to account for walk-access to transit).

Figure 6: Transit Service at USM Portland



Transit is not only a function of having a service route present nearby; other important pieces to consider are its span of service (i.e., is the service available at the times of day when needed) and service frequency (i.e., does the service operate at frequent intervals). Scheduled headways and service hours for direct services are included in Table 1 below.

Table 2: Direct Transit Route Headways

Route	Headways (minutes)							Span					
	Weekday			Saturday		Sunday		Weekday		Saturday		Sunday	
	Peak	Day	Evening	Day	Evening	Day	Evening	Start	End	Start	End	Start	End
Bedford St USM (0.0 Miles)													
Husky	30	30	50	45	45	45	45	6:30 AM	10:30 PM	8:30 AM	11:00 PM	8:00 AM	7:00 PM
4	30	30	60	30	60	45	-	5:30 AM	11:30 PM	6:00 AM	11:30 PM	8:30 AM	7:30 PM
Forest at Bedford St. (<0.25 Miles)													
2	20	30	60	60	60	60	-	6:00 AM	11:00 PM	6:30 AM	10:30 PM	8:30 AM	4:40 PM
Lakes Region Explorer	180	180	180	-	-	-	-	6:00 AM	10:30 PM	-	-	-	-
Hannaford Plaza (<0.25 Miles)													
8	30	30	-	60	-	60	-	7:00 AM	6:00 PM	8:00 AM	6:00 PM	9:00 AM	4:00 PM
?													
Zoom Turnpike Express	30	-	-	-	-	-	-	6:00 AM	6:40 PM	-	-	-	-

While all transit services adjacent to USM operate during the schedule of a normal business day and into the evening, the frequency can pose challenges to some of USM's population. As one can see above, the most frequent transit service (Route 2) runs every 20 minutes while the Husky Line, Route 4, and Route 8 run on 30-minute intervals. For many, these frequencies are satisfactory, especially given that the Husky Line is a limited stop service, cutting down on travel time. But, the frequencies don't yet meet the threshold for "transit

freedom" or the ability to travel without planning ("Transit freedom", per the definition by Jarrett Walker in *Human Transit*, is a frequency of at least 15 minutes all day[2]). People who are able to plan are facilitated by helpful resources like the Transit Tracker app and soon-to-be-installed transit screens at certain stops.

Other Mobility

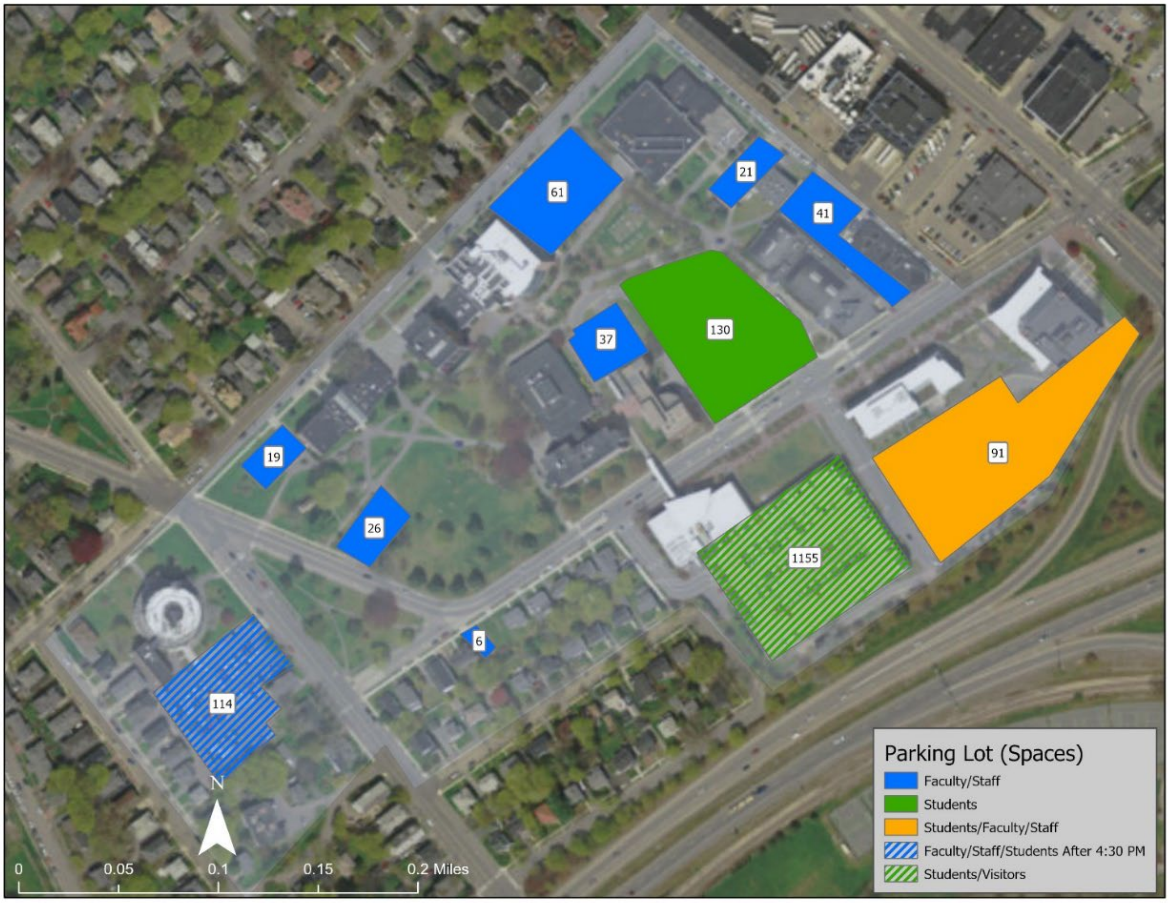
In addition to walking, biking, and riding transit buses, USM affiliates can use ride-hailing services Uber, Lyft, or taxis, which are readily available in and around the peninsula. No carshare vehicles are located within a half-mile of USM. Also, no dedicated carpool parking spaces are designated on campus. Carshare and carpool are opportunities that the TDM Plan can leverage to reduce the number of people parking on campus.

Parking Facilities and Policy

Campus affiliates and visitors can park at 11 distinct parking lots (including one garage) across campus hosting a total of 1,701 spaces (Figure 7). By far, the largest parking facility on campus is the University Garage, which has a total of 1,155 parking spaces. Lots are designated by permit type and only users with that permit can park in that lot. Figure 7 identifies the location of these lots, permitted users, and the total number of spaces. The campus also has dedicated spaces for handicap, service vehicles, and an electric charging station.

[2] Source: humantransit.org/2011/12/how-frequent-is-freedom.html

Figure 7: Parking Spaces at USM Portland



Note: Although the 1,155-space Abromson Garage is primarily for student and visitor parking, faculty and staff may use the facility. The garage is access-controlled by a revenue control system.

All vehicles in University of Southern Maine (USM) parking lots on the Portland campus must display a valid USM parking permit, which comes in the form of a hang tag that must be hung from a vehicle's rear-view mirror. Permits may be obtained from the parking office or online through the University's parking web portal.

USM Portland has the following permit types:

- Student (Commuter, Gorham Residential) – All students are given the same parking privileges on the Portland Campus
- Employee (Faculty, Staff)

On the Portland campus, students may park at three different lots during the day (designated by a green sign) and at a fourth lot only after 4:30 PM. All students pay a transportation fee if registered for on-campus courses. The fee varies based on the number of credits for which they are registered: between $55 and $110 per semester. These payments are mandatory as part of enrollment and are made each semester: fall, spring, and summer.

On the Portland campus, employees are allowed to park in eight different lots on campus (designated by a blue sign). They pay $25 annually for their parking permit, which needs to be renewed each calendar year.

Short-term visitors to the campus may park in the parking garage for $2 an hour between the hours of 7 AM and 5 PM, Monday–Friday. Outside of these hours, visitor parking is free. There is a charge for overnight parking, except during snow bans. Prospective students and their families, campus guests, visitors, and volunteers receive free validation by the office or department they are visiting. To pay for parking, visitors must pay at the Parking Garage Office or use the pay-on-foot stations located by the doors to the parking garage on the first and second floors of Abromson Center and the ground floor of the parking garage by the vehicle exit.

A violation of parking guidelines may result in any number of consequences, including a parking ticket fine, towing of a vehicle (and responsibility of the owner/operator for payment of related towing and storage fees), or suspension of campus parking privileges. Parking tickets range from $25 to $200 depending on the infraction. Students and faculty must pay outstanding tickets before picking up a new permit.

Parking at USM is relatively unconstrained. Typical parking activity is accommodated with the present supply. Although on-street parking is also an option, many of the streets adjacent or near the campus are metered or have 1- or 2-hour parking limits during daytime hours. Recent observations conducted by VHB for USM found approximately one third of the on-street parking spaces available during peak parking periods.

Remote lots have been considered, but a large portion of USM students have one or more off-campus jobs, which require them to have ready access to their vehicles. To be more effective at discouraging parking on-campus, the University plans to make the transactional cost of parking more apparent for students.

The University reviewed parking rates around the City and around the New England market in general to see if there was room to use increased rates as a leverage point. This influenced the University to go from charging $0 for public parking to $2 per hour, which is still on the low to medium end of the market. The University is considering raising prices again to possibly $3-$4 per hour. However, the current plan is to keep it free for the early evening hours (5-11 pm), and to help out the neighborhood by allowing them to park for free during for snow bans from the hours of 5 pm to 8 am the following morning.

Regional TDM Program

At USM's disposal are several regional, state, and national-level TDM programs and services that are intended to support programs such as the one being reviewed by USM. Among these potential programs/services that could support USM include:

GO MAINE: Run by the Maine Turnpike Authority, this state-wide program serves as a rideshare matching service as well as a platform to log any kind of non-single occupancy trips, including non-motorized trips. The range of services include the following:

- **Emergency Ride Home-** This program essentially serves as "insurance" to provide people an option to get home from work in case of an emergency. The rides are provided using a taxi or Enterprise rent-a-car. It is available to commuters who carpool, vanpool, take transit, bike or walk at least three days a week. The benefit may be used up to eight times per calendar year.
- **Way 2 Go Maine-** *Way 2 Go Maine* is an annual commuter challenge in October that encourages employees of local businesses to use alternative transportation options through an inter-company competition. The competition recognizes companies for their successful participation and distributes prizes such as gift cards and swag to encourage participation.
- **Vanpool Matching-** Vanpooling is a common, long-distance commute option for employees headed to the same general area consisting of between 5 to 15 commuters. GO MAINE assists to form these vanpools.
- **Rewards Program-** GO MAINE has a rewards program for individuals who take greener trips, which include walking, biking, telecommuting, carpooling, vanpooling, or taking public transportation. Participants must sign-up and log their commutes daily. Rewards include gift cards and discounts to various local businesses.

Portland Slow Ride: To get people comfortable with biking, the Bicycle Coalition of Maine offers the "Portland First Friday Slow Ride". These rides are typically done at a relaxed pace and coincide with Portland's "First Friday" art walk event.

Smart Cycling Traffic Skills 101 and Educational Courses: Traffic Skills 101 is hosted by the Bicycle Coalition of Maine and is a course that teaches new and experienced cyclists how to ride in traffic. An individual or employer can specifically request a safety workshop.

Discounted Helmets: The Bicycle Coalition of Maine runs a helmet purchase discount program: when purchased in bulk (8-30 helmets) the cost is $7 per helmet.

Bicycle Benefit: As part of this national program, local businesses offer rewards to patrons who arrive at their establishments by bicycle.

Cycling Savvy: Is a program of the American Bicycling Education Association aimed at helping communities become more livable and sustainable by promoting a civil and cooperative environment on roads through complementary education and infrastructure design.

Best Employers for Commuters: This membership program provides qualified employers with national recognition and an elite designation for offering outstanding commuter benefits.

TDM at USM

TDM related to increasing multimodal transportation is not a new concept for USM. In 2017, the Office of Sustainability worked with various campus stakeholders to develop an eight-year sustainability plan that set a quantitative goal for sustainability efforts related to transportation and established a baseline of strategies to achieve that goal. Per the

sustainability plan, the goal related to transportation was to reduce greenhouse gas emissions from transportation by 20 percent from a FY 2006 baseline.

Table 2 below identifies the original strategies pursued by the sustainability plan as well as current strategies that came as a result of this original proposal:

Table 3: Suggested TDM Tactics from Sustainability Plan

Category	Original TDM Strategy	Progress at the Inception of TDM Plan (2019)
Shuttle	Extend shuttle routes and improve shuttle footprint	USM has partnered with the Greater Portland bus system, METRO, allowing students, staff and faculty to ride anywhere in the METRO system for free and vastly expanding the reach of University affiliates.
Carsharing	Explore option of starting a carshare program on campus	USM has explored options with one company and discussed ways it could fit into the vehicle fleet.
Comprehensive TDM Strategy	Create a Comprehensive Transportation Demand Management (TDM) strategy	This document is a product of the development of a comprehensive TDM Plan.
Bicycle Infrastructure	Create adequate bicycle infrastructure & education on campus to support people who would consider biking including a bikeshare program.	To accommodate bicycles, USM provides bicycle racks around the campus (16 racks & 250 spaces total). The Portland campus also has a fix-it work stand which is the first of its kind in Portland and allows riders to make simple bike repairs on campus. The University transportation website also highlights the benefits of biking from a health and environmental perspective.
Carpooling	Create adequate carpooling infrastructure & education on campus to support people who would consider carpooling	USM researched different carpool apps and began interviewing stakeholders to create a plan.
Hybrid & EV Vehicle Discounts	Create modest incentives for hybrid or electric vehicles	An EV charging station is provided at the parking garage and is free to use. Additional charging stations are being considered for the garage, Wishcamper, and locations in Gorham.
Incentive Program	Explore a partnership with Rise-Up to award incentives for alternative transportation commuting	The Office of Sustainability has held brainstorming sessions with the Wellness Committee to determine what types of incentives would qualify for the health credit. The Wellness Committee has agreed to work on implementation.
Carbon On-Setting Project	Explore possibility of creating a carbon on-setting project with local low-income households	No transportation related actions were identified. The Office of Sustainability chose a home weatherization project instead.

Category	Original TDM Strategy	Progress at the Inception of TDM Plan (2019)
Sustainable Business Travel	Develop mechanism for incentivizing more sustainable business travel	Measured carbon footprint of business travel in order to establish a baseline.
Parking Enforcement	Create a parking enforcement division of the University, separate from Public Safety, in order to maximize space utilization of existing lots	Division was created, staff were hired, and enforcement began.

The Plan found that it would be useful to conduct a Transportation Survey of campus affiliates to understand transportation patterns, needs and barriers. USM conducted a transportation survey effort in Spring 2019, yielding over 1,000 responses related to commute patterns, inter-campus travel, and receptiveness of possible TDM strategies.

Not listed within the Sustainability Plan, but nevertheless worth mentioning as TDM measures that have been pursued by the University include:

- Establishing a new USM transportation website to communicate the availability of alternative modes of transportation.
- Charging USM employees, students, and visitors for parking.
- Having a University System-wide telecommuting policy, which allows for telecommuting in certain cases. In response to the global pandemic, this policy was broadened to incorporate more people for longer periods of time.
- Having a larger portion of online classes in response to the global pandemic.

3

Existing Transportation Patterns

By exploring how USM students, faculty, and staff are currently traveling to campus we can identify which alternative modes may have the greatest potential to reduce drive alone commutes, and save on trips, parking and carbon emissions. This investigation allows for the development of targeted TDM strategies that offer a greater degree of changing commuter behavior.

VHB has reviewed USM affiliates' travel patterns using two data sources: a transportation survey and registered permit data. These data help identify how people are commuting to campus, what modes of transportation may interest commuters, and finally, what types of strategies would be most beneficial towards encouraging alternative commute modes.

Transportation Survey: Mode Shares and Travel Behavior

The Transportation survey conducted in Spring 2019 was done as part of the University's sustainability effort to chart emissions related to transportation. The online survey asked about current travel patterns between home and USM and about travel between the USM campuses. The survey also included questions about one's receptiveness to certain TDM strategies. About 1,000 USM affiliates participated.

Some key findings related to the survey (pulled from the "Final Survey Summary" prepared by USM) include:

- 78 percent of the USM population reported driving alone at least once a week to campus from home. About 72 percent of the population drives 2+ times per week to campus.
- 94 percent of USM employees park on campus; 81 percent of students park on campus.
- 25 percent of commuter students ride the METRO bus
- Dedicated, preferential carpool spots were the highest ranked activity to encourage students to use an alternative mode of transportation
- Per the survey, a new bike would be the best buyout reward for a parking cashout program, which may be a function of it being the highest value option ($500) compared to less valuable options of $100 cash, $200 discount on carshare/bikeshare, $200 discount on carshare/scootershare, $150 gift certificate to bookstore, and $150 gift certificate to dining services.

Additional conclusions from the survey data for the USM population who indicated making a trip to the Portland Campus include:

- 72 percent of USM Portland population reported having driven alone at least once a week to campus, 66 percent of the population drive 2+ times per week alone.
- 14 percent of the USM Portland population reported have taken transit at least once a week, 11.5 percent have taken transit at least twice per week.
- Considering only USM Portland commute trips (of employees and students), the Portland campus mode split is as follows: Drive Alone: 73 percent; Transit: 6 percent; Walk/Bike: 11 percent; Carpool: 8 percent; Motorcycle: 2 percent[3]
- USM's Walk/Bike mode split of 11% exceeds the typical average of 3% among Universities across the country, including those who have implemented TDM programs, according to VHB
- Average One-Way Commute Distance: 13.8 miles.
- 56 percent of the USM Portland population travels to other campuses
- For trips taken between the Portland and Gorham Campus, 40 percent take transit, 37 percent drive alone, 20 percent carpool, 3 percent bike, 1 percent use a motorcycle

Another transportation survey was conducted in the Spring of 2022. However, those results are not shown here because the University does not believe they represent baseline behavior since the global Covid-19 pandemic was significantly impacting the number of in-person courses being offered at the time and the number of employees teleworking was arbitrarily high. This was validated by an analysis done on peak parking and vehicle entries and exits in the parking garage. This analysis estimated that parking during the peak hour in the Spring

[3] It is important to note that this survey was taken before the Covid-19 pandemic. The next survey may show considerably different percentages for transit and carpooling.

of 2022 dropped by 45% over the 2019 baseline. Estimated trip generation dropped 20% during the AM peak and 41% during the PM peak.

Future surveys, perhaps as soon as the Spring of 2023, are expected to offer better comparison data when compared to Fall of 2019. Such data will be featured in annual reports to the City of Portland as described in the *Monitoring and Reporting Plan* section below.

Commute Trip Origins Based on Parking Permit Data

USM provided VHB with anonymized home address data for all their parking permit holders, which allows for an investigation of opportunities for providing incentives for reducing drive-alone trips to the campus. The following figures shows the distribution of commute trip origins based on the permit data. Major clusters of population are centered around the City of Portland, Westbrook, Gorham, Lewiston-Auburn, Brunswick, and Sanford (Figure 8). Figure 9 shows a zoomed-in version of the same data, showing that major residential areas include: Portland, South Portland, Westbrook, Gorham, Biddeford, Scarborough, and Yarmouth.

Using the parking permit data, VHB calculated drive time for faculty and staff. About 50 percent live less than a 20-minute drive from the Portland campus and 94 percent live within a 60-minute drive of the campus.

Figure 8: Distribution of Home (Commute Trip Origins) – Southern Maine Area

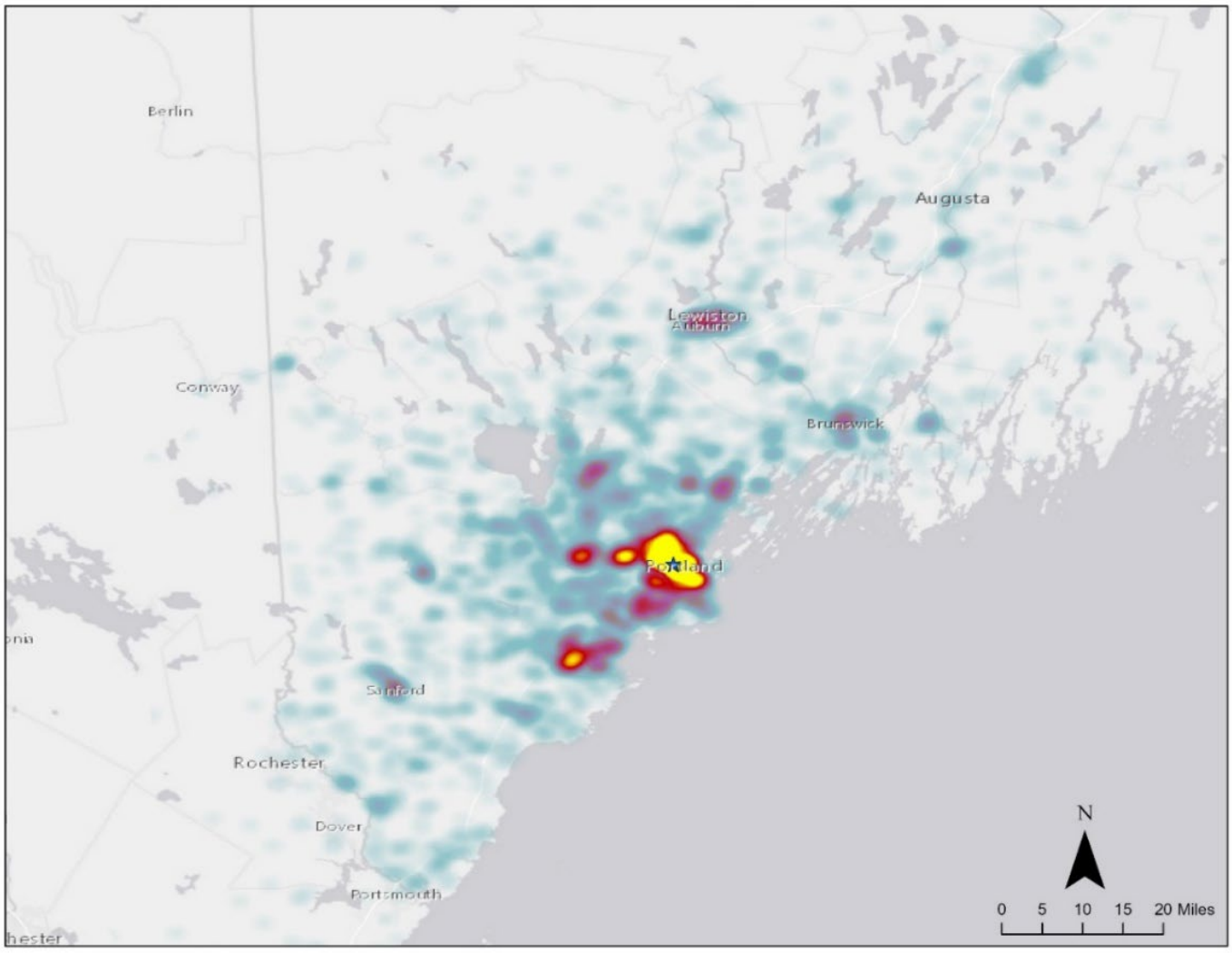
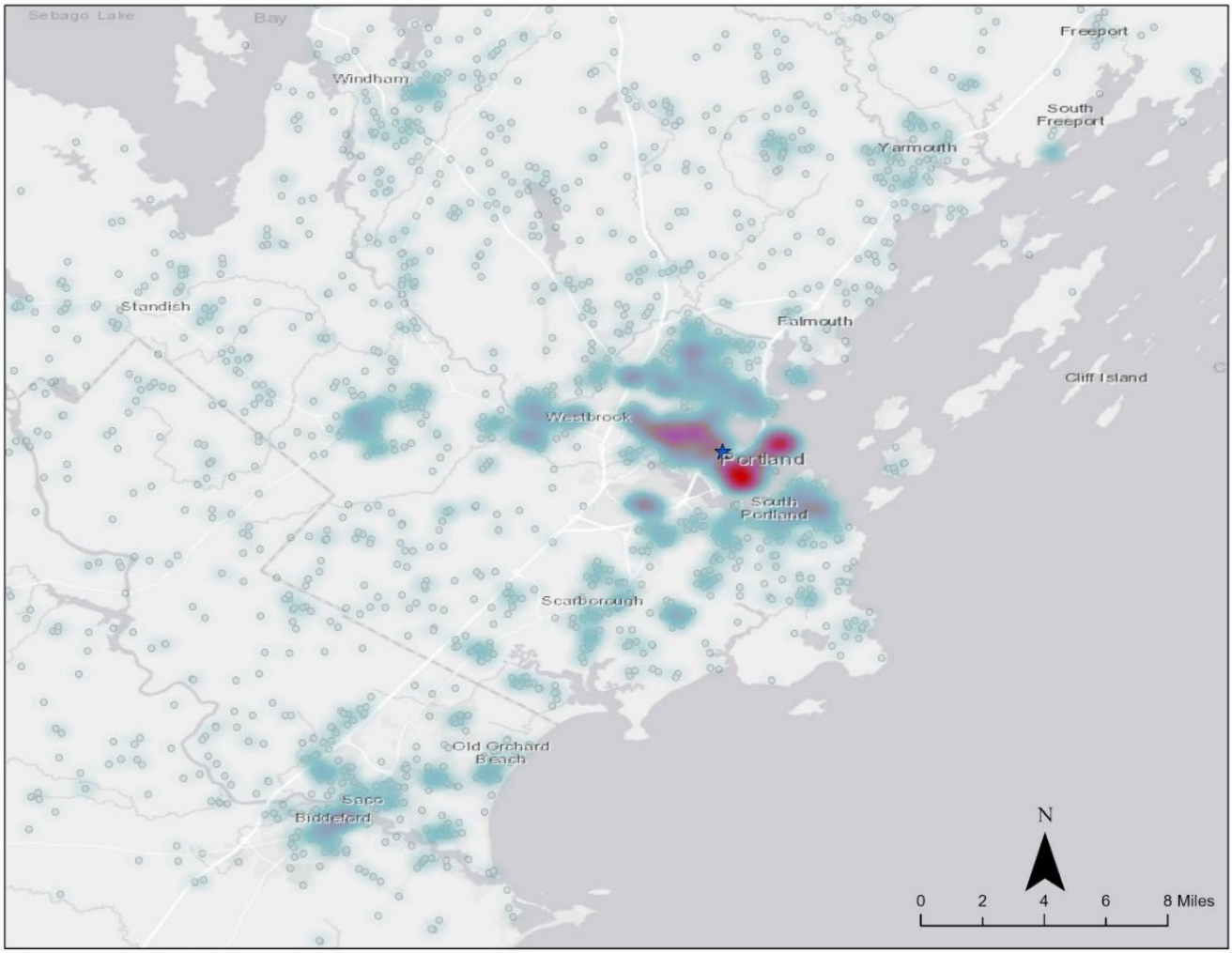


Figure 9: Distribution of Home (Commute Trip Origins) – Greater Portland Area



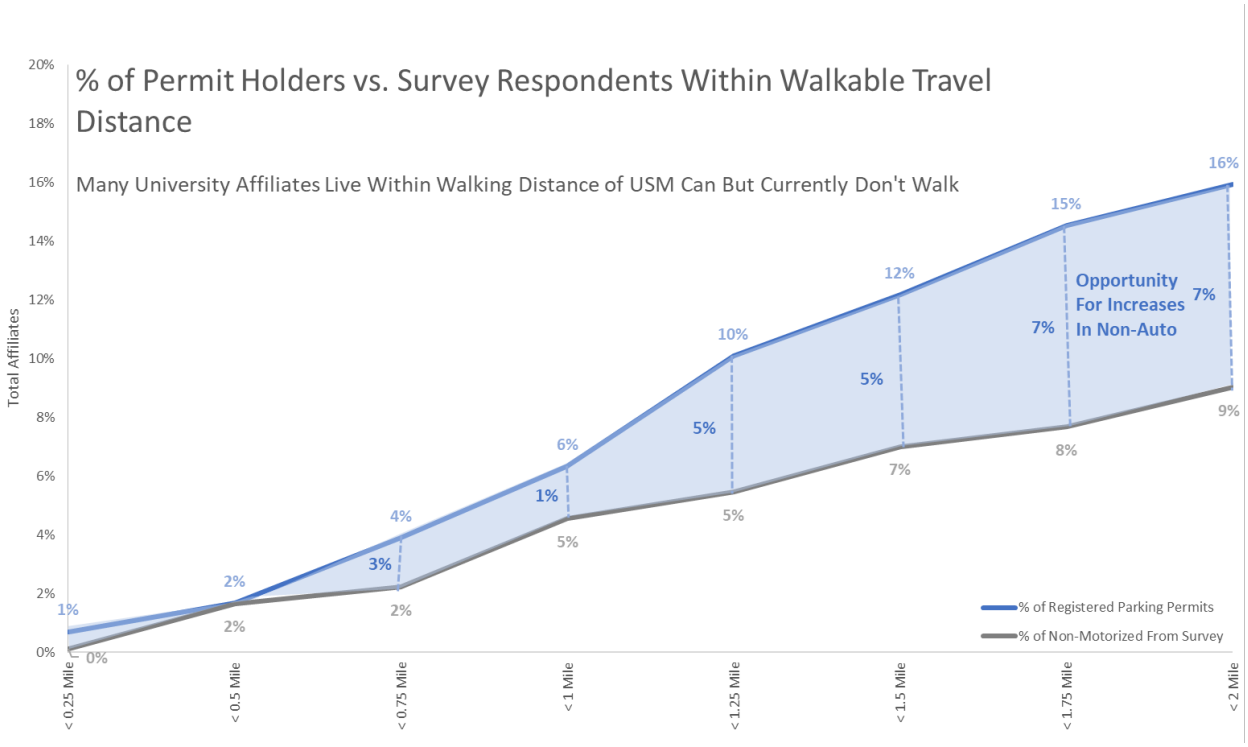
Alternative Mode Potential: Opportunities for TDM

To gauge the modal potential for walking, biking, and transit to USM, the geographic distribution of parking permit trip origin data was compared to the walking, bicycling, and transit travel market sheds. To get an understanding of current travel behavior versus potential travel choices, the 2019 transportation survey results are overlaid against this geographic distribution. The difference between the total number of people matched to a particular mode and the mode choice results from the survey form an "opportunity" zone for a potential increase in the use of a travel mode. People are represented here as FTE (Full-time equivalent) rather than headcount because FTE fits greenhouse gas reporting protocol and the University believes it is a better representation of how trip proportion impacts campus.

Walk Potential

Within a mile walking distance from campus, approximately 5 percent (an estimated 251 full-time equivalent individuals) of USM Portland students/employees reported using non-auto transportation to the USM Portland campus whereas per the permit data 6 percent of parking permit holders were geographically matched to reside a mile from USM (Figure 10). The delta between the two data points increases significantly as distance from campus increases. At 2 miles, only 9 percent of students/employees use non-auto travel modes (per the survey), whereas a total of 16 percent live within 2 miles of campus (per the permit data).

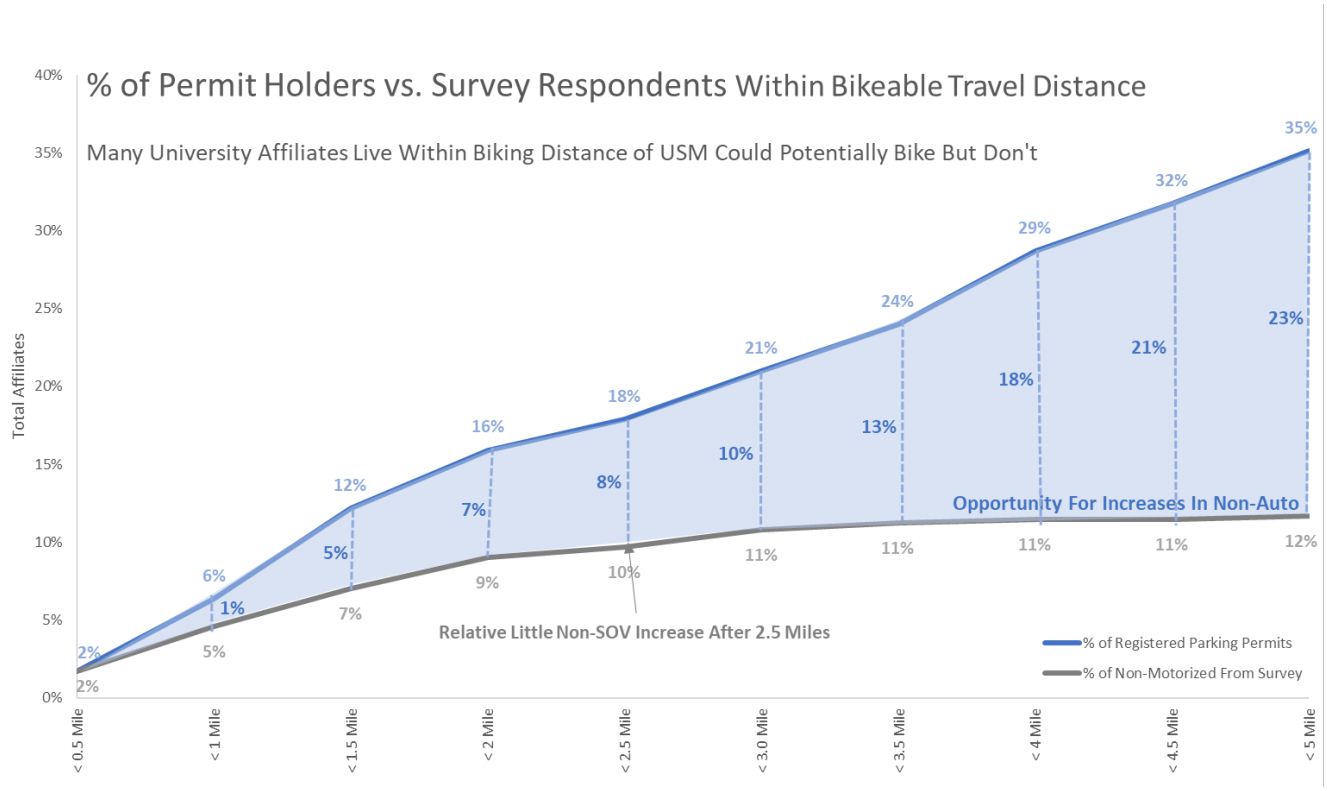
Figure 10: Walk Potential



Bicycling Potential

Biking distance for parking permit holders was compared to non-motorized users based on survey results (Figure 11). Based on the geocoded parking permit data, up to 35 percent of all USM employees and commuter students (an estimated 1,759 full-time equivalent individuals) live within 5 miles of campus, considered the upper limit for a reasonable biking distance for a commute. Per the transportation survey, however, only about 12 percent of commuters who live within 5 miles of campus use a non-motorized form of transportation. According to Figure 11, below, after 2½ miles, most people at USM stop using non-SOV[4] modes of transportation, which may be an indication of the cultural and environmental limits of biking in Maine. Although there is potential beyond 2 ½ miles, that potential should be tempered by barriers of safety, comfort, and weather.

Figure 11: Bike Potential

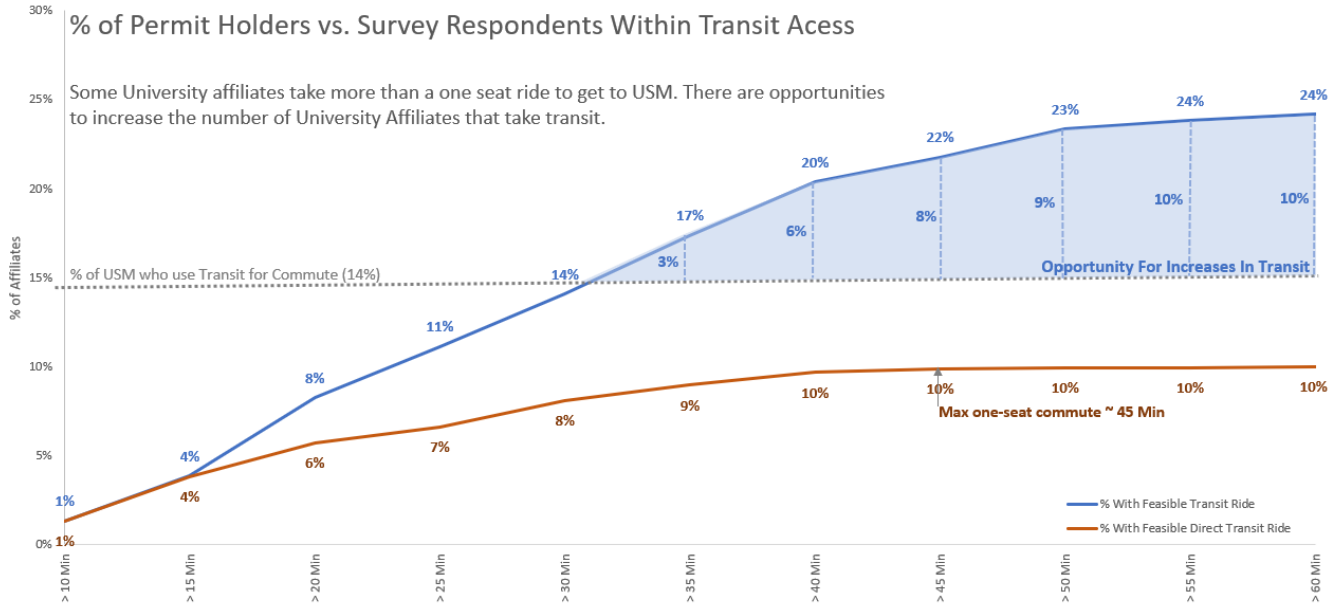


[4] SOV – single-occupancy vehicle (this mode is also referred to as *drive alone*)

Transit Potential

Transit-access time was compared to the percent of commuters from the survey who reported using transit (Figure 12). Up to 10 percent (or 503 FTE individuals) of USM affiliates live within walking distance of a direct transit route to USM Portland (based on the parking permit data). A further 14 percent (summing to 24 percent) can take a transit option that would take less than an hour to access USM Portland. This is 10 percent more than the existing number of University affiliates who indicated taking transit to USM (as reported in the transportation survey).

Figure 12: Transit Potential



Given the higher number of USM affiliates who noted taking transit than the number of affiliates within direct transit routes indicates that either a percentage of affiliates may be connecting on transit service or otherwise driving to a stop first (example driving to Gorham campus and then hopping on the Husky Line). Of all transit routes with direct access to the USM Portland campus, the Husky Line[5] has the highest number of permit holders who live within walking distance (459), followed by Route 4 (451), Route 2 (352), and Route 8 (270). Of all transit routes, the Route 9A and Route 9B serve the most affiliates within walking distance of stops (611), but these routes require a transfer to a transit bus line with direct service to the Portland campus.

[5] This analysis does not account for the fact that the Husky Line is a direct service route with few stops, whereas the other lines are more traditional services; however, the comparison serves to highlight what would be possible if the Husky Line or a route like it where to offer more stops in certain neighborhoods.

4

TDM Coordinator

TDM program management responsibilities will be designated to three representatives associated with the University.

USM appointed the Director of Sustainability to serve as the lead TDM Coordinator for USM, with primary responsibilities centered on long-term demand reduction, planning and implementation. The Manager of Parking and Transportation Services will play a supporting role, with primary responsibilities focused on more short-term planning and on-the-ground assessment of existing programs. Considerable overlap is expected between both of these individuals. Both of these positions report to the Associate Vice President of Operations, who will also play a role in both short-term and long-term operations and planning of TDM initiatives.

The current Director of Sustainability, Aaron Witham, can be reached via:

- email at aaron.z.witham@maine.edu
- phone at 207-780-5947.

The responsibilities of the Director of Sustainability will include the following:

- Promote non-SOV transportation choices primarily to faculty, staff, students and residents

- Champion the implementation of new TDM strategies to reduce parking demand and increase the use of non-SOV transportation modes
- Conduct new student/new employee orientation to educate incoming affiliates regarding their transportation options to and from the campus.
- Coordinate the implementation of TDM strategies with Campus Scheduling, Human Resources, Parking, and any other departments.
- Work with the City of Portland, METRO, GoMaine, a private carpool app and other potential partners to improve non-SOV transportation access to the campus and to gain support for program implementation.
- Recruit and engage participants for any outreach events or campaigns associated with the TDM program over time.
- Review potential new alternative transportation technology or SOV reduction technology and coordinate implementation efforts associated with them.
- Co-coordinate all monitoring and evaluation activities necessary to measure the effectiveness of the TDM program in achieving the targets.
- Co-develop a TDM Report, which will provide an assessment of strategies implemented to date and outline the activities to be implemented in the upcoming year.
- Co-develop and implement financial parking incentives or disincentives as identified by the TDM plan.

The responsibilities of the Manager of Parking and Transportation Services will include the following:

- Provide consultation on TDM strategies that impact parking supply, services, and technology.
- Co-coordinate all monitoring and evaluation activities necessary to measure the effectiveness of the TDM program in achieving the targets, such as providing up-to-date data on parking volumes and trip generation estimates.
- Co-develop a TDM Report, which will provide an assessment of strategies implemented to date and outline the activities to be implemented in the upcoming year.
- Co-develop and implement financial parking incentives or disincentives as identified by the TDM plan.
- Maintain existing motor vehicle and bike parking infrastructure and technology, with the support of Facilities Management and Capital Planning.
- Maintain parking services, including payments, campus notifications, and website updates.
- Carry-out parking enforcement.

5

Transportation Demand Reduction Goals

USM expects the TDM program to reduce the number of single-occupancy vehicle trips, thus reducing overall trips, demand for parking, and greenhouse gas emissions.

Trip Reduction Goal: USM aims to reduce University-generated peak hour vehicle trips between 3-6% (17-35 trips) for the AM peak hour and by 3-6% (12-23 trips) for the PM peak hour by 2025. This goal is relative to a baseline of 581 and 381 trips, respectively, in the year 2023, at the opening of Portland Commons, the Career and Student Success Center, and a new parking garage (as determined by the Traffic Movement Permit analysis conducted in March of 2020). The peak hours are based on total traffic in the area, inclusive, but not limited to USM's contribution. They are noted to be between 7:30 am- 8:30 am and between 4:30-5:30 pm. Given that the morning hour is a higher peak overall, that hour will be the primary focus of the goal. This goal is not adjusted to account for the Maine Law School leaving campus, in order to ensure that the strategies presented in this document for reducing traffic are overly sufficient.

Parking Demand Reduction Goal: USM aims to reduce parking demand by 10-14% (144-201 vehicles) by 2025 during the hour of peak demand on campus[6]. The peak parking hour

[6] The peak hour for trips is related to the peak hour for parking, but they are not the same. For example, the first peak hour for trips occurs early in the morning when the maximum volume of people are on the road traveling. The peak parking hour occurs later, reflecting cumulative impact as a result of multiple hours of trips coming to campus. This is why the trip reduction goal is smaller than the parking reduction goal.

and baseline volume (1,435 vehicles) was established from 12:30-1:30 pm, Monday-Wednesday, inventoried in the Fall of 2018. As strategies are implemented to achieve this goal, the peak demand hour may change, so the goal will stand in reference to the volume, not the time, of parking demand measured at the original baseline peak hour in Fall of 2018.

Mode Split Reduction Goal: USM aims to decrease the percentage of SOV (single occupancy vehicle) trips to 70% and increase the percentage of non-SOV trips to 30% by 2030. The SOV category includes personal automobile trips without passengers and motorcycles, while the non-SOV category includes carpools, riding the bus, biking, and walking. The most recent data set of 2019 shows that USM is currently at approximately 75% SOV and 25% non-SOV. Given that measuring this goal relies on self-reported survey data and only includes a sample of the larger population, the University primarily wants to use this goal for internal planning purposes and for estimating greenhouse gas emissions. However, the University will provide the current estimate annually in its reports to the City.

Greenhouse Gas Reduction Goal: USM aims to reduce greenhouse gas emissions from commuting by 20% (or .4 MT of CO2e per capita) by the year 2025, in line with its goal to reduce all scope one emissions at the University by 20%[7]. The 2006 baseline greenhouse gas emissions from commuting on an annual, per capita basis is approximately 2 MT of CO2e. This goal is tied to a larger University pledge called the President's Carbon Commitment, a national commitment among hundreds of colleges and universities to reach carbon neutrality. USM signed the pledge in 2007, and set 2006 as the baseline with a goal of 2040 for carbon neutrality. The 20% goal here is higher than the goals set for trip generation and parking reduction because in addition to vehicle reductions, the University is actively building infrastructure for electric vehicle charging and anticipates increases in fuel economy standards for traditional gasoline-powered vehicles and hybrids.

Table 4: Summary of Targets Following City of Portland Reporting Guidelines

Date of Original TDM Plan: 11-3-2020				1-20-2023 Revision
Provide Data in Percentages and Absolute Numbers, where applicable		*Baseline Data (at time of TDM plan adoption*	*TDM Plan Reduction Target (if applicable)*	*Current Reporting Period Data*
Vehicular Trips	*Off-Peak*	N/A	N/A	Report forthcoming in 2023
	AM Peak Hr	581	3-6% (17-35 trips)	Report forthcoming in 2023
	PM Peak Hr	381	3-6% (12-23 trips)	Report forthcoming in 2023

[7] There are three categories of emissions in GHG accounting. Under Second Nature, scope three is comprised of commuting, business travel, study abroad, downstream waste emissions, and transmission and distribution loss from electricity, as well as occasionally other sectors.

Mode Split (future data may be reported as SOV & Non-SOV)	*Single-Occupancy Vehicle*	75%	70%	Report forthcoming in 2023
	Non-SOV	25%	30%	Report forthcoming in 2023
	Carpool	8%	Not specific	Report forthcoming in 2023
	Bicycle	*11% (shared with walk)	Not specific	Report forthcoming in 2023
	Walk	*11% (shared with bike)	Not specific	Report forthcoming in 2023
	Transit	6%	Not specific	Report forthcoming in 2023
On-site Parking (Peak)		1,435	10-14% (144-201)	Report forthcoming in 2023
GHG Emissions Targets		2 MT of CO2e per capita	20% (or .4 MT of CO2e per capita)	Report forthcoming in 2023
Other:_____				

6

Trip, Parking, Mode Split and GHG Reduction Strategies

The USM TDM Plan establishes an aspirational vision and set of goals for transportation, mobility, and sustainability. The Plan builds off USM's multimodal strengths but pushes forward-thinking and multifaceted solutions.

Ultimately, USM will achieve success if one keeps in mind the following key concepts:

There is no "silver bullet" in TDM. The recommendations represent a package of reforms; implementing only one or two items will not solve USM's parking challenges.

Behavior change is difficult, but critical if USM would like to realize its vision. Future growth at the University will present critical challenges with parking. USM will need to depart from the status quo and rethink parking and transportation in order to grow sustainably.

The Plan is a "living" document. Key to the success of this plan is to implement, measure, learn, and adjust. Over time as the transportation context, technology, institutional culture, and user preferences change, so may the types of strategies that are pursued. This is true now, more than ever, given the current global pandemic, and the need to remain adaptable.

What is presented here is the University's current plan for Transportation Demand Management. It is subject to change as the global pandemic unfolds, as financial constraints

dictate, and as annual survey data and parking counts inform what is working and what is not working among USM's unique population.

Therefore, the University is not committing to launch every one of these initiatives necessarily or committing to keeping every initiative in place permanently if they prove to not be feasible. Rather, the University is aiming to achieve trip, parking, and greenhouse gas emissions reduction targets using the most effective suite of technologies and policies available and achievable for a particular year. That said, it is the desire of the University to launch most of these initiatives in order to provide a multi-modal suite of options to students, staff and faculty, not all of which have the privilege of owning a personal vehicle. Moreover, the University has identified certain initiatives as "core" initiatives that it is committed to implementing. These are indicated with an asterisk in Table 3.

The matrix below introduces a snapshot of the initiatives that USM hopes to implement. Following the matrix is a section outlining descriptions of the initiatives. To the extent possible, strategies are grouped by categories reflected in the *City of Portland's Technical Manual*. For each strategy, an anticipated launch date is provided.

Most of the initiatives described here were first conceived and published in the 2020 version of the TDM Plan. Therefore, progress has been made toward many of them over the two years since the plan was released. Some of the initiatives have even been fully implemented. For annual initiatives or initiatives that require ongoing management, they are considered "ongoing". The implementation status is indicated in the "Launch Date" column below.

Table 5: Overview of TDM Initiatives for USM

STRATEGY	LAUNCH DATE	INFRASTRUCTURE	INCENTIVES	EDUCATION
Walking				
Participate in the "Complete City Project"	Completed in 2020			X
Hold Fitness Challenges	Completed in 2022 & Ongoing		X	
Biking				
*Co-launch City Bikeshare	Completed in 2022 & Ongoing	X		
Build Bicycle Repair Station	Fall 2023	X		X
Promote Local Bike Activities	Completed in 2022 & Ongoing		X	X
*Improve Bike Infrastructure	Fall 2023	X		
Apply for Bike Friendly University Certification	Fall 2023	X	X	X
Transit				
*Continue METRO Pass Program	Completed in 2022 & Ongoing	X	X	

Promote & Market METRO to University Students, Staff & Faculty	Completed in Fall 2021 & Ongoing		X	X
Work with METRO to Incentivize Travel of Community Members to USM Events	Fall 2025		X	X
Propose Transit Service Expansion Beyond Husky Line	Completed in Fall 2022	X		
Install Transit Screen on Portland Campus	Spring 2024	X		
Subsidize City-Link passes for Lewiston-Auburn College students	Spring 2024		X	
Carpooling, Telecommuting & Time-of-Day				
Designate Carpool Spaces	Completed in Fall 2022	X	X	
Expand Rideshare Matching Opportunities	Fall 2024	X		
Promote Telework & Flexwork	Completed in Spring 2020 & Ongoing		X	X
Restructure Course Schedule	Completed in Fall 2020	X		
Parking Pricing				
*Establish Residential Parking Buyout Program	Fall 2023		X	
Host Carshare Program to Support Buyouts	Fall 2023	X	X	
*Unbundle Student Parking Fees	TBD		X	X
Build Additional EV Charging Stations	Spring 2023 & Ongoing	X		
Review Parking Price Levels	Completed in Fall 2020 & Ongoing		X	
Communications & Marketing				
*Hold New Student & Employee Orientations for Transportation	Completed in Fall 2022 & Ongoing		X	X
*Revise Transportation Website	Completed in Fall 2022 & Ongoing			X
*Publish Access Guide	Completed in Fall 2021 & Ongoing			X
Offer Emergency Ride Home Service	Fall 2023		X	

*Core strategies that the University is committing to are indicated by *. In the case of the Carpooling, Telecommuting & Time-of-Day category, the category itself is considered core, but the University will maintain flexibility in which of these strategies it implements, depending on future conditions

Walking Initiatives

Participate in "The Complete City" project: A class led by Dr. Yuseung Kim collaborated with the Portland Society for Architecture (PSA) to carry out this project. The goal of the project was to make the Greater Portland community area more accessible, more attractive, more just, and equitable. This includes creating what they (and others) describe as "The Complete City," where within the city, each neighborhood has all it needs within a half mile, incentivizing alternative transportation by intentionally planning communities. Having one's needs within a half mile makes a community walkable. Six graduate students worked on the project and helped deliver a 130-page report and a 15-page executive summary. More about the Complete City Project can be found here: https://thecompletecity.com/disconnected/.

Hold Fitness Challenges: In the Spring of 2022, the Office of Sustainability launched its first sustainable-fit commute challenge. The purpose of the challenge was to incentivize students, staff, and faculty to try walking or biking to campus in order to better their health and the health of the planet. Over 100 people signed up for the four-week challenge, which took place between April and May. Participants were asked to fill out a form at the end of each week to self-report their mileage or steps.

The winning walker and biker each week received a prize of Husky Bucks, which are University dollars that can be used in the campus bookstore or dining facilities. As an additional incentive, employees and eligible spouses, who participated each of the four weeks, were granted achievement of their level 2 health incentive with the University's health program, which comes with a $100 reward. The Employees Benefits Center, Human Resources Departments, and the University's Health Committee all partnered on the initiative. The University intends to continue holding the event annually.

Biking Initiatives

Co-Launch City Bikeshare: Over the Fall of 2021 and the Spring of 2022, the University helped the City of Portland research and develop its RFP for bikeshare services. The RFP effort was successful and the chosen vendor, Tandem Mobility, begin installing bikes across the City in 2022. In the Fall of 2022, the University established two bikeshare locations on the Portland campus, including Skywalk Landing by Masterton Hall and a location by Sullivan Gym. The University endeavors to move one or both of these stations to locations that are anticipated to see higher foot traffic after the McGoldrick Center, residence hall and center for the arts buildings come online. The current plan is to have one bikeshare station on each end of campus, serving the two new quads. The University promotes the bikeshare program on its website, through Instagram, and in direct emails to the University community. USM will continue working with Tandem Mobility and the City of Portland to support and expand the program, including the potential to integrate bikeshare incentives into the campus' broader parking management strategies.

Build Bicycle Repair Station: In the early summer of 2023, the new structured parking garage on Bedford Street will open on the Portland campus. Contained within this structure is a dedicated bike repair room that is adjacent to the bike-storage room. This covered room, with electrical outlets and lighting, will be outfitted with basic tools and stands, so that students, staff, and faculty may conduct basic bike repairs. At a minimum, the space will be set up to operate in a self-serve capacity. However, if funding and expertise can be acquired in future years, the room may be able to house a bike repair shop.

Promote Local Bicycle Activities: The University will promote the participation in (and facilitation of) local bike activities such as the Portland Slow Ride, Smart Cycling Traffic Skills 101, and Cycling Savvy events. At least one opportunity or event will take place each semester. In the Spring of 2022, the University co-hosted three bike activities with the Bicycle Coalition of Maine: a Great Maine Bike Swap on the Lewiston campus, a Great Maine Bike Swap on the Gorham campus, and a bike-in-traffic workshop on the Portland campus. In the Spring of 2023, the University has two fix-it workshops planned with Bicycle Coalition of Maine, with planning taking place for another bike-in-traffic workshop. The number of activities and types of bike activities offered each year will depend on current demand and availability of instructors.

Improve Bicycle Infrastructure: The University plans to increase bicycle parking spaces to 2.5 times what is currently offered on the Portland campus. Currently there are 250 spaces.

In the summer of 2023, USM plans to add 122 short-term (uncovered spaces) to campus, with a lot of them slated for the new quad and some of them being distributed throughout campus to fill in gaps. USM also plans to add 288 long-term (covered and secured) spaces at the same time. Approximately 38 of these long-term spaces are being built inside a bike room within the Portland Commons residence hall, and 250 long-term spaces are being installed in a dedicated bike room in the new structured parking garage. Bikeshare notwithstanding, the total spaces on campus by the Fall of 2023 is planned to be 670. Then, in the Fall of 2024, another 10 bike spaces are planned to be installed near the new center for the arts.

These volumes of new bike parking meet or exceed several important standards that align with the University's aggressive plan to increase biking among its students, staff, and faculty:

- 5.5 times higher than City of Portland's Technical Specs, campus-wide[8]
- Double the amount suggested by APBP for short-term parking for students and employees[9]
- Meets APBP's recommended long-term space allocation per bed[10]
- Exceeds City of Washington D.C.'s requirement by over 50% for long-term spaces per dwelling units in residential apartments[11]

[8] Per City of Portland Code of Ordinances, Section 14-526

[9] Per Association of Pedestrian & Bicycle Professionals' Bicycle Parking Guidelines, 2nd Edition, assuming that student & faculty vehicle spaces are a reasonable proxy for individuals on campus at one time

[10] Per Association of Pedestrian & Bicycle Professionals' Bicycle Parking Guidelines, 2nd Edition multi-family housing criteria of .5 spaces per bed

[11] Per Table 1: https://ddot.dc.gov/sites/default/files/dc/sites/ddot/publication/attachments/DDOT%20bike%20parking%20guide_060118_Screen.pdf

- Double City of Cambridge, MA's requirements for short-term spaces and exceeds their requirements for long-term spaces.[12]

Off campus, the University will collaborate with the City of Portland on identifying improvements to bicycling infrastructure along corridors traveled by USM commuters through the annual transportation survey.

Apply for Bike Friendly University Certification: The University plans to apply for Bike Friendly University Certification. The application process, completed every four years, will help the University identify areas for improvement, and inform the types of questions that need to be asked in the annual survey of students, faculty and staff. Preliminary work began in the Fall of 2021 to identify where to find and how to compile the necessary data in order to apply. The University plans to draft an application in the Summer of 2023.

Transit Initiatives

Bus ridership has obviously been impacted by the global pandemic by some customers deciding not to ride the bus and by temporary restrictions on being issued by the Federal Government. Despite these challenges, VHB believes that transit ridership demand will fully rebound again within a couple of years, so they do not recommend changes to long-term ridership predictions at this point. However, they note that the ability for ridership to be accommodated depends on supply of seats being available, which could possibly be impacted by future policy decisions coming from the Federal government. For the time being, the University is not adjusting expected transit impact for TDM goals set on a 2023 horizon.

Continue METRO Pass Program: In 2018, the University established a program with the Greater Portland METRO to allow students, staff, and faculty to ride any METRO route for no cost to the individual, so long as they show a USM ID. The program has been popular for students, as it increased the number of trips offered between Portland and Gorham via the newly established limited stop Husky line. Post pandemic, it has great potential to shift USM commuters out of personal vehicles if they live on or near an existing line. In the Fall of 2022, the University activated its last option year under the existing contract and is working with METRO on a contract renewal to keep service operating beyond the Summer of 2023.

Promote & Market METRO to University Students, Staff & Faculty: The University will work with METRO to promote use of the Husky Line as well as the system as a whole. In the last couple of years, the University has promoted bus ridership on social media and hosted group rides through new student orientation. Use of the METRO is also being planned as part of a focused sustainable transportation orientation.

[12] Per College or University Student Activity Facilities, page 4: https://www.cambridgema.gov/-/media/Files/CDD/Transportation/Bike/Bicycle_Parking_Guide_20130926_2017PictureEdits.pdf

Work with METRO to Incentivize Travel of Community Members to USM Events: The University is working with METRO to explore grant or METRO-funded discounts on fares through ticket purchases for the general public attending University events, such as events that will be hosted in the new center for the arts or athletic events. METRO and the University meet quarterly to discuss improvements to service and to share ideas for broadening ridership.

Propose Transit Service Expansion Beyond Husky Line: In 2022, the University of Southern Maine and the Maine Law School met with METRO multiple times to discuss expansion of the Husky Line deeper into downtown Portland. Discussions have centered around advancing the route down Congress Street and Franklin Arterial in order to serve the Fore Street and waterfront neighborhood, before traveling back to Elm Street. Such an expansion would assist University students, staff, and faculty in accessing downtown businesses without bringing a single occupancy vehicle onto the peninsula. METRO is taking multiple stakeholders into consideration before it finalizes any plans for route expansion. The University remains available and willing to assist with data collection or analysis.

Install Transit Screen: The University plans to install a real-time transit screen near the center of campus. Discussions with METRO and various University stakeholders have identified the new Career and Student Success Center, the bus stop, or the new structured parking garage as potential locations. Installation may not take place until after the new buildings have opened and pedestrian routes through campus have been established, so that the University can decide which location would achieve the highest visibility.

Carpooling, Telecommuting and Time of Day Initiatives

The initiatives below are paired together here so that they can be substituted for one another when responding to the risks created by the Covid-19 pandemic and future pandemics. For example, under non-pandemic circumstances, the telework initiative may only constitute 25% of the demand management that this category is capable of, while under a pandemic scenario it may need to constitute 100% of the demand management.

Designate Carpool Spaces: In the Fall of 2022, the University designated 50 prime parking spaces for carpool on the Portland campus. Three spots have been signed in the Masterton Lot, two spots in the Human Resources Lot, one in the Payson Smith Hall Lot, six in the Law School Lot, and 38 in the parking garage. Each location allows carpoolers to park close to the adjacent building. Students, staff, and faculty parking in the spaces are required to display two valid parking passes within the vehicle to prove that a second vehicle is being left at home. Non drivers are allowed to apply for a non-driver carpool pass that can be displayed as the second parking pass. To advertise the launch of the program, the Director of Sustainability and the Associate Vice President of Operations informed drivers entering the parking garage during the first week of classes, and a narrative describing the program was emailed to the entire University along with other transportation-related notifications. Usage of the spots has not yet reached its full potential, so the Office of Sustainability will continue marketing efforts in future semesters. Future expansion of the program will be considered if space counts demonstrate high usage and if survey data provides evidence that expansion will incentivize more carpooling.

Expand Rideshare-Matching Opportunities: The University advertises the Maine Turnpike Authority's rideshare matching platform through Go Maine. Information about Go Maine is available on the University's transportation website, sustainable transit quick access guide, and other mass communication. However, the University does not yet have a formal partnership with Go Maine. Research into the benefits and risks of a partnership have been ongoing since 2019. The University is exploring whether or not it wants to pursue development of or a subscription to a private rideshare-matching application, and aims to make a decision by the Fall of 2024, assuming that the Covid-19 pandemic has leveled out by then. The carpooling mode share at the University is relatively high (8% in 2019 and 6% in 2022), so efforts to assist in ride-matching are not as high of a priority as some other TDM initiatives.

Promote Telework and Flexwork: The University of Southern Maine will continue promoting its existing voluntary telecommuting policy issued by the University of Maine System. Over the last two years, the Human Resources department has issued several notifications to employees about how to apply for telework.

Restructure Course Schedule: In the Fall of 2020, the University's Registrar's Office led a restructuring of the course schedule to spread out enrollment throughout the day and to better align with the METRO schedule in order to assist students wanting to take the bus from Gorham to their classes in Portland. In addition to impacting peak parking demand in the middle of the day, the effort was also meant to reduce demand on available classroom space, and to give students more options for when to take courses. The new course schedule starts 45 minutes earlier in the morning, lengthening the day. It also adds an additional early morning time block and an additional evening time block when courses can be booked. The full effects of this restructuring will not fully seen until after the University's ratio of online/hybrid courses to in-person-only courses falls back to pre-pandemic levels.

Parking Pricing Initiatives

Establish Residential Parking Buyout Program: The University plans to launch a parking buyout program to encourage student residents on the Portland campus to give up their parking pass for a year in exchange for a cash incentive and value toward bikeshare and/or carshare services. The current proposal, subject to change, is to offer up to 100 buy-outs that include both the cash incentive and value toward alternative transportation services. The second 100 buy-outs would be just for alternative transportation services. Additionally, the first 30 applicants would get secure, covered parking inside Portland Commons. The second 170 applicants would get secure, covered parking inside the bike room of the parking garage. All participants would receive a limited number of one-day vehicle passes to assist them through unplanned life events or emergencies. The amounts of the financial incentives are still being finalized and are subject to the forthcoming budget approval process culminating in May of 2023. The University will monitor this program over time and adjust the number of buy-outs and the financial incentive to respond to changing conditions.

Host Carshare Program to Support Buyouts: The University will attempt to establish a carshare program that would be utilized as part of the residential student buy-out program

(in subsidized form), as well as by commuter students, staff, faculty and non-USM community members. The University recognizes that the carshare business plan has been challenged by Covid-19 due to the financial losses sustained by car rental businesses, so this initiative may not prove reliable. To that end, it is not a critical leverage point within this TDM plan; rather it is supplemental to the buy-out initiative. The hope is that the industry will rebound in 2023. Effort will be made to partner with the City of Portland if it develops an interest in establishing a carshare program.

Unbundle Student Parking Fees: The Office of Sustainability endeavors to find a way to either unbundle the student transportation fee from their other tuition-related fees or make the parking-related portion of the transportation fee more transparent, so that the payment for a parking permit becomes a more conscious action. This action which will draw attention to the cost of those applying and serve as a disincentive to some. Because of the fact that University of Southern Maine fees are established through Board of Trustee (BOT) approval, and BOT processes are longer than most other approval processes at the University, it is unclear when the next opportunity to achieve this goal will arise.

Build Additional EV Charging Stations: The University has purchased 29 level-2 charging stations with 58 plugs to have installed in the new structured parking garage upon opening. There are already two level-2 charging stations on the Portland campus and one on the Gorham campus. In future years, the University's goal is to ensure there are enough charging stations available to meet the next year's expected demand of students, staff, and faculty driving EV vehicles to campus (as indicated by available data from charging station software, parking permits and the annual transportation survey), so that spaces to park do not limit potential EV drivers. Stations will charge customers to charge.

Review Parking Price Levels: The University has carried out recent reviews of parking pricing in an effort to discourage single occupancy vehicles and increase revenue. In 2020, the University Auxiliary Services division reviewed parking pricings at the University and surveyed the Greater Portland market. The findings influenced operation of the parking garage on the Portland campus over the following two years. In the Fall of 2022, the Operations division increased pricing for non-permit holders from $2 per hour to $3 per hour. The goal will be to achieve greater parity between employee and student parking pricing. When the new residence hall opens on the Portland campus, the University intends to charge a premium for students parking overnight. Future considerations are being made for efforts to increase parking price parity between students and employees.

Communications and Marketing Initiatives

Communications & Marketing: The University plans to hold new student and employee orientations for alternative transportation modes, infrastructure, resources, and incentives. In 2022, the University developed two different orientation models (an in-person and a virtual). During the Fall semester, the Office of Sustainability launched the virtual orientation, which comprised of providing participants with sustainable transportation tutorial information, a code for two hours of free bikeshare, and a request to post a picture of themselves on a bikeshare bike with a hashtag linking the post to the Office of Sustainability's Instagram page. The Office of Sustainability plans to conduct an in-person orientation during warmer

months. These new orientation programs will supplement existing group bus rides that occur during new-student orientation programming.

Revise Transportation Website: In the Fall of 2022, the University launched a new transportation website, its second major revision in the last three years. The latest website offers targeted information on how visitors to campus can ride a bike, take a bus, take a train, carpool, or drive an electric vehicle. Separate pages on each of these alternative modes covers infrastructure, incentives, local resources such as maps, and estimated greenhouse gas emissions saved. The Office of Sustainability and Parking Office will update this website over time.

Publish Access Guide: In 2021, the Office of Sustainability developed a "slick sheet" access guide summarizing ways to travel to campus and nearby destinations, using alternative modes. The guide was printed as a flyer and hung around campus. It has also been incorporated into new student orientation packets. The Office of Sustainability will update this guide over time and continually evaluate the best venues to use for publicizing it.

Offer Emergency Ride Home Service: The University plans to promote the "guaranteed ride home" program from Go Maine and consider supplementing this service with a University-funded budget for additional guaranteed rides home. The service would likely be structured as reimbursement for a taxi, private bus, or a rideshare service, such as Uber or Lyft. It would provide security to students, staff and faculty who choose not to bring their single occupancy vehicle to campus. If they experience an emergency that requires them to get a ride home, to a doctor's appointment, or to pick up a child, they would be able to apply for reimbursement if they meet certain minimum requirements.

Potential Greater Portland Initiatives

The University recognizes that it is only one entity within a much larger complex system of transportation within the greater Portland. Toward that end, VHB researched potential improvements that could be considered by the METRO, the City of Portland, and other supporting entities to support USM's TDM plan. VHB also estimated the potential impact these initiatives could have on USM's trip generation and parking goals. The proposed initiatives and their potential impacts are summarized here:

- **Increase frequency of Husky Line to 15 minutes:** Reduction of 39 (2.5%) to 79 (5%) Peak Hour Parking Spaces
- **Increase frequency of METRO Routes 2 and 4 to 15 minutes**: Reduction of 39 (2.5%) to 79 (5%) Peak Hour Parking Spaces
- **Restructure departures and arrivals of all METRO routes serving the Portland campus in order to create 10 minute headways to downtown:** Reduction of 8 (0.5%) to 16 (1%) Peak Hour Parking Spaces, with even greater reductions possible if all routes were routed to serve the same stop on campus
- **Create local on-demand circulator route (shuttle):** Reduction of 56 (3.5%) to 111 (7%) Peak Hour Parking Spaces
- **Improve downtown METRO loop (Route 8) and route it through the USM campus:** Reduction of 43 (2.7%) to 86 (5.4%) Peak Hour Parking Spaces

- **In support of the above initiatives, METRO could begin to plan around USM as an anchor node in their network when the new residence hall comes online**
- **Create a better defined and safer bicycle/pedestrian corridor from USM to downtown:** Reduction too difficult to estimate until the goal is more defined

The reduction ranges featured above should be considered for each initiative individually, as opposed to being additive if all initiatives were implemented. In other words, some individual riders may be affected by more than one initiative. To further explore these initiatives, the University recommends that a coalition of METRO, the City, the University, and others research what the potential cost per rider would be for implementing these strategies, in order to determine which may warrant further consideration.

7

Monitoring and Reporting Plan

Program monitoring and evaluation are important components of any successful TDM Program, because they provide a quantitative benchmark of the program's effectiveness in reducing single occupancy vehicle trips and parking demand. The Transportation Demand Management Coordinator can use the information gathered via the monitoring plan to direct the ongoing implementation of the TDM Program, allowing for adjustments and the introduction of new strategies. Furthermore, via regular periodic reports, USM will provide

evidence to the City of the applicant's diligence in implementing the program.

There are different methods for collecting the data necessary to monitor a TDM Program, including surveys, program participation documentation, vehicle parking counts, and activity logs. USM's TDM program monitoring will use trip generation counts, vehicle parking counts and person surveys in evaluating the effectiveness of the program. Each of these tools is discussed below.

Trip Generation Counts

Trip generation counts refer to estimating the potential contribution of USM students, staff, and faculty to the total volume of vehicles on the roads feeding the Portland campus. The peak trip hours will be used as the boundary for this metric, and the data will originate from recorded vehicles entering and exiting the parking garage structures on campus. The University will then apply the ratio of trips per parking spaces calculated from the garage data to the surface lots on campus, in order to estimate trip counts to/from the surface lots as well. The parking garages will represent the supermajority of parking for the foreseeable future (e.g. 87% of the parking in 2024), which provides the University confidence that this method will yield a reasonable estimate of trip generation for the entire campus.

The peak hours will be assumed to be between the hours of 7:30-8:30 am and 4:30-5:30 pm, Monday through Wednesday, in October, unless future analysis shows they should be at a different time. These hours were determined by the Traffic Movement Permit published in 2021 and updated in 2022.

The Manager of Parking and Transportation Services at USM will provide vehicle count data from the automated garage entry systems. In the event that the automated garage entry system is broken, then visual counts or traffic strips may be used.

The report generated in the Spring of 2023 will show percentage change relative to 2022, given that the baseline year for this metric does not occur until the Fall of 2023. From 2024 onward, the percentage change will be based on a baseline year of 2024.

Parking Occupancy Counts

Parking counts refer to an accounting of the number of occupied and/or empty parking spaces. These data are used to ensure that the amount of parking supply (spaces) on site is appropriate to meet peak hour parking demand (parked vehicles).

Under the direction of the TDM Coordinator or the Manager of Parking and Transportation Services, the University will collect observations of vehicle parking during a representative (typically busy, classes-in-session) 3-day period in October. Observations of spaces occupied will be made during each hour in a ten-hour period of 8:00 AM to 6:00 PM.

The automated garage entry system at the gates to the parking garages will be used to collect the data, provided it is functioning at the time. If it is not functioning, then a visual

count or traffic strip will be utilized. The parking supply in the parking garages will represent the supermajority of available parking on campus for the foreseeable future (e.g. in 2024, 87% of the parking will be in the parking garages). An occupancy ratio will be determined from this data set that will then be applied to the surface lots on the Portland campus, in order to estimate the approximate occupancy counts of those spaces.

The reporting of parking transactions and garage use should distinguish, to the extent possible, those users who are USM employees, students, and transient/visitors (hourly, public) users.

A parking occupancy rate relative to total supply of parking on campus will be reported by the University for the three days of data. The University will also report the raw data for these counts when requested to do so by the City of Portland.

Survey of Commuting Patterns, Mode Split and GHG Emissions

The Office of Sustainability or Parking Services will administer a survey of both employees and students of USM Portland.

Surveys provide a qualitative understanding of how well TDM (and Parking Management) program elements are working. The survey will also be used to estimate greenhouse gas emissions associated with commuting, as well as the current mode split.

The TDM Coordinator will conduct the surveys in either the Spring or Fall session (e.g., March or October), depending on available resources and labor relative to the resources and labor required to conduct the trip generation and parking analysis. The survey will be completed during a week without any holidays and when classes are in session.

Survey questions will incorporate the following components, in addition to others:

- Type and frequency of modes of transportation used in a typical week
- Destinations traveled to via particular modes
- Reasons why people are driving alone
- Reasons why people are not driving alone
- Level of enthusiasm for incentives that would encourage drive-alone respondents to use an alternative mode
- Ideas for improvements to transportation system, including ideas for incentives
- Routes traveled by foot or bike and associated improvements desired
- Trip generation during time of day (in order to supplement USM-generated contribution to peak traffic generation)
- Ownership of electric vehicles
- Questions required for Bike Friendly University application
- Questions about health concerns (e.g. Covid-19) with different modes and how that is impacting behavior and expected to impact behavior in the future

Status and Monitoring Report

Each year, after data are collected, the Office of Sustainability or Parking Services will prepare a report summarizing TDM program status and monitoring results. In addition to reporting the results of the data collection, the report will detail (1) what/when strategies were implemented, (2) an estimate of how many individuals participated in certain programs, and (3) the lessons learned regarding the most effective TDM strategies, including barriers to not driving alone from the survey.

A core summary table of the goals will be provided in the report that includes baseline numbers, progress to date, goal numbers, and dates by which the University is striving to reach the goals. Goals included will be trip generation, parking counts, mode split, and greenhouse gases.

In addition to reporting on electric vehicle data collected through the annual survey, the University will provide an EV Use and Forecast Report to the City on or before May 15th of each year beginning in calendar year 2024, summarizing EV ownership and EV charging station use statistics. The Report will also include a proposal regarding the number of EV charging stations for the coming school year, based upon the supply and demand statistics from the previous year. In alignment with the other reporting activities outlined in the TDM plan, the University commits to annual reporting through 2030, the horizon of the Facilities Master Plan, after which a new TDM plan may be proposed.

The University will submit the report to the City of Portland's TDM Program Manager (a position currently staffed in the Planning and Transportation Division of the Planning and Urban Development Department). A report should be issued on or before May 15th. The University will work with the City every year to ensure it is meeting expectations of the City regarding format of the report. The TDM Coordinator will meet with the City of Portland Planning Department, as needed, to discuss suggestions for changes to the TDM Program, and will make adjustments before the start of the Fall semester if necessary.

Monitoring Schedule

Monitoring (survey, parking, and traffic data collection) will begin the year this plan is published (2023). Monitoring will occur according to the schedule detailed below, until the year 2030, the horizon year of the *Facilities Master Plan*. Updates to the *Sustainability Strategic Plan* and/or *Facilities Master Plan* may conclude that further monitoring is warranted.

Annually, the University will:

- Conduct analysis of trip generation (as described above)
- Conduct parking occupancy observations (as described above)
- Conduct a travel survey (as described above)
- Prepare a TDM monitoring report (as described above)

MAJOR SITE PLAN REVIEW APPLICATION

University of Southern Maine

246 Deering Avenue, Portland, Maine

Center for the Arts
111 Bedford Street, Portland, Maine

Prepared For:

City of Portland Planning Board
389 Congress Street
Portland, Maine 04101

December 15, 2022

Prepared By:

OAK POINT ASSOCIATES
architecture
engineering
planning

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Section 1 – Project Description

This application package is for the construction for a Center for the Arts Building (CFA) that will provide a state-of-the-art, purpose-built home for the University of Southern Maine School of Music as well as visual arts programs such as the Kate Cheney Chappell ’83 Center for Book Arts. The package has been prepared in accordance with the City’s requirements and submitted by Oak Point Associates, acting as the University’s agent for the purposes of permitting.

Project Intent

The CFA will be the focal point of artistic development and exhibition on the University of Southern Maine’s Portland campus. As a new home for the School of Music, the CFA will leverage its prominent exposure toward both the central campus and the broader community as a catalyst for engagement not only with music, but also with its sister arts. This intersection of the arts is most clearly manifest in the central Gallery space – a prominently featured forum for the exhibition of visual arts and other media and a highly visible corner studio to display the activities of the book arts.

The project adds new academic and administrative spaces that will enable the College of Music to grow and provide the highest quality acoustical and technical practice and rehearsal spaces for students’ musical training and education. Key elements include a 200-seat performance hall, arts lab with telescoping seating and a large door to the Gallery for flexible event use, large rehearsal hall, flex studio for visual arts, teaching studios, classrooms, and administrative offices.

Project Location

The CFA will be located on the southwest edge of University of Southern Maine’s Portland Campus, along the edge of Noyes Park. The building serves to frame the campus green to the north while providing a gateway to the campus from Deering Avenue. The new facility anchors the southern edge of the campus green formed by the CFA, Luther Bonney Hall, and Payson Smith Hall. The block of Brighton Avenue between Bedford Street and Falmouth Avenue, which served as a physical break between USM and Noyes Park, was removed in 2021 as part of the Deering's Corner roundabout project and infilled with lawn. The building has been assigned the address 111 Bedford Street by the City of Portland and is located within the R-5 Residential and USM Campus Overlay Zones.

Proposed Building and Siting

The demolition of Brighton Avenue between Falmouth and Bedford Streets has created several opportunities for the University of Southern Maine’s Portland campus and the City of Portland. These improvements have provided the opportunity for Noyes Park to become a more pedestrian-friendly and

welcoming environment. This newly defined park edge allows the new CFA to become a prominent new front door to the campus toward the City of Portland at its southwestern edge of campus. Experientially, it represents an intersection between town and gown.

In addition to engaging Noyes Park, the building has been sited so that it can enhance the campus green while avoiding impacts to significant trees on the site and in the park. The project will preserve pedestrian connectivity through the campus green and the buildings to the north as well as the Law School Building and adjacent parking lot to the south (across Deering Avenue) while extending the existing sidewalk on Bedford Street north to connect to the existing sidewalk at Noyes Park. No additional parking is proposed as part of the project, but a drop-off area is proposed on Bedford Street that doubles as fire department access.

A small loading area is proposed on the northwest side of the building that will be accessed from the end of the parking lot adjacent to Payson Smith Hall. This loading area allows for occasional delivery of musical equipment and trash removal. Because the loading area will be used infrequently and due to the location of the loading area, a formal access drive is not desirable. Instead, the sidewalks on this side of the building have been laid out to accommodate the turning movement of delivery trucks.

The building will be connected to the existing water and natural gas infrastructure under Falmouth Street, the existing on-campus electrical and communications infrastructure, and the existing sewer and storm drain lines beneath Bedford Street. A subsurface sand filter is proposed to detain and treat roof runoff prior to entering the municipal storm drain system.

Architectural Approach

The fundamental configuration of the CFA represents simultaneous intersections from the city to the campus with a Central Gallery becoming a gateway from Noyes Park to the campus. The Gallery is an exhibition space for the visual arts, open to passersby. It also serves as a threshold between the campus and the CFA, opening out onto a newly defined campus green and bringing the arts outside and connecting to the purpose-built spaces for teaching, rehearsal, and practice.

Proposed Planting/Landscaping

Several planted areas will be provided around the building. The plants serve several functions on the site, including providing screening of the loading area from the Noyes Park side of the site, visual interest near the building entrance, a buffer in locations to discourage pedestrian cut-throughs, and preventing outdoor gathering near windows at interior assembly spaces. USM has a desire to provide a plant palette that includes edible plants and plants that are native to New England, and the landscape is designed accordingly. Proposed street trees are provided along Bedford Street, except where proximity to stormwater treatment facilities (under drained subsurface sand filter) preclude them. Street tree species are listed on the *City of Portland Recommended Tree List.*

Project Timeline

This project is the second of a two-part project that also includes relocating a portion of the existing Deering Farmhouse building to accommodate the CFA and provide additional office and storage space. The farmhouse relocation project is currently being reviewed by the City, and construction is anticipated to begin in spring 2023. Construction of the CFA is anticipated to begin shortly afterward in summer of 2023 and is anticipated to be substantially complete by the fall of 2025.

CITY OF PORTLAND
Planning & Urban Development Department

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

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

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

GENERAL APPLICATION DOCUMENTS		
Yes	**NA**	**Project Description** ● Cover letter with detailed project description
Yes	**NA**	**Completed Checklist** (this document)
Yes	**NA**	**Evidence of Right, Title, and Interest** ● Deeds, leases, or purchase and sales agreements
Yes	**NA**	**Evidence of State or Federal Approvals** ● Permits or letters of non-jurisdiction, if applicable
Yes	**NA**	**Zoning Assessment** (see Zoning Assessment Table) Summary of compliance with use and dimensional standards of the land use code
Yes	**NA**	**Site Plan Standards Assessment** (see Section 14.6 of the land use code) • Summary of project compliance with site plan standards of the land use code
Yes	**NA**	**Summary of Existing and/or Proposed Easements or Covenants, applicable.** ● Evidence of existing easements and any proposed easements, covenants, public or private rights-of-way
Yes	**NA**	**Waiver Requests** (see Waiver Table) ● Written request for waiver describing request and compliance with applicable waiver standards
Yes	**NA**	**Financial Capability** ● Letter or evidence from a financial institution or third party verifying financial capacity to undertake project
Yes	**NA**	**Technical Capability** ● Evidence of technical capability of applicant and consultants – resumes and/or examples of past projects

MAJOR SITE PLAN
STANDARDS AND SUBMISSION CHECKLIST

Provide assessment of compliance with standards and include supplemental documentation, as applicable.
Please submit each document as a separate PDF file.

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

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

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

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

MAJOR SITE PLAN
DRAWINGS CHECKLIST

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

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

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

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

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

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

Existing Conditions Plan with the following:

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

Proposed Site Plan with the following:

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

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

UTILITY PLAN including:

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

GRADING AND DRAINAGE PLAN including:

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

LANDSCAPE PLAN including:

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

ARCHITECTURAL PLANS AND RENDERINGS including:

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

CONSTRUCTION MANAGEMENT PLAN including:

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

OTHER

- Details and cross-sections, as necessary

DocuSign Envelope ID: 5055615B-E4C7-4826-B314-32B9DAB333C9

November 15, 2022

To: Local, State, and Federal Review Officials

RE: AUTHORIZED REPRESENTATIVE – USM Center for the Arts

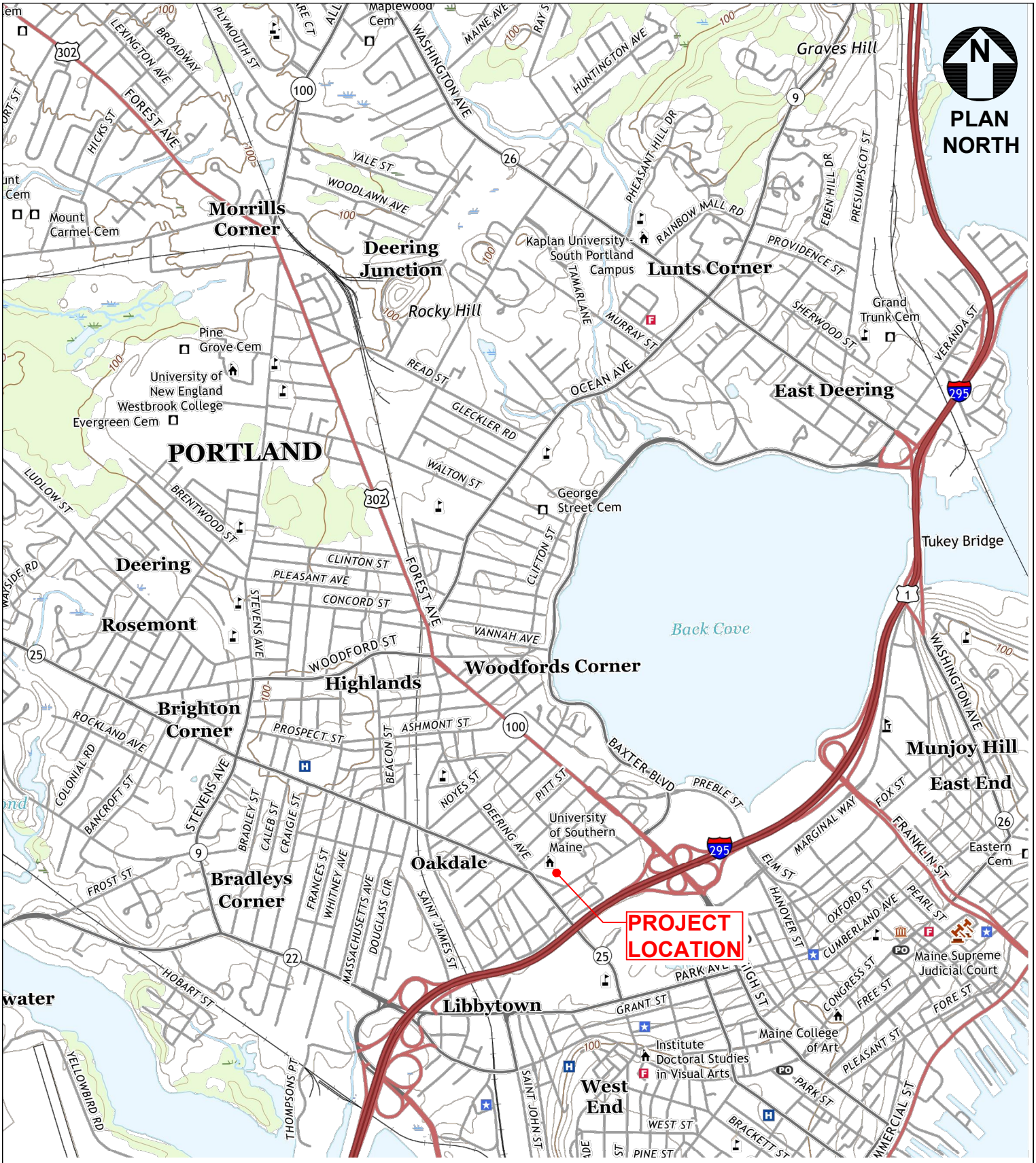
The University of Southern Maine, a member of the University of Maine System, is preparing plans for construction of a new Center for the Arts located on the University of Southern Maine, Portland Campus. The University has retained Pfeiffer, a studio of Perkins Eastman Architects DPC, as our Designer of Record and Oak Point Associates as the Engineering Consultant, to assist in the preparation of the applications associated with permitting approvals for this project. When necessary, Oak Point Associates is authorized as the agent to represent the University in addressing questions on the plans, or applicable application for this project.

Sincerely,

DocuSigned by:
C68AD86AE7CA431...

John M. Souther,
Executive Director of Facilities Management,
University of Southern Maine for the
University of Maine System

Cc: to file.



NOTE: USGS TOPOGRAPHIC QUADRANGLE OBTAINED ON OCTOBER 3, 2022

SCALE: 1"=2,000'
DATE: 11-01-2022

Q1

USGS LOCUS MAP

CENTER FOR THE ARTS

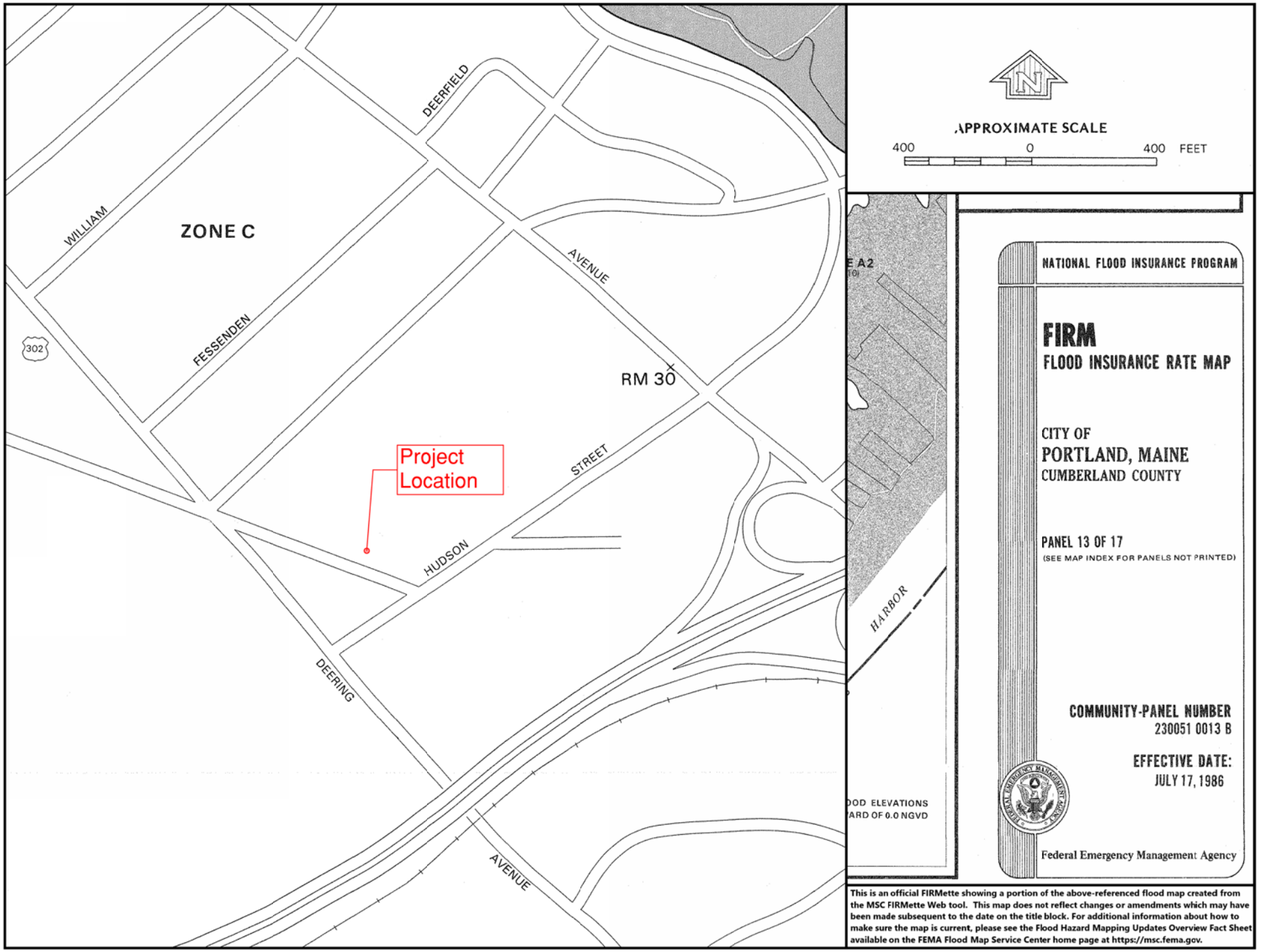
UNIVERSITY OF SOUTHERN MAINE PORTLAND CAMPUS

104 Falmouth Street, Portland Maine 04103

DESIGNED BY: JSD
DRAWN BY: JSD
CHECKED BY: JSD

PROJECT: 21904.10

OAK POINT ASSOCIATES
ARCHITECTURE ■ ENGINEERING ■ PLANNING
231 Main Street, Biddeford, Maine 04005 (T) 207.283.0193 (F) 207.283.4283
www.oakpoint.com


ZONE C
WILLIAM
DEERFIELD
AVENUE
FESSENDEN
302
RM 30
Project Location
STREET
HUDSON
DEERING
AVENUE
HARBOR
APPROXIMATE SCALE
400 0 400 FEET
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
CITY OF
PORTLAND, MAINE
CUMBERLAND COUNTY
PANEL 13 OF 17
(SEE MAP INDEX FOR PANELS NOT PRINTED)
COMMUNITY-PANEL NUMBER
230051 0013 B
EFFECTIVE DATE:
JULY 17, 1986
Federal Emergency Management Agency
This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

Section 2 – Right, Title and Interest

The Center for the Arts will be constructed on USM property at the corner of Bedford Street and Brighton Avenue. A portion of the property is yet to be conveyed to the University, and it is the subject of a 2018 Land Exchange Agreement between the City and the University System related to the Deering's Corner Roundabout Project. The actions that still need to occur under the agreement are the discontinuance of the former Brighton Avenue extension and a conveyance by the City of its portion of the former road to the University. The City's Corporation Counsel has been made aware of these outstanding items and is working to begin the discontinuance process with the Council. Once the conveyances from the Roundabout Project are fully executed, the total area of the USM campus will have grown by approximately 0.5 acres to approximately 29.33 acres. The plans included with this application show property lines in a post-conveyance condition.

A small amount of grading will occur within Noyes Park, which is owned by the City of Portland. The University has requested a temporary construction and grading easement from the City, which is in process and will be obtained prior to the start of construction.

Copies of the deed for the campus and a copy of the Land Exchange Agreement as well as a boundary survey conducted in 2019 are included in this section.

(90) 135

Know all Men by these Presents,

That Portland Junior College ~~Company~~,

a corporation organized and existing under the laws of the State of Maine and located at Portland in the County of Cumberland and State of Maine in consideration of one dollar and other valuable considerations

paid by University of Maine, a corporation organized and existing under the laws of the State of Maine and located at Orono in the County of Penobscot and State of Maine

the receipt whereof it does hereby acknowledge, does hereby give, grant, bargain, sell and convey, unto the said University of Maine its successors ~~heirs~~ and assigns forever,

a certain lot or parcel of land with the buildings thereon situated in Portland aforesaid bounded and described as follows:

Beginning at a pipe set in the ground at the corner formed by the intersection of the easterly side of Brighton Avenue and the southerly side of Falmouth Street; thence by said southerly side of Falmouth Street in an easterly direction nine hundred eighty-two and sixty-seven hundredths (982.67) feet to a pipe set in the ground on said southerly side of Falmouth Street; thence southerly with an included angle of ninety-four degrees thirty-eight minutes (94° 38') three hundred fifty-two and eighty-nine hundredths (352.89) feet to a pipe; thence westerly on a line parallel with Falmouth Street and at an included angle of eighty-five degrees twenty-two minutes (85° 22') one hundred sixty-four and sixty-five hundredths (164.65) feet to a point, said point being on the line of a row of trees running approximately north and south; thence southwardly along the line of said row of trees two hundred forty-five (245) feet more or less to the northerly side of Bedford Street; thence westerly along the northerly side of said Bedford Street six hundred (600) feet more or less to the easterly side of Brighton Avenue; thence along the easterly side of Brighton Avenue four hundred eighty-seven and thirty-eight hundredths (487.38) feet more or less to the point of beginning.

Reference is made to three deeds to Portland University Extension Courses, Inc., the name of which, subsequently, by act of the Legislature has been changed to Portland Junior College, and a fourth deed to Portland Junior College, all from Edward Deering Noyes dated and recorded as follows: December 28, 1946, Book 1854 Page 424, June 30, 1947, Book 1875 Page 227, July 1, 1948, Book 1916 Page 364, and December 31, 1956, Book 2332 Page 151.

Portland Junior College to University of Maine -- War

136 **To have and to hold,** the aforegranted and bargained premises with all the privileges and appurtenances thereof to the said

University of Maine, its successors

~~heirs~~ and assigns, to its and their use and behoof forever.

And the said Grantor Corporation does hereby COVENANT with the said Grantee , its successors ~~heirs~~ and assigns, that it is lawfully seized in fee of the premises, that they are free of all incumbrances;
that it has good right to sell and convey the same to the said Grantee to hold as aforesaid; and that if and its successors, shall and will WARRANT AND DEFEND the same to the said Grantee , its successors ~~heirs~~ and assigns forever, against the lawful claims and demands of all persons.

In Witness Whereof, the said Portland Junior College ~~Company~~ has caused this instrument to be sealed with its corporate seal and signed in its corporate name by Philip I. Milliken , its Treasurer, thereunto duly authorized, this 28th day of August in the year one thousand nine hundred and fifty-seven.

Signed, Sealed and Delivered
in presence of

Jane C. Magnusson

~~Company~~.
PORTLAND JUNIOR COLLEGE
By Philip I. Milliken
Treasurer.

Countersigned
Raymond S. Hastings
President

(CORPORATE SEAL)

State of Maine

County of Cumberland ss. August 28, 1957

Then personally appeared the above named Philip I. Milliken Treasurer of said Grantor Corporation as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity, and the free act and deed of said corporation.

Before me,

Jane C. Magnusson Justice of the Peace.
~~Notary Public~~

AUG 28 1957
REGISTRY OF DEEDS, CUMBERLAND COUNTY, MAINE
Received at 12 H 27 M P.M., and recorded in
BOOK 2370 PAGE 135 Register

QUITCLAIM DEED WITH COVENANT

DLN# _____

UNIVERSITY OF MAINE SYSTEM (f/k/a University of Maine, reference being made to a notice of name change dated June 13, 1988 and recorded in the Cumberland County Registry of Deeds in Book 8331, Page 89), a body politic and corporate and an instrumentality and agency of the State of Maine, with a mailing address of 5703 Alumni Hall, Orono, Maine 04469 (hereinafter "Grantor") for good and valuable consideration paid, grants to the **CITY OF PORTLAND**, a body corporate and politic and Maine municipal corporation having a mailing address of 389 Congress Street, Portland, Maine 04101 (hereinafter "Grantee"), with quitclaim covenant, certain real property located in the City of Portland, County of Cumberland and State of Maine and more particularly described on **Exhibit A** attached hereto and made a part hereof.

IN WITNESS WHEREOF, Grantor has caused this instrument to be executed by its duly authorized representative as of this 22 day of March, 2019.

WITNESS:

UNIVERSITY OF MAINE SYSTEM

By: _____
Name: M.F. Chip Gavin
Its: Chief Facilities Management and General Services Officer

STATE OF MAINE
COUNTY OF CUMBERLAND, ss. MARCH 22, 2019

PERSONALLY APPEARED the above-named M.F. Chip Gavin, Chief Facilities Management and General Services Officer of the University of Maine System, as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of the University of Maine System.

Before me,

_____
Notary Public/Attorney at Law
Commission Expires:
Print Name: ME BAR # 5646
SARA MCNAMARCHEK

EXHIBIT A

UNIVERSITY OF MAINE SYSTEM
TO
CITY OF PORTLAND

PARCEL ONE:

A certain lot or parcel of land located on the southeasterly side of Falmouth Street, the southwesterly side of Brighton Avenue and the southwesterly side of Deering Avenue in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning at a point on the southeasterly sideline of Falmouth Street, said point of beginning located N 48°34'53" E a distance of sixty-nine and 93/100 (69.93) feet from the intersection of the northeasterly sideline of Exeter Street with the southeasterly sideline of said Falmouth Street. Thence:

1. N 48°34'53" E by said Falmouth Street a distance of two hundred forty-three and 79/100 (243.79) feet to a point on the southerly sideline of Brighton Avenue;

2. S 67°27'04" E by said Brighton Avenue a distance of eleven and 80/100 (11.80) feet to a point on the southwesterly sideline of Deering Avenue;

3. S 38°46'34" E by said Deering Avenue a distance of one hundred eleven and 32/100 (111.32) feet to a point;

4. N 47°34'40" W through land of the Grantor a distance of sixty-five and 82/100 (65.82) feet to a point;

5. N 88°45'17" W through said land of the Grantor a distance of seventy-one and 00/100 (71.00) feet to a point;

6. S 40°44'35" W through said land of the Grantor a distance of forty-nine and 84/100 (49.84) feet to a point;

7. S 48°14'39" W through said land of the Grantor a distance of thirty-seven and 10/100 (37.10) feet to a point;

8. S 57°25'25" W through said land of the Grantor a distance of ninety-nine and 27/100 (99.27) feet to the point of beginning.

Bearings are referenced to grid north, Maine State Plane Coordinate System, NAD83, West Zone.

The above described parcel contains 4,513 square feet, more or less, and being a portion of the premises as described in deeds to the University of Maine recorded in the Cumberland County Registry of Deeds in Book 3047, Page 354, Book 3053, Page 326, Book 3056, Page 504 and Book 3079, Page 537.

PARCEL TWO:

A certain lot or parcel of land located on the southeasterly side of Falmouth Street and the northeasterly side of Brighton Avenue in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning at the intersection of the southeasterly sideline of Falmouth Street with the northeasterly sideline of Brighton Avenue. Thence:

1. N 45°03'56" E by said Falmouth Street a distance of sixty-seven and 91/100 (67.91) feet to a point;

2. S 25°30'06" W through land of the Grantor a distance of twenty-one and 27/100 (21.27) feet to a point;

3. S 05°00'58" W through said land of the Grantor a distance of thirty-seven and 10/100 (37.10) feet to a point;

4. S 53°19'05" E through said land of the Grantor a distance of twenty-five and 06/100 (25.06) feet to the northeasterly sideline of said Brighton Avenue;

5. N 67°27'04" W by said Brighton Avenue a distance of sixty and 39/100 (60.39) feet to the point of beginning.

Bearings are referenced to grid north, Maine State Plane Coordinate System, NAD83, West Zone.

The above described parcel contains 1,099 square feet, more or less, and being a portion of the premises as described in a deed to the University of Maine recorded in the Cumberland County Registry of Deeds in Book 2370, Page 135.

Received
Recorded Register of Deeds
Mar 28,2019 01:01:34P
Cumberland County
Nancy A. Lane

NOTICE OF LAYOUT AND TAKING

The State of Maine by its Department of Transportation does hereby give notice to all whom it may concern:

That the Department of Transportation in accordance with the authority of Title 23 M.R.S. Section 651, has determined that public exigency requires the altering, widening, changing the grade, changing the drainage, laying out and establishing of a portion of State Highway "12" (Brighton Avenue), State Highway "76" (Deering Avenue) and Falmouth Street in the City of Portland, County of Cumberland.

That the Department of Transportation, in accordance with Title 23 M.R.S. Sections 701 and 651, hereby lays out the location of a portion of State Highway "12" (Brighton Avenue), State Highway "76" (Deering Avenue) and Falmouth Street in the City of Portland.

That the Department of Transportation, in accordance with Title 23 M.R.S. Sections 651 and 151 to 159, has determined that public exigency requires the taking in fee simple all lands as hereinafter described, and all rights in land as specified and as shown on a Right-of-Way Map, State Highway "12" (Brighton Avenue), State Highway "76" (Deering Avenue) and Falmouth Street, City of Portland, Federal Aid Project No. 1862400, (W.I.N. 018624.00), dated October 2019, on file in the Office of the Department of Transportation, (D.O.T. File No. 3-641) and to be recorded in the Registry of Deeds of Cumberland County, a print of which is on file in the office of the County Commissioners of Cumberland County.

The Base Line of location of the portions of State Highway "12" (Brighton Avenue), State Highway "76" (Deering Avenue) and Falmouth Street hereby laid out being described as follows:

Base Line Descriptions

State Highway "12" (Brighton Avenue)/State Highway "76" (Deering Avenue) Base Line

Beginning at a point in the present traveled way of State Highway "12" (Brighton Avenue) and designated as P.T. Sta.1+05.88;

Thence S. 64°47'30" E. one hundred fifty-eight and no hundredths (158.00) feet to P.C. Sta. 2+63.88;

Thence southeasterly by a 28°38'52" curve to the left, seven and thirty-two hundredths (7.32) feet to P.T. Sta. 2+71.20;

Thence S. 66°53'17" E. thirty-seven and twenty-two hundredths (37.22) feet to P.C. Sta. 3+08.42;

Thence southeasterly by a 28°38'52" curve to the left, twenty-one and sixty-eight hundredths (21.68) feet to P.T. Sta. 3+30.10;

Thence S. 73°05'57" E. eighty and four hundredths (80.04) feet to P.C. Sta. 4+10.14;

Thence southeasterly by a 57°17'45" curve to the right, forty-one and sixty-three hundredths (41.63) feet to P.T. Sta. 4+51.77 at the point of intersection with State Highway "76" (Deering Avenue);

Thence S. 49°14'49" E. ninety-two and ninety-four hundredths (92.94) feet to P.C. Sta. 5+44.71;

Thence southeasterly by a 14°19'26" curve to the right, seventy-three and sixty-seven hundredths (73.67) feet to P.T. Sta. 6+18.38;

Thence S. 38°41'41" E. two hundred sixty-six and forty hundredths (266.40) feet to P.C. Sta. 8+84.78;

Thence southeasterly by a 28°38'52" curve to the right, three and ten hundredths (3.10) feet to P.T. Sta. 8+87.88;

Thence S. 37°48'26" E. one hundred ninety-six and twenty-four hundredths (196.24) feet to P.C. Sta. 10+84.12 at a point in the present traveled way of State Highway "76" (Deering Avenue).

State Highway "76" (Deering Avenue) Segment II Base Line

Beginning at a point in the intersection of State Highway "76" (Deering Avenue) and Fessenden Street and designated as Sta. 0+00.00;

Thence S. 38°16'29" E. one hundred one and forty-seven hundredths (101.47) feet to P.C. Sta. 1+01.47;

Thence southeasterly by a 28°38'52" curve to the left, nine and fifty hundredths (9.50) feet to P.T. Sta. 1+10.97;

Thence S. 40°59'49" E. seventy-six and seventy hundredths (76.70) feet to P.C. Sta. 1+87.67;

Thence southeasterly by a 38°11'50" curve to the right, fifty-seven and fifty-one hundredths (57.51) feet to P.T. Sta. 2+45.18;

Thence S. 19°01'49" E. fifty and thirty-three hundredths (50.33) feet to Sta. 2+95.51 which point equals Sta. 4+19.27 on the State Highway "12" (Brighton Avenue)/State Highway "76" (Deering Avenue) Base Line.

Falmouth Street Base Line

Beginning at a point in the present traveled way of Falmouth Street, said point being about three hundred twenty-five (325) feet southwesterly of its intersection with State Highway "12" (Brighton Avenue) and State Highway "76" (Deering Avenue) and designated as Sta. 0+50.00;

Thence N. 48°26'52" E. fifty-seven and ninety-four hundredths (57.94) feet to P.C. Sta. 1+07.94;

Thence northeasterly by a 57°17'45" curve to the right, seventeen and twenty-four hundredths (17.24) feet to P.T. Sta. 1+25.18;

Thence N. 58°19'22" E. forty-seven and seven hundredths (47.07) feet to P.C. Sta. 1+72.25;

Thence northeasterly by a 20°27'46" curve to the left, ninety-six and seventy-three hundredths (96.73) feet to P.T. Sta. 2+68.98;

Thence N. 38°31'40" E. and passing through Sta. 3+67.34 which point equals Sta. 4+35.95 on the State Highway "12" (Brighton Avenue) Base Line, one hundred and seventy-one hundredths (100.71) feet to P.C. Sta. 3+69.69;

Thence northeasterly by a 57°17'45" curve to the right, nineteen and twenty-eight hundredths (19.28) feet to P.T. Sta. 3+88.97;

Thence N. 49°34'30" E. sixty-two and twenty-one hundredths (62.21) feet to P.C. Sta. 4+51.18;

Thence northeasterly by a 28°38'52" curve to the left, fourteen and sixty-seven hundredths (14.67) feet to P.T. Sta. 4+65.85;

Thence N. 45°22'19" E. one hundred thirty-four and fifteen hundredths (134.15) feet to Sta. 6+00.00 at a point in the present traveled way of Falmouth Street.

Bedford Street Base Line

Beginning on the State Highway "76" (Deering Avenue) Base Line at Sta. 9+38.26 which point equals Sta. 40+50.00 on the Bedford Street Base Line;

Thence N. 56°14'54" E. three hundred thirty and no hundredths (330.00) feet to Sta. 43+80.00 at a point in the present traveled way of Bedford Street.

DESCRIPTION OF FEE TAKING

All land, buildings, and rights in land within the following described boundaries, are hereby taken in fee simple:

Area 1

Beginning at a point in the present northwesterly line of Falmouth Street, said point being about thirty-four (34) feet northwesterly from and as measured along a line at right angles to the Falmouth Street Base line at Sta. 2+88;

Thence northerly by a direct course about twenty-six (26) feet to a point forty and seventy-five hundredths (40.75) feet southwesterly from and as measured along a line at right angles to the State Highway "12" (Brighton Avenue) Base Line at Sta. 3+66;

Thence northwesterly by a direct course twenty-two and seventy-five hundredths (22.75) feet to a point thirty-two (32) feet southwesterly from and as measured along a line at right angles to the State Highway "12" (Brighton Avenue) Base Line at Sta. 3+45;

Thence northwesterly by a direct course, about one hundred seven (107) feet to a point in the present northwesterly line of land now or formerly of Mark E. High, et al, and the present southeasterly line of land now or formerly of Francis Schwanauer, et al, said point being twenty-nine (29) feet southwesterly from and as measured along a line at right angles to the State Highway "12" (Brighton Avenue) Base Line at about Sta. 2+42;

Thence northeasterly along the present northwesterly line of land of said High, et al, and along the present southeasterly line of land of said Schwanauer, et al, about three (3) feet to a point in the present southwesterly line of State Highway "12" (Brighton Avenue), said point being about twenty-six (26) feet southwesterly from and as measured along a line at right angles to said Base Line at about Sta. 2+42;

Thence southeasterly along the present southwesterly line of State Highway "12" (Brighton Avenue), about one hundred fifty-seven (157) feet to the point of intersection with the present northwesterly line of Falmouth Street, said point being about twenty-seven (27) feet northwesterly from and as measured along a line at right angles to the Falmouth Street Base Line at about Sta. 3+25;

Thence southwesterly along the present northwesterly line of Falmouth Street, about thirty-nine (39) feet to the point of beginning. Being shown on the beforementioned right-of-way map as Parcel Nos. (3) and (4).

Area 2

Beginning at a point in the present northwesterly line of Falmouth Street, said point being about thirty-one (31) feet northwesterly from and as measured along a line at right angles to the Falmouth Street Base Line at Sta. 4+70;

Thence southwesterly along the present northwesterly line of Falmouth Street, about sixty (60) feet to the point of intersection with the present northeasterly line of State Highway "76" (Deering Avenue), said point being about twenty-seven (27) feet northwesterly from and as measured along a line at right angles to the Falmouth Street Base Line at about Sta. 4+08;

Thence northwesterly along the present northeasterly line of State Highway "76" (Deering Avenue), about one hundred forty-seven (147) feet to a point about twenty-four (24) feet northeasterly from and as measured along a line at right angles to the State Highway "76" (Deering Avenue) Base Line at Sta. 1+30;

Thence southeasterly by a direct course, about forty-three (43) feet to a point twenty-six (26) feet northwesterly from and as measured along a line at right angles to the State Highway "76" (Deering Avenue) Base Line at Sta. 1+75;

Thence S. 49°40'39" E. sixty and forty-one hundredths (60.41) feet to a point forty-one (41) feet northeasterly from and as measured along a line normal to the State Highway "76" (Deering Avenue) Base Line at Sta. 2+25;

Thence S. 75°12'58" E. forty-three and nineteen hundredths (43.19) feet to a point thirty-four (34) feet northwesterly from and as measured along a line at right angles to the Falmouth Street Base Line at Sta. 4+50;

Thence northeasterly by a direct course, about eighteen (18) feet to the point of beginning. Being shown on the beforementioned right-of-way map as Parcel Nos. (5) and (6).

Area 3

Beginning at a point, forty (40) feet northeasterly from and as measured along a line at right angles to the State Highway "76" (Deering Avenue) Base Line at Sta. 6+67;

Thence S. 29°25'19" E. forty-nine and sixty-five hundredths (49.65) feet to a point thirty-two (32) feet northeasterly from and as measured along a line at right angles to the State Highway "76" (Deering Avenue) Base Line at Sta. 7+16;

Thence S. 38°41'41" E. one hundred twenty-one and no hundredths (121.00) feet to a point thirty-two (32) feet northeasterly from and as measured along a line at right angles to the State Highway "76" (Deering Avenue) Base Line at Sta. 8+37;

Thence S. 50°40'15" E. thirty-three and seventy-three hundredths (33.73) feet to a point thirty-nine (39) feet northeasterly from and as measured along a line at right angles to the State Highway "76" (Deering Avenue) Base Line at Sta. 8+70;

Thence S. 77°38'06" E. forty-three and sixty hundredths (43.60) feet to a point forty (40) feet northwesterly from and as measured along a line at right angles to Bedford Street Base Line at Sta. 41+14;

Thence southeasterly along said right angle line, about ten (10) feet to a point in the present northwesterly line of Bedford Street;

Thence southwesterly along the present northwesterly line of Bedford Street, about thirty-six (36) feet to the point of intersection with the present northeasterly line of State Highway "76"

(Deering Avenue), said point being about thirty (30) feet northeasterly from and as measured along a line at right angles to the State Highway "76" (Deering Avenue) Base Line at about Sta. 9+10;

Thence northwesterly along the present northeasterly line of State Highway "76" (Deering Avenue), about three hundred (300) feet to the point of intersection with the present southwesterly line of State Highway "3" (Brighton Avenue), said point being about twenty-nine (29) feet northeasterly from and as measured along a line normal to the State Highway "76" (Deering Avenue) Base line at about Sta. 6+11;

Thence southeasterly along the present southwesterly line of State Highway "3" (Brighton Avenue), about twenty-four (24) feet to a point about forty-one (41) feet northeasterly from and as measured along a line at right angles to the State Highway "76" (Deering Avenue) Base Line at about Sta. 6+32;

Thence S. 37°55'44" E. about thirty-five (35) feet to the point of beginning. Being shown on the beforementioned right-of-way map as Parcel No. (9).

Area 4

"Beginning at a point on the southeasterly sideline of Falmouth Street, said point of beginning located N 48°34'53" E a distance of sixty-nine and 93/100 (69.93) feet from the intersection of the northeasterly sideline of Exeter Street with the southeasterly sideline of said Falmouth Street. Thence:

1. N 48°34'53" E by said Falmouth Street a distance of two hundred forty-three and 79/100 (243.79) feet to a point on the southerly sideline of Brighton Avenue;

2. S 67°27'04" E by said Brighton Avenue a distance of eleven and 80/100 (11.80) feet to a point on the southwesterly sideline of Deering Avenue;

3. S 38°46'34" E by said Deering Avenue a distance of one hundred eleven and 32/100 (111.32) feet to a point;

4. N 47°34'40" W through land of the Grantor a distance of sixty-five and 82/100 (65.82) feet to a point;

5. N 88°45'17" W through said land of the Grantor a distance of seventy-one and 00/100 (71.00) feet to a point;

6. S 40°44'35" W through said land of the Grantor a distance of forty-nine and 84/100 (49.84) feet to a point;

7. S 48°14'39" W through said land of the Grantor a distance of thirty-seven and 10/100 (37.10) feet to a point;

8. S 57°25'25" W through said land of the Grantor a distance of ninety-nine and 27/100 (99.27) feet to the point of beginning."

Being the same as the first parcel of land described and conveyed from University of Maine System to City of Portland by Quitclaim Deed with Covenant dated March 22, 2019 and recorded at the Cumberland County Registry of Deeds in Book 35543, Page 338 and being shown on the beforementioned right-of-way map as Parcel No. (13).

Area 5

"Beginning at the intersection of the southeasterly sideline of Falmouth Street with the northeasterly sideline of Brighton Avenue. Thence:

1. N 45°03'56" E by said Falmouth Street a distance of sixty-seven and 91/100 (67.91) feet to a point;

2. S 25°30'06" W through land of the Grantor a distance of twenty-one and 27/100 (21.27) feet to a point;

3. S 05°00'58" W through said land of the Grantor a distance of thirty-seven and 10/100 (37.10) feet to a point;

4. S 53°19'05" E through said land of the Grantor a distance of twenty-five and 06/100 (25.06) feet to the northeasterly sideline of said Brighton Avenue;

5. N 67°27'04" W by said Brighton Avenue a distance of sixty and 39/100 (60.39) feet to the point of beginning."

Being the same as the second parcel of land described and conveyed from University of Maine System to City of Portland by Quitclaim Deed with Covenant dated March 22, 2019 and recorded at the Cumberland County Registry of Deeds in Book 35543, Page 338 and being shown on the beforementioned right-of-way map as Parcel No. (14).

EXCEPTIONS AND RESERVATIONS

There is excepted and reserved from the before described taking in fee simple:

All existing utility company rights-of-way and/or easements, however acquired, and located within the aforedescribed boundaries, EXCEPTING any that may be specifically set forth in the hereinafter Informative Summary.

DESCRIPTIONS OF EASEMENT AND/OR RIGHTS TAKING

The following described easement and/or rights in land are taken at the locations, in the manner, to the extent specified and as shown on the right-of-way map hereinbefore mentioned:

TEMPORARY CONSTRUCTION RIGHTS

The right, for the duration of the period of the Project construction as determined by the date of completion of construction according to the records of the Department of Transportation, to enter upon land outside of and adjoining the boundary lines of the above-referenced highway to perform the work as set forth below within the limits defined as "Temporary Construction Limits" as shown on the above-referenced Right-of-Way map.

Said right may include, but is not limited to, necessary excavating, placing of fill material, curbing, loaming, seeding, paving, installation of structures, removal of trees, shrubs, bushes and other growth, selective cutting, trimming, and other necessary incidental work in grading said adjoining land, in addition to the temporary placement of utility poles including all related fixtures, overhead wires, guys, etc. in order to allow for project construction in accordance with all governing regulations and other requirements of law.

Parcel/ Item	**Apparent Owner**	**Location: Lt./Rt.**
2	Francis Schwanauer Johanna M. Schwanauer	Sta. 1+76 to Sta. 2+42 Rt. (S.H."12"/Brighton Avenue)
3	Mark E. High Mary Elizabeth Woodbury	Sta. 2+42 to Sta. 3+15 Rt. (S.H."12"/Brighton Avenue)
4	Donnabeth Davis	Sta. 3+14 to Sta. 3+53 Rt. (S.H."12"/Brighton Avenue) Sta. 2+23 Lt. (Falmouth Street) to Sta. 3+63 Rt. (S.H."12"/Brighton Avenue)
5	Richard T. Boles	Sta. 1+25 to Sta. 1+75 Lt. (S.H."76"/Deering Avenue)
6	257 Deering LLC	Sta. 1+75 Lt. (S.H."76"/Deering Avenue) to Sta. 4+70 Lt. (Falmouth Street)

Parcel/ Item	Apparent Owner	Location: Lt./Rt.
7	University of Maine System	Sta. 1+04 to Sta. 2+05 Rt. (Falmouth Street) Sta. 2+13 to Sta. 2+52 Rt. (Falmouth Street) Sta. 2+61 to Sta. 2+93 Rt. (Falmouth Street) Sta. 5+16 to Sta. 8+18 Rt. (S.H."76"/Deering Avenue)
8	University of Maine System	Sta. 5+12 Rt. (Falmouth Street) to Sta. 5+43 Lt. (S.H."76"/Deering Avenue) Sta. 6+84 to Sta. 7+08 Lt. (S.H."76"/Deering Avenue)
9	City of Portland	Sta. 6+32 to Sta. 8+03 Lt. (S.H."76"/Deering Avenue) Sta. 8+12 Lt. (S.H."76"/Deering Avenue) to Sta. 41+00 Lt. (Bedford Street)
10	University of Maine System	Sta. 8+18 to Sta. 8+94 Rt. (S.H."76"/Deering Avenue)
11	University of Maine System	Sta. 8+94 to Sta. 9+13 Rt. (S.H."76"/Deering Avenue)
12	Vincent A. Ciampi, Jr.	Sta. 40+94 Rt. (Bedford Street) to Sta. 9+84 Lt. (S.H."76"/Deering Avenue)

INFORMATIVE SUMMARY

The following is a list summarizing the parcel or item numbers, names of apparent owners of record of land and rights involved, estimated areas, and rights affected, within and adjacent to the before-referenced highway boundaries, as shown on the beforementioned right-of-way map:

Parcel/ Item No.	Apparent Owner	Area	Slopes	Drainage	Temp. Const. Rights	Other Rights & Bldgs.
2	Francis Schwanauer Johanna M. Schwanauer	None	None	None	Yes	None
3	Mark E. High Mary Elizabeth Woodbury	240 ± Sq. Ft.	None	None	Yes	None

Parcel/ Item No.	Apparent Owner	Area	Slopes	Drainage	Temp. Const. Rights	Other Rights & Bldgs.
4	Donnabeth Davis	854 ± Sq. Ft.	None	None	Yes	None
5	Richard T. Boles	93 ± Sq. Ft.	None	None	Yes	None
6	257 Deering LLC	1868 ± Sq. Ft.	None	None	Yes	None
7	University of Maine System	None	None	None	Yes	None
8	University of Maine System	None	None	None	Yes	None
9	City of Portland	2433 ± Sq. Ft.	None	None	Yes	None
10	University of Maine System	None	None	None	Yes	None
11	University of Maine System	None	None	None	Yes	None
12	Vincent A. Ciampi, Jr.	None	None	None	Yes	None
13	City of Portland	4513 ± Sq. Ft. (Entire Lot)	None	None	None	None
14	City of Portland	1099 ± Sq. Ft. (Entire Lot)	None	None	None	None

Pursuant to Title 23 M.R.S. Section 651, that portion of State Highway "3"/Brighton Avenue, which lies southeasterly of the beforedescribed and redefined right of way limits of State Highway "76" (Deering Avenue) from about Sta. 5+43 Lt. of the State Highway "76"/Deering Avenue Base Line southeasterly to its intersection with Bedford Street, as shown on the before referenced Right of Way Map (D.O.T. File No. 3-641), upon completion of the project, shall hereafter be the responsibility of the City of Portland.

DOC :4635 BK:36372 PG:11
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
01/27/2020, 09:49:26A
Register of Deeds Nancy A. Lane E-RECORDED

PORTLAND
1862400
WIN: 018624.00

The Department of Transportation directs that this Notice of Layout and Taking be recorded in the Registry of Deeds of Cumberland County and filed with the City Clerk of the City of Portland and with the County Commissioners of Cumberland County and published in "The Portland Press Herald" a newspaper of general circulation in the County where said highway is located, and also directs that a copy of the Right-of-Way Map be filed with the County Commissioners of said County and also that Notice be sent by Certified Mail to any Owners and Mortgagees of Record.

Dated at Augusta, Maine

12/10/19
Date

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

Bruce A. Van Note, Commissioner

STATE OF MAINE
COUNTY OF KENNEBEC

Date December 18, 2019

Personally appeared the above named Bruce A. Van Note, Commissioner, Department of Transportation, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of the State of Maine.

Before me, Shelly Wood
Notary Public
Print Name:
My Commission Expires:

SHELLY WOOD
NOTARY PUBLIC
KENNEBEC COUNTY
MAINE
MY COMMISSION EXPIRES DECEMBER 26, 2025

APPROVED BY
AWARDED BY
CONCURRED
NOTED
COMMISSIONER OF TRANSPORTATION
12/18/19
DATE

SHELLY WOOD
NOTARY PUBLIC
KENNEBEC COUNTY
MAINE
MY COMMISSION EXPIRES DECEMBER 26, 2025

LAND EXCHANGE AGREEMENT
BETWEEN
CITY OF PORTLAND AND
THE UNIVERSITY OF MAINE SYSTEM

THIS AGREEMENT is made this 12th day of March, 2018 between the City of Portland, a body politic and corporate with a mailing address of 389 Congress Street, Portland, Maine 04101("City"), and the University of Maine System, acting through the University of Southern Maine, with a mailing address of, 5703 Alumni Hall, Orono, Maine 04469 ("University").

RECITALS

Whereas, by Order 26-13/14 dated August 5, 2013, the City approved the Brighton-Deering-Falmouth Intersection Study as a Master Plan in substantially the form included in a certain August 2013 Final Report prepared by Vanasse Hangen Brustlin, Inc. (the "Report"); and

Whereas, the City, through a separate agreement with the Maine Department of Transportation, desires to construct, operate, and maintain a proposed roundabout at the intersection of Brighton Avenue/Deering Avenue/Falmouth Street (the "Project") as generally depicted sheet 1 of the plan entitled State of Maine Department of Transportation Right Of Way Map, Project No._____, dated July 2017, a copy of which is attached hereto as Exhibit A and made a part hereof (the "Plan"); and

Whereas, portions of the Project are to be constructed on land owned by the University, which land is depicted on the Plan as Parcel No. (7) and Parcel No. (8) and more particularly described in Exhibits B and C attached hereto and made a part hereof, and which the University shall convey to the City pursuant to the terms of this Agreement; and

Whereas, in exchange for such conveyances, the City shall pursue the discontinuance of the green shaded portion of Brighton Avenue between Falmouth Street and Bedford Street on sheet 2 of the Plan, which portion is more particularly described in D attached hereto and made a part hereof (the "Brighton Avenue Land"), and convey the City's interest in the Brighton Avenue Land to the University.

NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, City and University hereby agree as follows:

1. Conveyance of University Property to City. For the sum of one dollar and other valuable consideration,

    a. The University will convey to City the parcel of land depicted on Exhibit A as Parcel No. (7), which parcel contains approximately 4,513 square feet and is a portion of property conveyed to the University of Maine by deeds recorded in

the Cumberland County Registry of Deeds in Book 3047, Page 354; Book 3053, Page 326; Book 3056, Page 504; and Book 3079, Page 537.

b. The University will convey to City the parcel of land depicted on Exhibit A as Parcel No. (8), which parcel contains approximately 1,099 square feet and is a portion of property conveyed to the University of Maine by deed recorded in the Cumberland County Registry of Deeds in Book 2370, Page 135. Parcels No. (7) and (8) are referred to herein as the "University Property."

c. In the event that updates to the plan require adjustments to the descriptions of the University Property described in Exhibits B & C, the parties shall agree on revised on descriptions to be included in the deed conveying the University Property to the City.

2. Discontinuance of Brighton Avenue Land; Conveyance of City Property to University.

a. Upon completion of the Project, and subject to the State lifting its state highway designation and the reversion of jurisdiction to the City, and subject to the City obtaining all other necessary approvals, the City will discontinue the "Brighton Avenue Land" subject to any utility easements of record and a utility easement and public easement to be retained by the City. Provided that the City discontinues the Brighton Avenue Land, the University shall waive its right to any damages resulting from the discontinuance.

b. Within 180 days after completion of the Project, and provided that the City Council has discontinued the Brighton Avenue Land and any applicable appeal periods have passed, the City shall convey to the University, by municipal quitclaim deed, its interest in the Brighton Avenue Land (the "City Property").

c. Subject to the provisions of section 9 below, in the event that the City does not discontinue the Brighton Avenue Land and convey its interest in the Brighton Avenue Land land to the University: (1) the City will hire a licensed appraiser, to be agreed upon by the parties, to prepare an appraisal report for the University Property at the City's expense; and (2) within 30 days of receipt of the appraiser's final report, the City will pay the University the appraised value of the University Property.

3. Title And Due Diligence.

a. Each party will have from the date first set forth above (the "Effective Date") until 4:00 PM Eastern Daylight Savings Time on the day that is ninety (90) days after the Effective Date (the "Due Diligence Period") to complete any survey, environmental review and title examinations, and to undertake such other investigations, testing or inspections as it shall deem appropriate.

b. During the Due Diligence Period, the University agrees to provide the City with open access, during normal business hours, to any and all of the University's files containing information about the University Property, including, without limitation, reports on soil conditions or other kinds of technical reports regarding the University Property, any information related to infrastructure on the University Property or infrastructure agreements and any information regarding restrictions, covenants or conditions affecting the University Property or the City's intended use of the University Property for roundabout purposes.

c. Each party will have until the end of the Due Diligence Period to deliver to the other any written objections to title, environmental, or survey matters that the party determines materially affects the use or the cost of development of or construction on the property. Objections not made prior to the end of the Due Diligence Period will be deemed waived; provided, however, that objections pertaining to matters of record first appearing after the end of the Due Diligence Period may be made at any time prior to the closing.

d. Option to Cure. In the event of a title, survey or environmental objection by a party, the conveying party will have the option, but not the obligation, to cure the objection and will notify other of its election within ten (10) business days after receipt of the objection. In the event that the conveying party elects to cure the objection, it will have sixty (60) days from the date of the notice of election, or such other reasonable time as the parties may agree, to cure the objection. In the event that the conveying party does not elect to cure the objection, or, having elected to cure the objection fails to timely do so to the other's reasonable satisfaction, the objecting party will have the option to (1) terminate this Agreement, after which neither party will have any further obligation or liability to the other under this Agreement, (2) waive the objection and close, or (3) undertake the cure of such objection at its own expense (in which case it shall have 60 days to do so).

4. Conditions Precedent to Closing.

a. The City shall have no obligation to close on the transactions contemplated by this Agreement if the City decides, in its sole discretion, not to proceed with the construction of the Project. In the event the City decides not to proceed with the Project, this Agreement shall terminate and the parties shall have no further obligations to each other. Provided, however, that in the event that the City terminates this Agreement after the University has conveyed the University Property to the City, the City shall reconvey the University Property to the City as set forth in section 9(e).

5. University's Representations. The University represents to City that the following are true as of the date of this Agreement and will be true as of the dates of the City Property Closing and University Property Closing:

   a. It has full power and authority to enter into this Agreement and to carry out its obligations under this Agreement.

   b. This Agreement has been duly authorized, executed, and delivered and is a legal, valid, and binding agreement of University, enforceable in accordance with its terms, subject to the University of Maine System Board of Trustees approval. The execution, delivery, and performance of this Agreement by University will not violate any judgment or order applicable to University or University's instruments of organization, governance or operation, and will not result in any material breach of, or constitute a material default under, or result in the creation of any material lien, charge, security interest, or other encumbrance upon the University Property or any note, bond, indenture, mortgage, deed of trust, bank loan, or credit agreement to which University is a party or by which the University Property is bound.

   c. University has not received any written notice of any pending condemnation, violation of law, or other legal action of any kind materially and adversely affecting the University Property.

   d. University has no knowledge of any pending or threatened litigation, administrative action, or governmental investigation or examination (including, but not limited to, environmental investigations, examinations, claims, and demands) concerning the University Property.

   e. No third party has any right to acquire all or any part of the University Property.

6. City's Representations. City represents to the University that the following are true as of the date of this Agreement and will be true as of the dates of the City Property Closing and the University Property Closing:

   a. It has full power and authority to enter into this Agreement and to carry out its obligations under this Agreement.

   b. This Agreement has been duly authorized, executed, and delivered and is a legal, valid, and binding agreement of City, enforceable in accordance with its terms. The execution, delivery, and performance of this Agreement by City will not violate any judgment or order applicable to City or City's instruments of organization, governance or operation, and will not result in any material breach of, or constitute a material default under, or result in the creation of any material lien, charge, security interest, or other encumbrance upon the City Property or any note, bond, indenture, mortgage, deed of trust, bank loan,

or credit agreement to which City is a party or by which the City Property is bound.

c. City has not received any written notice of any pending condemnation, violation of law, or other legal action of any kind materially and adversely affecting the City Property.

d. University has no knowledge of any pending or threatened litigation, administrative action, or governmental investigation or examination (including, but not limited to, environmental investigations, examinations, claims, and demands) concerning the City Property.

7. Property Conveyed As Is, Where Is. Each party acknowledges that it will have an opportunity to inspect the property being conveyed to it, and to hire professionals to do so, and that the properties will be conveyed "as is, where is" and "with all faults." Neither party makes any representations or warranties with respect to the accuracy of any statement as to boundaries or acreage, or as to any other matters contained in any description of the property, or as to the fitness of the property for a particular purpose, or as to development rights, merchantability, habitability, or as to any other matter, including without limitation, land use, zoning and subdivision issues, or the environmental, mechanical, or structural condition of the property. Acceptance by the parties of the respective deeds at the closings shall be deemed to be full performance and discharge by the conveying party of every agreement and obligation contained herein except as expressly set forth herein.

8. Closing For The University Property. Time is of the essence in the performance of this Agreement. The closing for the University Property shall be held at City Hall, 389 Congress Street, Portland, Maine at a time agreeable to the parties on or before the day that is 30 days after the end of the Due Diligence Period (the "University Property Closing Date"). At the Closing:

a. The University shall convey the University Property to City by quitclaim deed with covenant. Title shall be good and insurable title, free and clear of all liens and encumbrances except (i) easements described herein; (ii) easements for utilities servicing the property, and (iii) City ordinances.

b. Each party shall deliver to the other such other documents, certificates and the like as may be required herein or as may be necessary to carry out the obligations under this Agreement, and for the City to obtain owners title insurance in form reasonably acceptable to the City.

c. Each party shall deliver to the other evidence, reasonably satisfactory to other's counsel, that the transaction has been approved by the parties' respective governing bodies, and that the individuals acting with respect to the Closing and executing documents on behalf the parties are authorized to do so.

d. The recording fee for the deed of conveyance shall be paid for by the City.

9. Closing For The City Property. Subject to the provisions of section 2 above, the closing for the City Property shall be held at City Hall, 389 Congress Street, Portland, Maine at a time agreeable to the parties on or before the day that is 180 days after completion of the Project, provided that the City Council has discontinued the Brighton Avenue Land and any applicable appeal periods have passed. At the closing:

   a. The City shall convey the City Property to the University by municipal quitclaim deed. Title shall be good and insurable title, free and clear of all liens and encumbrances except (i) the public and utility easements retained by the City; (ii) easements for utilities servicing the property, and (iii) City ordinances.

   b. Each party shall deliver to the other such other documents, certificates and the like as may be required herein or as may be necessary to carry out the obligations under this Agreement, and for the University to obtain owners title insurance in form reasonably acceptable to the University.

   c. Each party shall deliver to the other evidence, reasonably satisfactory to other's counsel, that the transaction has been approved by the parties' respective governing bodies, and that the individuals acting with respect to the Closing and executing documents on behalf the parties are authorized to do so.

   d. The recording fee for the deed of conveyance shall be paid for by the University.

   e. Notwithstanding anything to the contrary herein, in the event that the City or the Maine Department of Transportation decide not to fund or otherwise proceed with the Project, the City shall have the right to reconvey the University Property to the University in lieu of making the payment described in section 2(c). The University will cooperate with the City in obtaining any regulatory approvals required for the reconveyance, which shall be obtained at the City's expense.

10. Post-Closing Matters:

   a. During construction of the Project, the University will cede its use of a 9,500 square foot parking lot adjacent to the Brighton Avenue Land (the "Brighton Avenue Parking Lot Property"), resulting in the elimination of 26 parking spaces. The Brighton Avenue Parking Lot Property will be graded, loamed, and seeded as part of the Project by the City and at no cost to the University. Title to this Brighton Avenue Parking Lot Property will remain in the

University. The parties shall enter into a separate license agreement to allow the City or its contractors to enter the University's land to perform such grading, loaming, and seeding and other work associated with the Project.

b. Subject to applicable zoning and land use regulations and any other applicable laws, rules and regulations, the University and the City will work cooperatively to create signage and landscaping for the Project.

c. While the streets are open during construction of the Project, the City will allow the University, at the University's sole expense, to update and replace various utility lines connecting the University's Law School with the core of the University Campus, provided that such work does not delay the Project schedule.

d. The University and the City will work cooperatively on the Project's construction schedule in order to minimize scheduling conflicts during major University and City events.

e. Subject to applicable zoning and land use regulations and any other applicable laws, rules, and regulations, the City will support the University in its efforts to locate parking spaces to replace the Brighton Avenue Parking Lot on other parcels within the University campus should the University choose to do so. All costs associated with replacing the Brighton Avenue Parking Lot will be borne by the University.

11. Miscellaneous.

a. This Agreement constitutes the entire agreement between the parties relating to the subject hereof, and any prior agreements pertaining thereto, whether oral or written, have been merged and integrated into this Agreement. No subsequent modification of any of the terms of this Agreement shall be valid, binding upon the parties or enforceable unless made in writing and signed by the parties.

b. Any obligations in this Agreement that by its terms are intended to be performed after termination or Closing shall survive the same.

c. All notices, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given on the date of service if served personally on the party to whom notice is to be given, or on the first business day after mailing if mailed to the party to whom notice is to be given by first class mail, postage prepaid, certified, return receipt requested, addressed to the recipient at the addresses set forth below. Either party may change addresses for purposes of this paragraph by giving the other party notice of the new address in the manner described herein.

For The City:	City of Portland ATTN: City Manager 389 Congress Street Portland, ME 04101
With a copy to:	The Office of the Corporation Counsel at the same address.
For The University:	M. F. Chip Gavin Chief Facilities Management and General Services Officer 25 Bedford Street Portland, ME 04101
With a copy to:	General Counsel Office 46 University Dr. Augusta ME, 04330

d. As an alternative to physical delivery, any signed document and written notice may be delivered in electronic form by facsimile or email. Documents with original signatures shall be provided upon request of any party.

e. This Agreement shall be construed in all respects in accordance with, and governed by, the laws of the State of Maine. All parties hereto hereby consent to the exclusive jurisdiction of the Superior Court for the County of Cumberland in the State of Maine, for all actions, proceedings and litigation arising from or relating directly or indirectly to this Agreement or any of the obligations hereunder, and any dispute not otherwise resolved as provided herein shall be litigated solely in said Court. If any provision of this Agreement is determined to be invalid or unenforceable, it shall not affect the validity or enforcement of the remaining provisions hereof.

f. This contract shall be binding upon and inure to the benefit of the successors and assigns of the parties.

g. No waiver of any breach of any one or more of the conditions of this Agreement by either party shall be deemed to imply or constitute a waiver of any succeeding or other breach hereunder.

h. The headings and captions appearing herein are for the convenience of reference only and shall not in any way affect the substantive provisions hereof.

i. The City and Buyer each confirm and agree that each of the time periods set forth herein are essential provisions of the terms of this Agreement.

j. This Agreement may be executed in any number of counterparts and by different parties in separate counterparts. Each counterpart when so executed shall be deemed to be an original and all of which together shall constitute one and the same agreement.

IN WITNESS WHEREOF, the said CITY OF PORTLAND has caused this Agreement to be signed and sealed by Jon P. Jennings, its City Manager, thereunto duly authorized, and UNIVERSITY OF MAINE SYSTEM has caused this Agreement to be signed and sealed by M.F. Chip Gavin, its Chief Facilities Management and General Services Officer, thereunto duly authorized, as of the day and date first above written.

CITY OF PORTLAND

Witness: _____ By: _____
Jon P. Jennings
Its City Manager

UNIVERSITY OF MAINE SYSTEM

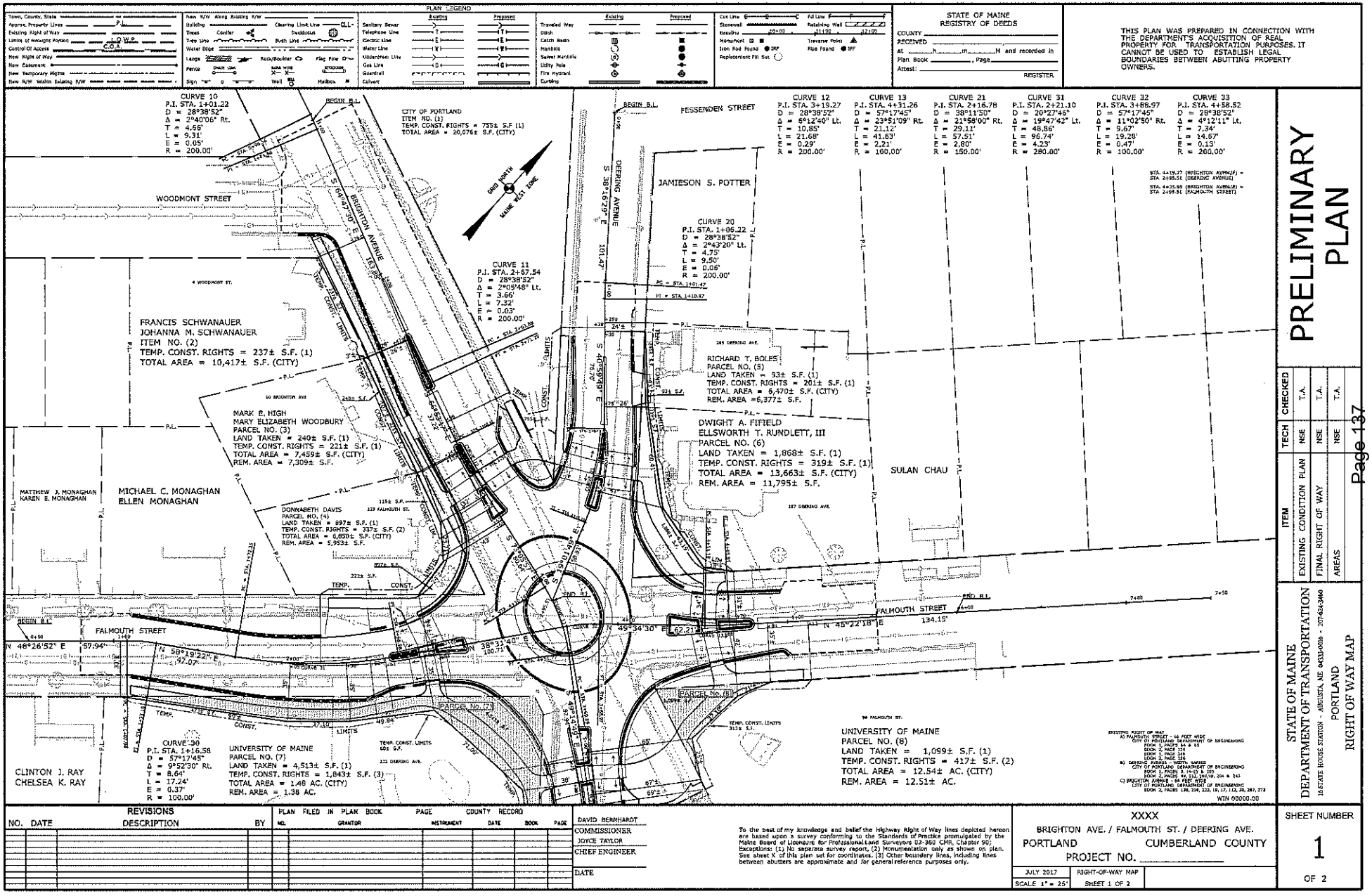
Witness: _____ By: _____
M.F. Chip Gavin
Its Chief Facilities Management and General Services Officer

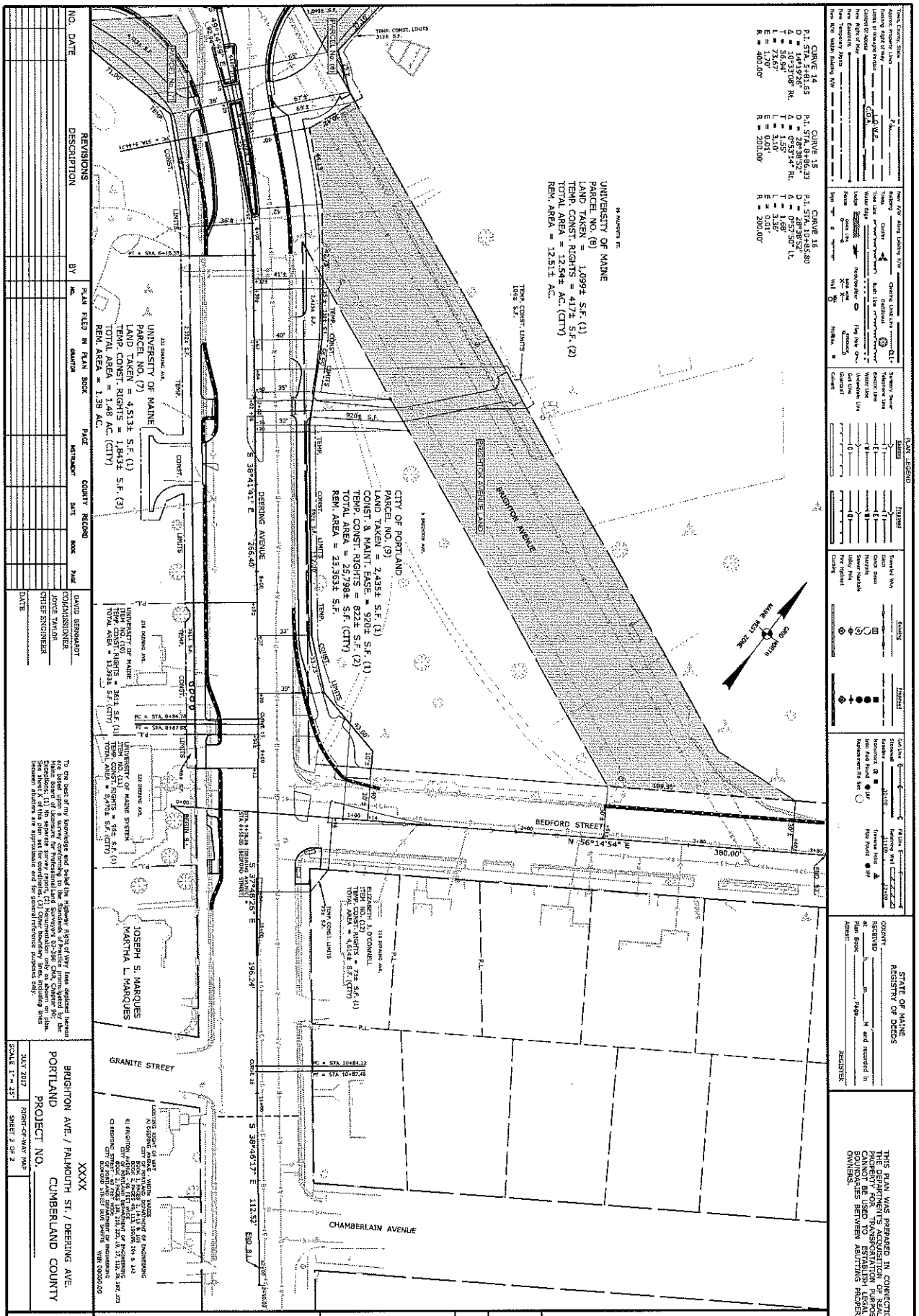
Approved as to form:

_____
City Corporation Counsel's Office

EXHIBIT A

(Copy of State of Maine Department of Transportation Right Of Way Map, Project No._____, dated July 2017)


PLAN LEGEND
STATE OF MAINE
REGISTRY OF DEEDS
COUNTY
RECEIVED
at ____h ____m ____M and recorded in
Plan Book ____, Page ____
Attest:
REGISTER
THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.
CURVE 10
P.I. STA. 1+01.22
D = 28°38'52"
Δ = 2°40'06" Rt.
T = 4.66'
L = 9.31'
E = 0.05'
R = 200.00'
CURVE 11
P.I. STA. 2+67.54
D = 28°38'52"
Δ = 2°05'48" Lt.
T = 3.66'
L = 7.32'
E = 0.03'
R = 200.00'
CURVE 12
P.I. STA. 3+19.27
D = 28°38'52"
Δ = 6°12'40" Lt.
T = 10.85'
L = 21.68'
E = 0.29'
R = 200.00'
CURVE 13
P.I. STA. 4+31.26
D = 57°17'45"
Δ = 23°51'09" Rt.
T = 21.12'
L = 41.63'
E = 2.21'
R = 100.00'
CURVE 20
P.I. STA. 1+06.22
D = 28°38'52"
Δ = 2°43'20" Lt.
T = 4.75'
L = 9.50'
E = 0.06'
R = 200.00'
CURVE 21
P.I. STA. 2+16.78
D = 38°11'50"
Δ = 21°58'00" Rt.
T = 29.11'
L = 57.51'
E = 2.80'
R = 150.00'
CURVE 30
P.I. STA. 1+16.58
D = 57°17'45"
Δ = 9°52'30" Rt.
T = 8.64'
L = 17.24'
E = 0.37'
R = 100.00'
CURVE 31
P.I. STA. 2+21.10
D = 20°27'46"
Δ = 19°47'42" Lt.
T = 48.86'
L = 96.74'
E = 4.23'
R = 280.00'
CURVE 32
P.I. STA. 3+88.97
D = 57°17'45"
Δ = 11°02'50" Rt.
T = 9.67'
L = 19.28'
E = 0.47'
R = 100.00'
CURVE 33
P.I. STA. 4+58.52
D = 28°38'52"
Δ = 4°12'11" Lt.
T = 7.34'
L = 14.67'
E = 0.13'
R = 200.00'
CITY OF PORTLAND
ITEM NO. (1)
TEMP. CONST. RIGHTS = 755± S.F (1)
TOTAL AREA = 20,076± S.F. (CITY)
FESSENDEN STREET
WOODMONT STREET
BRIGHTON AVENUE
DEERING AVENUE
FALMOUTH STREET
GRID NORTH
MAINE WEST ZONE
JAMIESON S. POTTER
FRANCIS SCHWANAUER
JOHANNA M. SCHWANAUER
ITEM NO. (2)
TEMP. CONST. RIGHTS = 237± S.F. (1)
TOTAL AREA = 10,417± S.F. (CITY)
MARK E. HIGH
MARY ELIZABETH WOODBURY
PARCEL NO. (3)
LAND TAKEN = 240± S.F. (1)
TEMP. CONST. RIGHTS = 221± S.F. (1)
TOTAL AREA = 7,459± S.F. (CITY)
REM. AREA = 7,309± S.F.
RICHARD T. BOLES
PARCEL NO. (5)
LAND TAKEN = 93± S.F. (1)
TEMP. CONST. RIGHTS = 201± S.F. (1)
TOTAL AREA = 6,470± S.F. (CITY)
REM. AREA =6,377± S.F.
DWIGHT A. FIFIELD
ELLSWORTH T. RUNDLETT, III
PARCEL NO. (6)
LAND TAKEN = 1,868± S.F. (1)
TEMP. CONST. RIGHTS = 319± S.F. (1)
TOTAL AREA = 13,663± S.F. (CITY)
REM. AREA = 11,795± S.F.
SULAN CHAU
MATTHEW J. MONAGHAN
KAREN E. MONAGHAN
MICHAEL C. MONAGHAN
ELLEN MONAGHAN
DONNABETH DAVIS
PARCEL NO. (4)
LAND TAKEN = 897± S.F. (1)
TEMP. CONST. RIGHTS = 337± S.F. (2)
TOTAL AREA = 6,850± S.F. (CITY)
REM. AREA = 5,953± S.F.
CLINTON J. RAY
CHELSEA K. RAY
UNIVERSITY OF MAINE
PARCEL NO. (7)
LAND TAKEN = 4,513± S.F. (1)
TEMP. CONST. RIGHTS = 1,843± S.F. (3)
TOTAL AREA = 1.48 AC. (CITY)
REM. AREA = 1.38 AC.
UNIVERSITY OF MAINE
PARCEL NO. (8)
LAND TAKEN = 1,099± S.F. (1)
TEMP. CONST. RIGHTS = 417± S.F. (2)
TOTAL AREA = 12.54± AC. (CITY)
REM. AREA = 12.51± AC.
PARCEL No. (8)
N 48°26'52" E 57.94'
N 58°19'22" E 42.07'
N 38°31'40" E 100.71'
S 39°34'30" E 62.21'
N 45°22'18" E 134.15'
S 38°19'29" E 101.47'
S 64°47'30" E 160.88'
S 40°59'59" E 76.40'
EXISTING RIGHT OF WAY
A) FALMOUTH STREET - 66 FEET WIDE
CITY OF PORTLAND DEPARTMENT OF ENGINEERING
BOOK 1, PAGES 84 & 85
BOOK 2, PAGE 120
BOOK 3, PAGE 148
BOOK 5, PAGE 126
B) DEERING AVENUE - WIDTH VARIES
CITY OF PORTLAND DEPARTMENT OF ENGINEERING
BOOK 1, PAGES 1, 14-15 & 100
BOOK 2, PAGES 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204 & 243
C) BRIGHTON AVENUE - 66 FEET WIDE
CITY OF PORTLAND DEPARTMENT OF ENGINEERING
BOOK 2, PAGES 138, 216, 222, 19, 17, 112, 28, 267, 273
WIN 008000.00
PRELIMINARY PLAN
ITEM
EXISTING CONDITION PLAN
FINAL RIGHT OF WAY
AREAS
TECH
NSE
CHECKED
T.A.
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460
PORTLAND
RIGHT OF WAY MAP
REVISIONS
NO. DATE DESCRIPTION BY
PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD
NO. GRANTOR INSTRUMENT DATE BOOK PAGE
DAVID BERNHARDT
COMMISSIONER
JOYCE TAYLOR
CHIEF ENGINEER
DATE
To the best of my knowledge and belief the Highway Right of Way lines depicted hereon are based upon a survey conforming to the Standards of Practice promulgated by the Maine Board of Licensure for Professional Land Surveyors (32-360 CMR, Chapter 90; Exceptions: (1) No separate survey report, (2) Monumentation only as shown on plan. See sheet X of this plan set for coordinates. (3) Other boundary lines, including lines between abutters are approximate and for general reference purposes only.
XXXX
BRIGHTON AVE. / FALMOUTH ST. / DEERING AVE.
PORTLAND CUMBERLAND COUNTY
PROJECT NO. _____
JULY 2017
SCALE 1" = 25'
RIGHT-OF-WAY MAP
SHEET 1 OF 2
SHEET NUMBER
1
OF 2
EXHIBIT A
Date:9/15/2017
Username: common
Division: HIGHWAY
Filename: ...\Microstation\001_RWPlan1.dgn
Page 137



NO.	DATE	REVISIONS DESCRIPTION	BY

PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD
GRANTOR NO./PAGE BOOK PAGE
REGISTRY OF DEEDS

DAVID BERNHARDT
COMMISSIONER
JOYCE TAYLOR
CHIEF ENGINEER
DATE

To the best of my knowledge and belief this Highway Right of Way lines depicted hereon are based upon a survey conforming to the Standards of Practice promulgated by the Board of Licensure for Professional Surveyors. Exceptions: (1) No separate survey report; (2) Monumentation only as shown on plan. See sheet X of this plan set for coordinates. (3) Other boundary lines, including lines between abutters are approximate and for general reference purposes only.

STATE OF MAINE
REGISTRY OF DEEDS
COUNTY
RECEIVED
at h m and recorded in
Plan Book Page
ATTEST:
REGISTER

THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY INTERESTS. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.

BRIGHTON AVE. / FALMOUTH ST. / DEERING AVE.
PORTLAND
PROJECT NO. CUMBERLAND COUNTY
JULY 2017
SCALE 1" = 25'
RIGHT-OF-WAY MAP
SHEET 2 OF 2

XXXX

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460
PORTLAND
RIGHT OF WAY MAP

ITEM	TECH	CHECKED
EXISTING CONDITION PLAN	NSE	T.A.
FINAL RIGHT OF WAY	NSE	T.A.
AREAS	NSE	T.A.

PRELIMINARY PLAN

SHEET NUMBER 2 OF 2

EXHIBIT B

Description of Parcel No. (7)

A certain lot or parcel of land located on the southeasterly side of Falmouth Street, southwesterly side of Brighton Avenue and the southwesterly side of Deering Avenue in the City of Portland, County of Cumberland, State of Maine, bounded and described as follows:

Beginning at point on the southeasterly sideline of Falmouth Street, said point of beginning being located N 48°34'53" E a distance of Sixty-Nine and 93/100 (69.93) feet from the intersection of the northeasterly sideline of Exeter Street with the southeasterly sideline of said Falmouth Street. Thence:

1. N 48°34'53" E by said Falmouth Street a distance of Two Hundred Forty-Three and 79/100 (243.79) feet to a point on the southerly sideline of Brighton Avenue;

2. S 67°27'04" E by said Brighton Avenue a distance of Eleven and 80/100 (11.80) feet to a point on the southwesterly sideline of Deering Avenue;

3. S 38°46'34" E by said Deering Avenue a distance of One Hundred Eleven and 32/100 (111.32) feet to a point;

4. N 47°34'40" W through land of the Grantor a distance of Sixty-Five and 82/100 (65.82) feet to a point;

5. N 88°45'17" W though said land of the Grantor a distance of Seventy-One and 00/100 (71.00) feet to a point;

6. S 40°44'35" W through said land of the Grantor a distance of Forty-Nine and 84/100 (49.84) feet to a point;

7. S 48°14'39" W through said land of the Grantor a distance of Thirty-Seven and 10/100 (37.10) feet to a point;

8. S 57°25'25" W through said land of the Grantor a distance of Ninety-Nine and 27/100 (99.27) feet to the point of beginning.

Bearings are referenced to grid north, Maine State Plane Coordinate System, NAD83, West Zone.

The above described parcel contains 4,513 square feet, more or less, and being a portion of property as described in deeds to the University of Maine recorded in the Cumberland County Registry of Deeds in Book 3047, Page 354, Book 3053, Page 326, Book 3056, Page 504 and Book 3079, Page 537.

EXHIBIT C

Description of Parcel No. (8)

A certain lot or parcel of land located on the southeasterly side of Falmouth Street and the northeasterly side of Brighton Avenue in the City of Portland, County of Cumberland, State of Maine, bounded and described as follows:

Beginning at the intersection of the southeasterly sideline of Falmouth Street with the northeasterly sideline of Brighton Avenue. Thence:

1. N 45°03'56" E by said Falmouth Street a distance of Sixty-Seven and 91/100 (67.91) feet to a point;

2. S 25°30'06" W through land of the Grantor a distance of Twenty-One and 27/100 (21.27) feet to a point;

3. S 05°00'58" W through said land of the Grantor a distance of Thirty-Seven and 10/100 (37.10) feet to a point;

4. S 53°19'05" E through said land of the Grantor a distance of Twenty-Five and 06/100 (25.06) feet to the northeasterly sideline of said Brighton Avenue;

5. N 67°27'04" W by said Brighton Avenue a distance of Sixty and 39/100 (60.39) feet to the point of beginning.

Bearings are referenced to grid north, Maine State Plane Coordinate System, NAD83, West Zone.

The above described parcel contains 1,099 square feet, more or less, and being a portion of property as described in a deed to the University of Maine recorded in the Cumberland County Registry of Deeds in Book 2370, Page 135.

EXHIBIT D

Description of the Brighton Avenue Land

A certain portion of a right of way known as Brighton Avenue located in the City of Portland, County of Cumberland, State of Maine, bounded and described as follows:

Beginning at the intersection of the northeasterly side of Brighton Avenue with the northwesterly sideline of Bedford Street. Thence:

1. S 56°16'26" W by the northwesterly side of said Bedford Street a distance of One Hundred Nine and 35/100 (109.35) feet to a point at land now or formerly of the City of Portland as described in a deed recorded in the Cumberland County Registry of Deeds in Book 1290, Page 35;

2. N 67°27'04" W by said land of the City of Portland a distance of Three Hundred Thirty-Four and 98/100 (334.98) feet to a point;

3. N 38°17'00" W through said Brighton Avenue a distance of Forty-Two and 75/100 (42.75) feet to a point;

4. N 47°55'58" W through said Brighton Avenue a distance of Forty-Four and 13/100 (44.13) feet to a point;

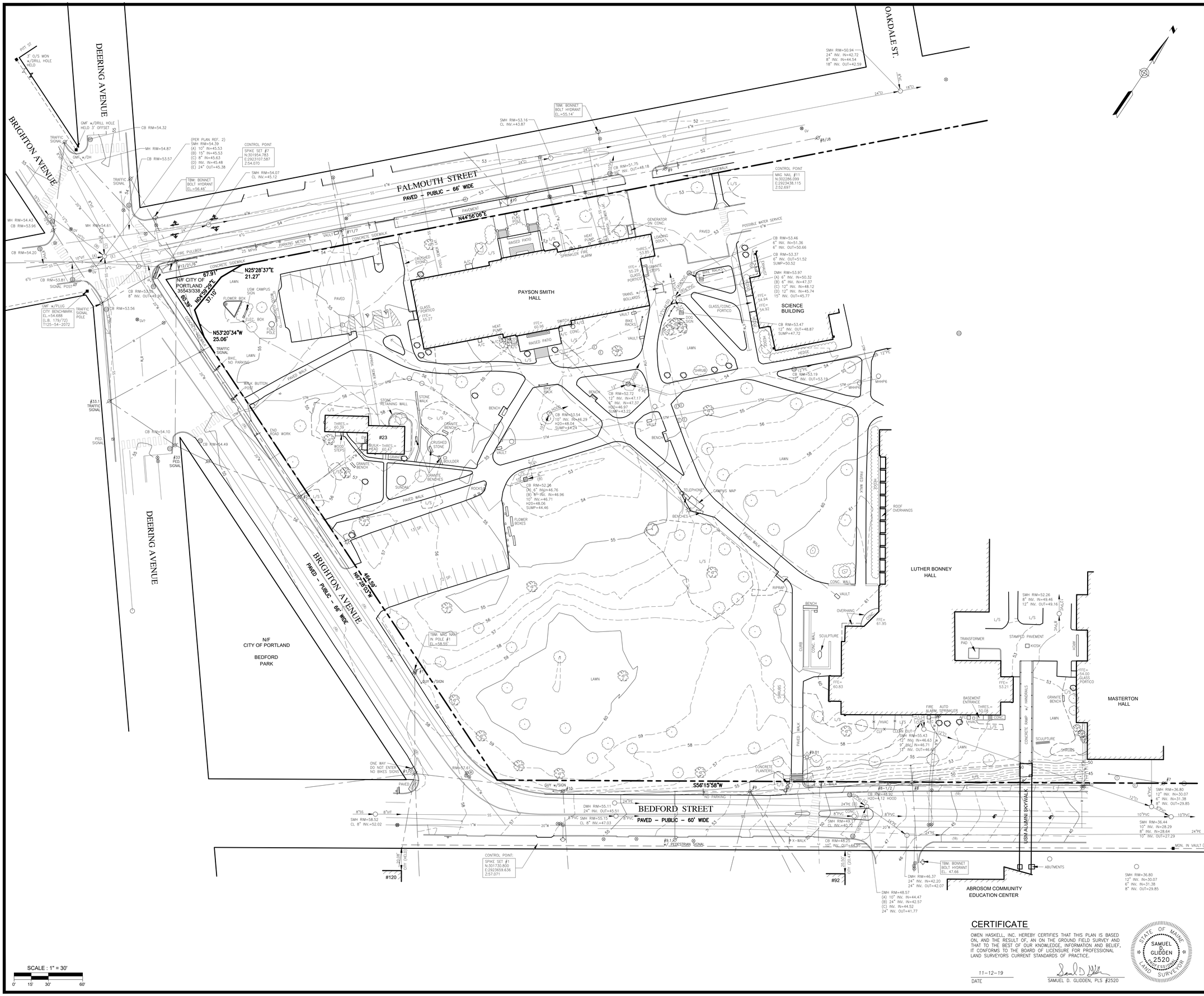
5. N 22°06'16" E through said Brighton Avenue a distance of Thirty and 42/100 (30.42) feet to a point on the northeasterly sideline of said Brighton Avenue and land now or formerly of the University of Maine as described in a deed recorded in said Registry in Book 2370, Page 135;

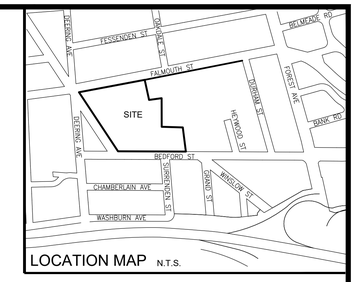
6. S 67°27'04" E by said land of the University of Maine a distance of Four Hundred Twenty-Eight and 19/100 (428.19) feet to a point;

7. N 84°24'41" E by said land of the University of Maine a distance of Fifty-Two and 91/100 (52.91) feet to the point of beginning.

Bearings are referenced to grid north, Maine State Plane Coordinate System, NAD83, West Zone.

The above described parcel contains 27,587 square feet, more or less, and being a portion of Brighton Avenue.





LEGEND

- IRON PIPE OR ROD FOUND
- MONUMENT FOUND
- UTILITY POLE
- MANHOLE
- EM/GM ELECTRIC/GAS METER
- SIGN
- CATCH BASIN
- HYDRANT
- WATER VALVE OR SHUTOFF
- GV GAS VALVE
- LIGHT POLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- SHRUB / BUSH
- FENCE
- CURB
- OVERHEAD WIRES
- E UNDERGROUND POWER
- C COMMUNICATION
- W WATER LINE
- G GAS LINE
- T TELEPHONE
- SD STORM DRAIN
- SS SANITARY SEWER
- STM STEAM/CONDENSATION LINES
- 50 1' CONTOUR
- IPF/IRF IRON PIPE OR ROD FOUND
- L/S LANDSCAPED AREA
- CONC. CONCRETE
- FFE FINISHED FLOOR ELEVATION
- THRES. THRESHOLD
- N/F NOW OR FORMERLY
- 000/000 DEED BOOK / PAGE

PLAN REFERENCES

1. "BOUNDARY & TOPOGRAPHIC PLAN ON BEDFORD STREET, USM CAMPUS, PORTLAND, MAINE MADE FOR WOODARD & CURRAN, INC." SEPTEMBER 08, 2005 REV. 5 11-02-06 BY OWEN HASKELL, INC. JOB# 05-211.

2. "BRIGHTON-DEERING-FALMOUTH & BEDFORD-DEERING ROUNDABOUTS PRELIMINARY DESIGN PLANS, PREPARED FOR THE CITY OF PORTLAND" BY RANSOM CONSULTING, INC. DATED 2017-07-12 AND REVISED THROUGH 5-10-19. PROJECT NUMBER 141.06013

GENERAL NOTES

1. OWNER OF RECORD: UNIVERSITY OF MAINE SYSTEM
   P/O TAX MAP 114 BLOCK A LOT 1
   C.C.R.D. BOOK 2370 PAGE 135

2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD 83 PER COORDINATE DATA PROVIDED BY THE CITY OF PORTLAND DEPARTMENT OF PUBLIC WORKS.

3. ELEVATIONS ARE BASED ON CITY OF PORTLAND DATUM, NGVD 29. BENCHMARK UTILIZED IS A COPPER BOLT IN 3 FOOT OFFSET MONUMENT LOCATED AT THE SOUTHWEST CORNER OF THE BRIGHTON AVENUE AND FALMOUTH STREET INTERSECTION, SHOWN HEREON.

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 SURVEY HAS NOT PHYSICALLY LOCATION THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

11-12-19
DATE

SAMUEL D. GLIDDEN, PLS #2520

STATE OF MAINE · SAMUEL D GLIDDEN · 2520 · PROFESSIONAL LAND SURVEYOR

Boundary and Topograpic Survey
USM Portland Campus
96 Falmouth Street, Portland, Maine
Made for
Oak Point Associates
231 Main Street, Biddeford, 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: NOV. 12, 2019	JOB NO. 2019-244 P	
CHECKED BY: SDG	SCALE: 1" = 30'	DRWG. NO. 1	

Section 3 – Evidence of State or Federal Approvals

The following State permits will be obtained for the work. Copies of these permits can be provided to the City once they are obtained, if requested:

- Maine Department of Environmental Protection Site Location of Development Act Minor Amendment (Submitted to the City of Portland for review concurrently with the submission of this permit application package)

- Maine Construction General Permit Notice of Intent

- Amended Maine Department of Environmental of Protection Air Emissions Permit

Section 4 – Zoning Analysis

The project is located within the R5 Zone. The project is also within the University of Southern Maine Overlay Zone, which is subject to the additional requirements in Section 8.10 of the Land Use Code. The Overlay Zone lists "classrooms, auditoriums, and concert and lecture halls" as permitted uses.

The City's USM overlay maps have not been updated for the portion of Brighton Avenue that has been removed/incorporated into the USM campus. However, it has been assumed that the setback from Noyes Park indicated will remain consistent with what the setback from Brighton Avenue was. Thus, the required setbacks and building height requirements are as follows:

Falmouth Street: 20'
Noyes Park (formerly Brighton Avenue setback): 10'
Bedford Street: 10'
Building Height (zone B): 75' maximum, 35' minimum.

The maximum impervious surface ratio for the total land area within the USM overlay zone is 66% (exclusive of public streets), and the maximum lot coverage is 40%. The following table summarizes the lot coverage and impervious ratio at three different stages of development on the campus:

	Parking Garage Completion[1]	Pre-Development[2]	Project Completion
Lot Coverage	30%	30%	33%
Impervious Area Ratio	55%	55%	56%

[1]Percentages taken from the zoning analysis table in Section 6 of the Site Plan Application for USM's Structured Parking Garage project approved in January 2022.

[2]Percentages include changes from the previously-submitted Deering Farmhouse relocation/addition project and incorporation of the portion of the Brighton Avenue right-of-way discussed in Section 2 of this application.

ZONING ANALYSIS Relevant Zone(s) R5, USM Overlay

All Projects:

	Required	Proposed
Lot Size	N/A	N/A
Area Per Dwelling Unit	N/A	N/A
Minimum Street Frontage	N/A	N/A
Front Yard Minimum	10' (Bedford St)	+/- 44'
Front Yard Maximum	N/A	N/A
Rear Yard	20' (Falmouth St)	+/- 160'
Yard Right	10' (Noyes Park)	+/- 33'
Yard Left	N/A	N/A
Side Street Setback	N/A	N/A
Step Back	N/A	N/A
Maximum Lot Coverage	40%	33%
Minimum Lot Coverage	N/A	N/A
Maximum Height	75'	+/- 44'
Open Space	N/A	N/A
Maximum Impervious Area	66%	56%
Pavement Setback	N/A	N/A
Floor Area Ratio	N/A	N/A
Off Street Parking Spaces	N/A	0 (No Change)
Loading Bays	N/A	N/A
Other 1	N/A	N/A
Other 2	N/A	N/A
Other 3	N/A	N/A

Planned Residential Unit Developments (PRUD) Requirements

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

Affordable Housing Density Bonuses (if applicable)

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

Section 5 – Waiver Requests

A waiver is requested from the City of Portland Land Use Code Section 14.6.2.B.3 requirement to preserve at least 30% of the trees within the building setbacks that have a DBH of 10" or greater. The only trees within the building setbacks that have a DBH of 10" or greater are three trees along Bedford Street: a 26" DBH spruce tree, a 30" DBH spruce tree, and a 15" DBH birch tree. Due to the proposed location of the building and site amenities (sidewalks and stormwater treatment) along with the grading necessary to provide compliant access to the building, all three trees will need to be removed.

Land Use Code Section 14.6.2.B.4 provides an alternative avenue for meeting this requirement that consists of providing replacement trees in lieu of preserving the existing ones. We calculate that two new trees need to be provided as replacement for one of the existing trees greater than 16" DBH. The project will include planting six new street trees on the Bedford Street side of the building. Locating the trees on Bedford Street will help the roadway retain some of its existing characteristics while not interfering with site amenities such as sidewalks and subsurface utilities, most notably subsurface stormwater treatment in the turf area between the building and Bedford Street.

Standard to be Waived: Cite Ordinance or Technical Manual Standard	Cite Standard Language: Cite specific language of applicable Ordinance or Technical Manual Standard	Waiver Being Sought: Describe waiver being sought. Ex. – We are requesting a two-way parking lot drive aisle width of 20' feet.	Justification for Waiver: Address specific waiver criteria, if applicable, and document reasons for the waiver request.
Preservation of 30% or more of existing trees 10" DBH and higher within the setback areas	Land Use Code, Section 14.6.2.B.3, "All development subject to zoning setbacks shall preserve a minimum of 30% of existing trees 10 inches DBH or greater within the required setback area"	We are requesting a waiver to remove trees on Bedford Street and provide replacement trees in accordance with Table 14-D	The site features and grading necessary to provide compliant access to the building requires removal of the existing trees on Bedford Street. To comply with 14.6.2.B.4, six street trees are proposed on Bedford Street north of the building

Section 6 – Financial Capacity

The estimated cost for this project is between $56 million and $59 million. Attached is a copy of the University's commitment to fund the project.

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UNIVERSITY OF
SOUTHERN MAINE
Finance and Administration

October 31, 2022

Mr. Jonah DeWaters
Oak Point Associates
231 Main Street
Biddeford, ME 04005

Dear Mr. DeWaters:

The University of Southern Maine expects the Center for the Arts project to cost approximately $56 million to $59 million.

To fund the project, the University would utilize philanthropy and other University resources pursuant to approval by the University of Maine System Board of Trustees.

Thank you for your consideration.

Sincerely,

DocuSigned by:
Alexander E Porteous
73AFFEE3455845F...

Alexander E. Porteous
Chief Operation Officer & Chief Business Officer

Section 7 – Technical Ability

The University of Southern Maine (USM) is a public university with over 8,000 undergraduate and graduate students taking courses online and at campuses in Portland, Gorham, and Lewiston. Known for its academic excellence, student focus, and engagement with the community, USM provides students with hands-on experience that complements classroom learning and leads to employment opportunities in one of the nation's most desirable places to live. USM is a member of the University of Maine System, the State's largest educational enterprise that includes seven universities and an annual enrollment of nearly 30,000 students.

Oak Point Associates is a 75-employee, full-service interdisciplinary design and consulting organization providing a wide range of architectural, engineering, and planning services and an advantageous integrated design approach. These services include civil engineering, stormwater management design, municipal and state environmental permitting, and construction administration/management. With offices in Biddeford, Maine, and Portsmouth, New Hampshire, Oak Point Associates and has been serving the public and private sector for over 40 years. Our capabilities have been demonstrated through successful and award-winning projects for clients that include municipalities, universities and other educational institutions, state agencies, and private entities, as well as federal agencies such as the U.S. Navy, U.S. Fish and Wildlife Service, and U.S. General Services Administration.

Pfeiffer is a specialty design studio of Perkins Eastman providing architectural, interior design, programming, and master planning from locations in Los Angeles and New York City, supporting the firm's 24 offices. Our work is focused on new and existing educational and cultural buildings for non-profit, private and public clients. Fundamental to our design philosophy is our abiding sense of design as a collaborative undertaking. From this perspective, we approach each project without preconceived notions about style and aesthetics, responding uniquely to our client's ideas, site conditions, historic considerations and functional requirements.

Pfeiffer has planned and designed facilities for fine and performing arts for over 50 years. This work has spanned theaters of every shape and size for communities and academic institutions across the country and encompasses over five million square feet of space in projects ranging from feasibility studies to the renovation and reuse of existing facilities to design of new buildings for civic and academic use. Our architects, planners and interior designers have a particular passion for the arts and thrive on creating unique yet functional spaces for teaching, learning, production and design, practice, and performance.

Section 8 – Transportation Standards

The project has been designed to meet the City's Site Plan Review Standards. Compliance with the Transportation Standards (14-14.6.1) are summarized below:

Impact on Surrounding Street Systems (14-14.6.1(A))

The project is not proposing to construct additional parking areas. Instead, a 12' wide pull-off is proposed on Bedford Street that will allow for loading/unloading of passengers. To minimize the impact of the project on the traffic flow on Bedford Street, the pull-off is located outside of the vehicular and bicycle travel lanes. The pull-off will also double as a fire department access lane, and parking will not be permitted within it.

Access and Circulation (14-14.6.1(B))

Pedestrian Pathways

Due to the nature of the campus and location of parking lots/garages on the campus edges, there is a significant amount of pedestrian traffic through the project site, particularly through the campus green from the Law School and adjacent parking lot on Deering Avenue to Luther Bonney Hall. While the project will expand the campus green, pedestrian routes through the green will continue to provide internal pedestrian connections to the buildings on campus. The project will also include construction of a sidewalk on the north side Bedford Street to create a new pedestrian link between the existing sections of sidewalk on Bedford Street that ends just southwest of Luther Bonney Hall and at the edge of Noyes Park. The sidewalk on Bedford Street will be curbed in conformance with City requirements, and it will contain ADA-compliant curb ramps.

Loading and Servicing

The project will have minimal need for a service area, with loading and service needs limited to occasional deliveries of musical equipment (30' box truck or smaller vehicle) and trash collection by USM facilities staff (pickup truck or smaller vehicle) from an interior trash storage room. The site will not have exterior dumpsters.

To accommodate these access needs, a small loading area is proposed on the north side of the building that will be accessed from Falmouth Street via a widened sidewalk on the south side of the parking lot adjacent to Payson Smith Hall. This sidewalk has been designed to accommodate the turning movements of a 30-foot box truck, ensuring that the truck will not have to back out into Falmouth Street. A plan showing the turning movements of trucks using the loading zone is included in this section.

Public Transit (14-14.6.1(C))

This project will not create additional public transit stops. There is an existing bus stop on the east side of Deering Avenue, approximately 65' from the proposed building.

Parking (14-14.6.1(D))

Vehicular Parking

Instead of providing new parking lots for the building, the project will take advantage of an existing surplus of parking on the campus. The attached calculation sheet summarizes the changes in parking since the 2020 approval of the Student Center, Dormitory and Quad project and demonstrates that the campus has sufficient parking to accommodate the project.

Bicycle parking

Bicycle racks will be provided adjacent to the southern entrance to the building (facing Noyes Park). Based on parking demand, the site will require at least 8 bicycle parking spaces, and bicycle racks for 10 bicycles are being provided. Refer to the Landscape Plan for the specific location of the bicycle racks.

Snow Storage

Sidewalks and pedestrian pathways will be cleared by the University using their snow removal equipment, which will primarily utilize the landscaped and turf areas adjacent to the sidewalk areas for snow storage. At the loading area, snow storage is available in turf areas along the southwest and northeast edges. Should snow amounts exceed the available storage, it will be removed from the site.

Electric Vehicle Charging

This standard is not applicable.

Transportation Demand Management (14-14.6.1(E))

The project does not meet the threshold for requiring a Maine Department of Transportation Traffic Movement Permit as described in the attached memo. USM has a campus-wide transportation demand management plan (TDM) that is continually updated as conditions on the campus change. Prior to the submission of this application package, meetings were held with the City's Traffic Engineer and TDM Manager to review the project and its impact on transportation needs. Based on these discussions USM will provide an updated TDM plan under a separate cover that incorporates the changes resulting from the building construction and the preliminary comments the City had during the meeting.

Memorandum

To: City of Portland

Date: December 14, 2022

Project #: 55540.02

From: Jennifer Conley, PE, PTOE

Re: University of Southern Maine
Center for the Arts

The University of Southern Maine (USM) is proposing to construct a Center for the Arts on the west side of the Portland campus along what was the former Brighton Avenue right of way. The Center for the Arts will include classroom space, a recital hall and a visual art gallery. VHB has estimated the number of trips anticipated to be generated by the facility.

Transportation Context

USM has recently permitted a 510 space garage (6 of which are for motorcycles) on the Portland campus that is currently under construction. The transportation analysis included in the Traffic Movement Permit (TMP) associated with the Parking Garage determined that the best estimation of trip generation was associated with the anticipated growth in enrollment on the campus of the next five year period. The City of Portland's traffic consultant agreed with this methodology and reviewed all calculations.

As presented in the Parking Garage TMP, USM predicts enrollment growth of 970 students in the 5-year period between 2022 and 2027. This growth, and the trips associated with it, were included in the permitting of the parking garage on Bedford Street. The traffic analysis conducted as part of the permitting for the Bedford Street garage was based on industry standards and MaineDOT guidance. The number of new peak hour trips anticipated with the growth in enrollment is 160 trips (125 in and 35 out) in the highest AM peak hour and 160 trips (51 and 109 out) in the highest PM peak hour with no adjustments for the high portion of transit trips to and from the campus. As such, the limited increase in enrollment and the trips associated with the development of the Center for the Arts facility were included in those projections. The goal enrollment increase of the Music Department is 92 additional students. These increases are anticipated in part as a result of the improved, expanded facilities and this project was under consideration when enrollment projections were made in recent years.

To confirm that the number of trips associated with the Center for the Arts is accounted for in the growth included in the garage, USM staff did an analysis of the commuting patterns associated with staff that will be located at the new facility and reviewed each of the class times for classes that in the future will be located at the new building and the students, faculty and staff trips associated with them.

For this or any project that generates over 100 peak-hour trips, MaineDOT requires a Traffic Movement Permit. The Traffic Movement Permit evaluates a project's traffic impacts at area intersections based on the number of trips anticipated to be generated and added to movements at the intersection. For smaller projects, MaineDOT gives the City of Portland development review authority. Because the Traffic Movement Permit for the garage project included growth and trips associated with this project (among others), the Center for the Arts will not generate additional trips beyond the existing permit.

500 Southborough Drive
Suite 105B
South Portland, Maine 04106

Center for Fine Arts Related Traffic

The traffic associated with the Center for Fine Arts was determined. The trips associated with faculty staff and students were each determined based on class schedules, work schedules, and other events. Each Component is described below:

Music Trips

- Scheduled Classes: Students in classes scheduled during peak commuting times. A review of the numbers of students anticipated to be traveling to and from classes during the AM and PM peak hours were determined. During the highest hour in the AM, 41 students would be anticipated to be traveling to or from the new facility in scheduled classes. During the highest hour in the PM, 31 students would be anticipated to be traveling to or from the new facility in scheduled classes.
- Arranged Classes: It is anticipated that 7 students would arrive during the PM peak hour for an arranged class with a faculty member.
- Faculty and staff: to be conservative each of the projected full time staff of 4 and full time faculty of 11 are anticipated to arrive in the morning peak hour and leave during the PM peak hour. In addition to those numbers, in the AM peak hour, 3 part time faculty would arrive and during the PM peak hour, another 7 faculty would arrive for the arranged classes. Finally, one leadership trip for the Music department is anticipated to enter the facility during the AM peak hour and exit during the PM peak hour.

Art Trips

- Based on the programming for the art space, it is anticipated that no students enter or exit during the AM peak hour and that 4 students enter or exit during the PM peak hour. Two faculty/staff trips are anticipated to enter during the AM peak hour and exit during the PM peak hour.

Event Trips

- On Wednesday nights only, there will be a Youth Ensemble Program. It is anticipated that approximately 54 Youth Ensemble participants will enter the site around 5:45 PM. This once-a-week Youth event trip traffic has not been included in the trip demand estimate as it does not occur on most weeknights each week.

Adjustments

- Based on the typical split between residential and commuting students at the Gorham campus, it is anticipated that six of the student trips identified above during each peak hour would in fact be living in the new residential units on the Portland campus.
- Applying the mode shares calculated from the 2022 USM Transportation Survey, 18% of students, faculty and staff will use the bus, 6% will carpool, and 5% will bike or walk to campus. Applying these percentages reduces 16 AM and PM peak hour trips from the total trips.

The resulting number of vehicular trips associated with the proposed facility is 40 AM peak hour trips and 45 PM peak hour trips. The data is summarized in the table below:

Table 1 Trip Demand

	AM Peak	PM Peak
Total vehicle trips		
Students (Scheduled Classes)	41	31
Students (Arranged Classes)	-	7
Faculty & staff	19	23
Art trips	2	6
Subtotal	***62***	***67***
Adjustments and mode splits		
On-campus students	-6	-6
Alt. transportation (incl. carpool, bus)	-16	-16
Subtotal	***-22***	***-22***
Total new trips		
	40	**45**

Conclusions

The proposed Center for the Arts is anticipated to be associated with 40 AM peak hour vehicle trips and 45 PM peak hour vehicle trips. This trip estimate is significantly below the threshold for Traffic Movement Permit review. These trips were part of the 160 AM peak hour and 160 PM peak hour trips associated with permitting the parking garage where these trips will start and end on the USM campus.

Factors Contributing to Initial Condition of Approval for Student Center & Res Hall Permit (Nov 2020):

394 new for Portland Commons (68% of 580)
130 displaced by closure of Woodbury lot
41 displaced by closure of Facilities lot
6 displaced in revised central heat plant lot
4 displaced in Law School lot to accommodate salt shed
(-115) from Wishcamper parking lot revision
(-64) from TDM strategies applied to this parking pool
= 396 TOTAL

How USM will Meet CFA Demand during Peak Hour

Condition of Approval (COA) for Parking Supply

For the new residence hall and career/student center	-396

Anticipated Increase in Supply Since COA

New parking garage	504

Lost Spaces Since COA

Displacement from siting new garage on Wishcamper lot	-207
Loss of Brighton Ave. lot from City roundabout project	-26

Anticipated Reduced Demand

Peak demand gain in available spaces by Law School moving offsite	152
Campus-wide demand reduction of 10% from TDM Plan (144 campus-wide minus 64 already accounted for in COA)	80

Anticipated Increased Demand from Center for the Arts

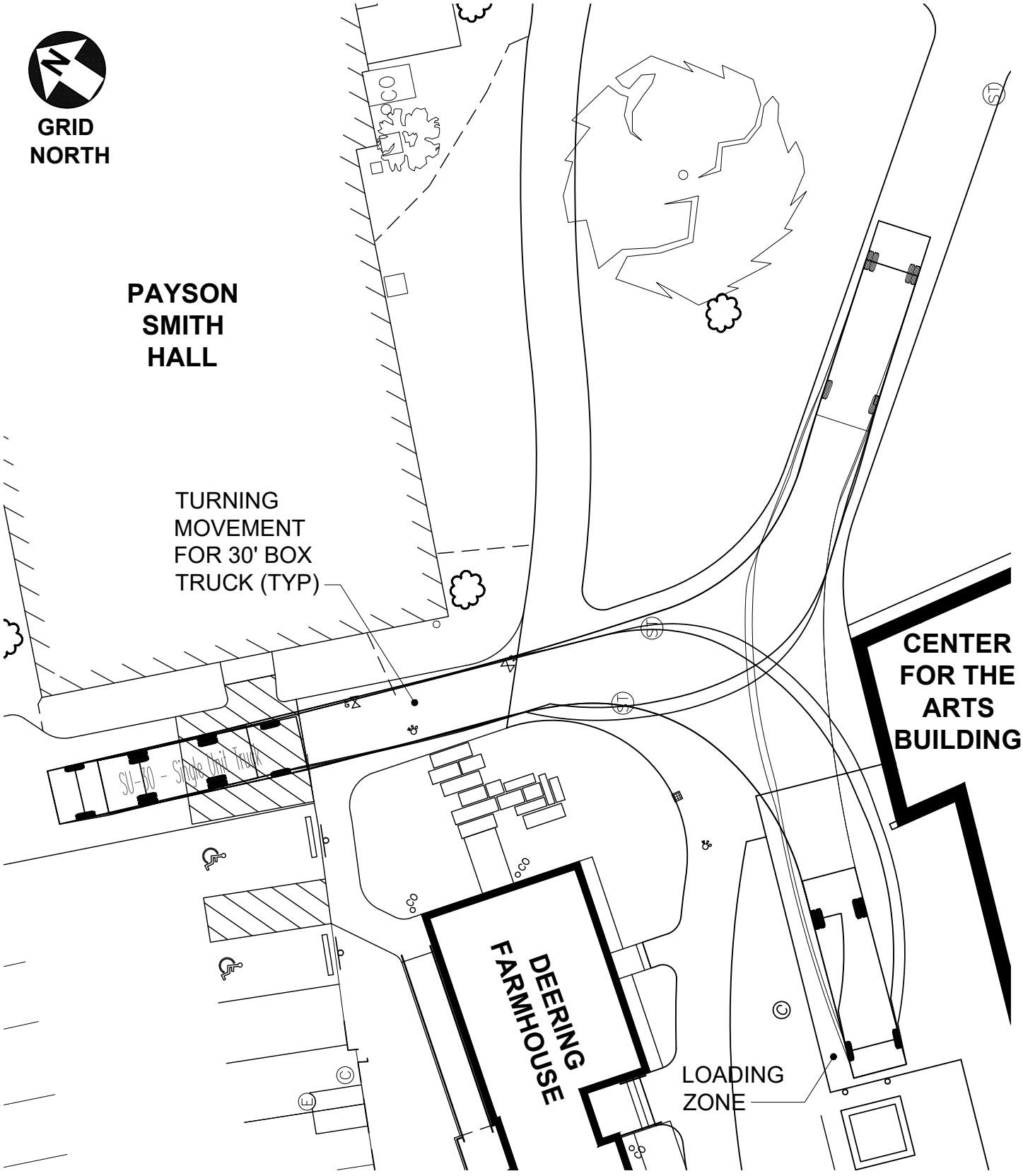
Peak demand from students, staff & faculty in music and art programs	-32

GRAND TOTAL NET SURPLUS CAMPUS-WIDE

Including all factors listed above	75

*Six Motorcycle spaces planned for new garage are additional to the above automobile spaces

*Up to 5 spaces may be lost or gained due to final configurations in existing garage, new garage, and surface area behind Glickman library



SCALE: 1"=20'-0"
DATE: 12-15-2022

C1

TRUCK ACCESS TO LOADING ZONE

CENTER FOR THE ARTS

UNIVERSITY OF SOUTHERN MAINE PORTLAND CAMPUS

104 Falmouth Street, Portland Maine 04103

DESIGNED BY:	**JSD**
DRAWN BY:	**JSD**
CHECKED BY:	**JSD**
PROJECT:	**21904.10**

OAK POINT ASSOCIATES
ARCHITECTURE ■ ENGINEERING ■ PLANNING
231 Main Street, Biddeford, Maine 04005 (T) 207.283.0193 (F) 207.283.4283
www.oakpoint.com

Section 9 – Environmental Standards

The project has been designed to meet the City's Site Plan Review Standards. Compliance with the Environmental Standards (14-14.6.2) are summarized below:

Preservation of Significant Natural Features (14-14.6.2(A))

This project will occur in a previously developed lawn area between the existing farmhouse and parking lot. No significant natural features have been identified in this area. Like the previously approved parking garage project, this project site is within the zone for the Northern Long-Eared Bat. This project involves very little tree clearing, and it is not anticipated to have an impact on the Northern Long-Eared Bat species. A copy of the Department of Inland Fisheries and Wildlife Official Species List is included in this section.

Landscape Preservation (14-14.6.2(B))

Tree clearing and turf removal have been kept to the minimum amount practicable for the project, including making site planning and building design/layout decisions that will protect significant beech and oak trees both on campus (near Luther Bonney Hall) and in Noyes Park. Tree protection fence will be placed around trees to remain that are near the work area to further protect them from damage. The project will involve removal of trees greater than 10" DBH in the Bedford Street right of way. As discussed in Section 5, a waiver has been requested to account for the tree removal, and new trees are proposed that will comply with the City's requirements.

Site Landscaping and Buffers (14-14.6.2(C))

Several planted areas will be provided around the building. The plants serve several functions on the site, including providing screening of the loading area from the Noyes Park side of the site, visual interest near the building entrance, a buffer in locations to discourage pedestrian cut-throughs, and preventing outdoor gathering near windows at interior assembly spaces. USM has a desire to provide a plant palette that includes edible plants and plants that are native to New England, and the landscape is designed accordingly. Proposed street trees are provided along Bedford Street, except where proximity to stormwater treatment facilities (under drained subsurface sand filter) preclude them. Street tree species are listed on the *City of Portland Recommended Tree List.*

The site is not located within a Historic District and will therefore not impact any trees designated by the City as heritage trees. The properties across Bedford Street from the new building appear to be residential but are non-residential buildings owned by USM. Therefore, no buffers are required along Bedford Street.

Water Quality, Stormwater Management and Erosion Control (14-14.6.2(D))

The project is not located in an urban impaired stream watershed, there will be no on-site wastewater disposal, and it is not anticipated that the project will create any groundwater contamination during or post-construction.

The project will conform to the Maine DEP and City's requirements for stormwater management and erosion control as set forth in the DEP's Stormwater Management Rules (Chapter 500) and the City's Technical Manual. The project is also subject to the requirements associated with the Minor Amendment to USM's Site Location of Development Permit, bound separately in this Application Package.

The storm drainage system on the site will generally consist of a closed drainage system connected to the University's existing internal storm drain system and a underdrained subsurface sand filter that will collect and treat roof runoff form the building before discharging into the separated storm drain system beneath Bedford Street. Refer to the Stormwater Management Report, bound separately in this Application Package.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
Phone: (207) 469-7300 Fax: (207) 902-1588

In Reply Refer To:
Project Code: 2023-0015382
Project Name: USM CFA and Farmhouse

November 14, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

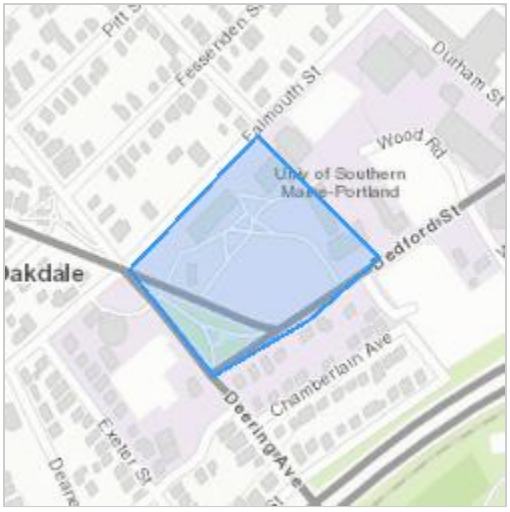
This species list is provided by:

Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
(207) 469-7300

Project Summary

Project Code: 2023-0015382
Project Name: USM CFA and Farmhouse
Project Type: Commercial Development
Project Description: Construction of Center for the Arts Building and Relocation of existing farmhouse
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.66184115,-70.27700297721564,14z



Counties: Cumberland County, Maine

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: Oak Point Associates
Name: Jonah DeWaters
Address: 231 Main Street
City: Biddeford
State: ME
Zip: 04005
Email jdewaters@oakpoint.com
Phone: 2078314728

JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

JUDITH CAMUSO
COMMISSIONER

November 14, 2022

Allison Dimatteo
Oak Point Associates
231 Main Street
Biddeford, ME 04005

RE: Information Request – USM Center for Performing Arts Project, Portland

Dear Allison:

Per your request received on November 10, 2022, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns within the vicinity of the *USM Center for Performing Arts* project in Portland.

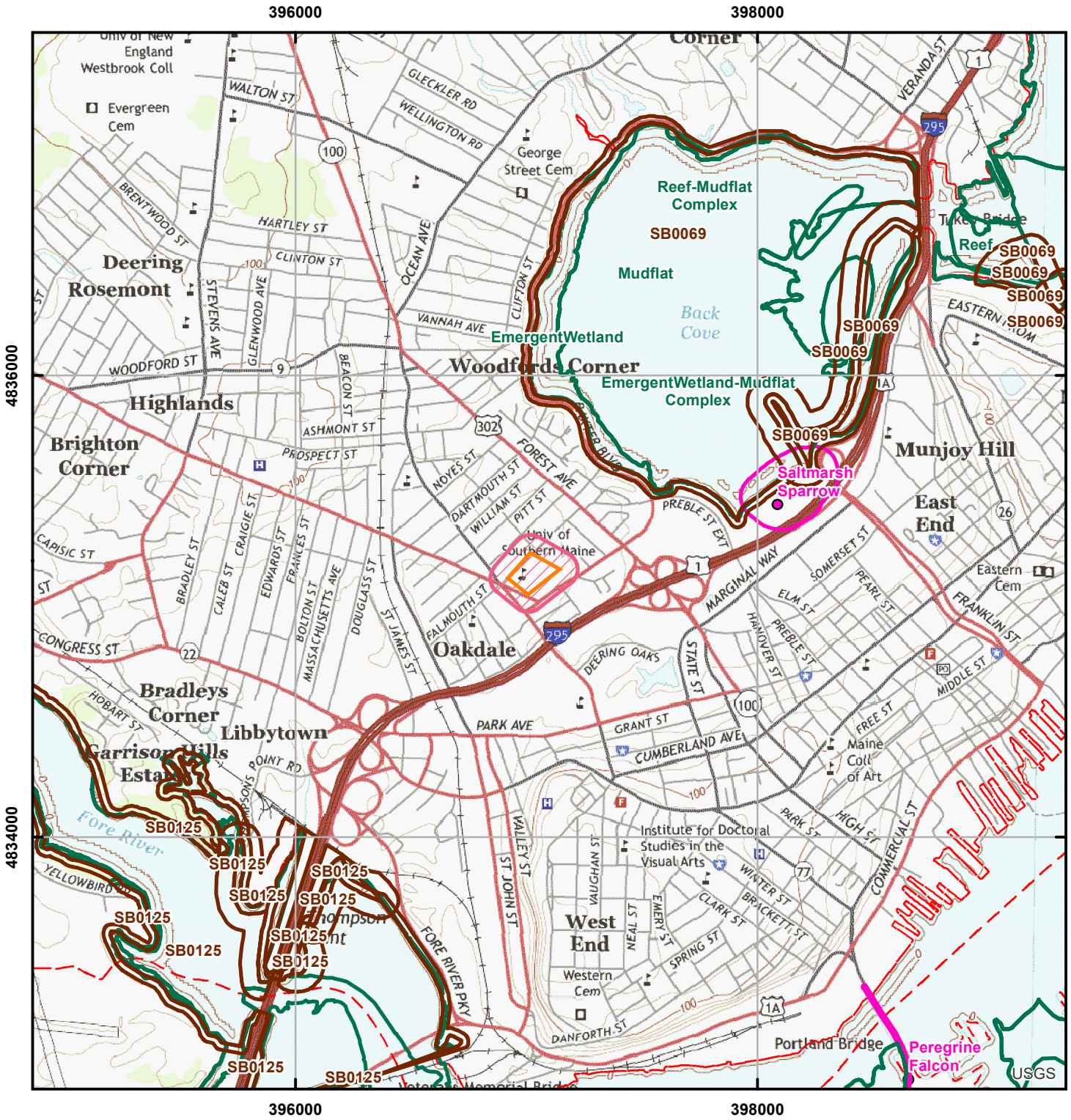
Our information indicates no locations of Endangered, Threatened, or Special Concern species within the project area that would be affected by your project. Additionally, our Department has not mapped any Essential or Significant Wildlife Habitats or inland fisheries habitats that would be directly affected by your project.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program, Maine Department of Marine Resources, and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

Becca Settele
Wildlife Biologist



Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: USM Center for Performing Arts, Portland (Version 1)

Miles

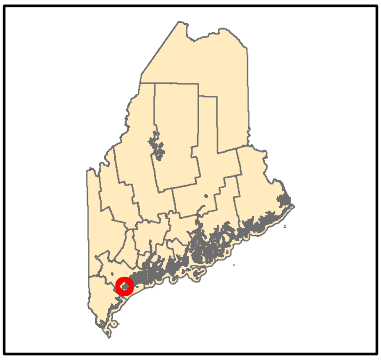
0 0.1250.25 0.5 0.75 1

Projection: UTM, NAD83, Zone 19N

Date: 11/15/2022

Maine Department of Inland Fisheries and Wildlife

- ProjectSearchAreas - All Versions
- Maine Cliff and Talus Areas
- Deer Winter Area
- LUPC p-fw
- Cooperative DWAs
- Seabird Nesting Islands
- Shorebird Areas
- Inland Waterfowl and Wading Bird
- 2008 Iwwh - Shoreland Zoning
- Tidal Waterfowl and Wading Bird
- Significant Vernal Pools
- Environmental Review Polygons
- Roseate Tern
- Piping Plover and Least Tern
- Aquatic ETSc - 2.5 mi review
- Rare Mussels - 5 mi review
- Maine Heritage Fish Waters
- Arctic Charr Habitat
- Redfin Pickerel and Swamp Darter Habitats - buffer100ft
- Special Concern occupied habitats - 100ft buffer
- Wild Lake Trout Habitats



Section 10 – Public Infrastructure and Community Safety Standards

The project has been designed to meet the City's Site Plan Review Standards. Compliance with the Environmental Standards (14-14.6.3) are summarized below:

Consistency with City Master Plans (14-14.6.3(A))
The proposed project is consistent with the City's Comprehensive Plan by supporting the growth of the University's campus and student body.

Public Safety and Fire Prevention (14-14.6.3(B))
The building will be visible from the surrounding streets and designed to be consistent with the overall aesthetic of the campus. Visibility both through and around the building will be accomplished through strategic use of glazing, internal and external lighting. Additional exterior lights are proposed on the sidewalks within the campus green to further enhance safety. Proposed exterior lighting will also conform to the City's requirements.

The building itself will be unlocked during normal school hours and events. Outside of these hours, keycard access will restrict unauthorized entry to the building.

Emergency vehicle access will be from the pull-off on Bedford Street that doubles as a passenger loading/unloading zone. No parking will be allowed in the pull-off. The building will also have an NFPA-compliant sprinkler system, with fire department connections on the Bedford Street side of the building.

Availability and Adequacy of Public Utilities (14-14.6.3(D))
The building will be connected to the existing water and gas infrastructure beneath Falmouth Street, building sewer and storm drainage lines will drain into the existing sanitary sewer and storm drain lines beneath Bedford Street, and electrical and communications service will be from USM's campus-wide electrical and communications infrastructure. Included in this application package are a letter indicating capacity to serve for natural gas service and a copy of the capacity application filed with the City of Portland from the Public Works Department. The project team has also worked closely with the Portland Water District on the design and layout of the water services and confirmation of their approval can be provided under separate cover, if requested. The points of connection and routing of the utilities are indicated on the drawings included with this application package.

Solid waste and recyclable materials produced at the building will be disposed of in accordance with State and City requirements.

Once the project is completed, trash receptacles will be located in a room within the building near the loading zone, with recyclable and non-recyclable material separated into different containers. External dumpsters are not being proposed. University maintenance staff will collect the trash daily and transport it to the McGoldrick Student Success Center where it will be placed into compactors (one for recycling and one for trash). Both trash and recycling are transported by Troiano Waste Services to the Ecomaine Facility in Portland, Maine.

October 6, 2022

Oak Point Associates
Attn: Jonah DeWaters, P.E.
231 Main St.
Biddeford, Maine 04005

Subject: University of Southern Maine “Farmhouse and “Center for the Arts building”, Portland, Maine
Re: Ability to Serve

Dear Jonah,

Thank you for your interest in using natural gas for the two above referenced projects.

This is to confirm that Unitil has natural gas on Falmouth St. in close proximity to the two proposed projects as shown on your plan and that the routing that you presented to us is acceptable. We don’t anticipate any issues servicing the two buildings. Once engineering has completed their study of the gas main and two services I can circle back with you.

If you have any further questions or require additional information, please contact me at 207-541-2543 or email at carpenters@unitil.com.

Sincerely,

Scott Carpenter

Scott Carpenter
Senior Business Development Representative
Unitil Corporation
Unitil
Northern Utilities, Inc.
(O) 207-541-2543

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

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

Date: 12/2/2022

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

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

Site Address: 111 Bedford Street, Portland

Chart Block Lot Number: 114A A001001

Proposed Use: Center for the Arts/Classroom Bldg
Previous Use: Vacant
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.
8" Sewer main beneath Bedford Street

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

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

2. Please, Submit Contact Information.

City Planner's Name: Kevin Kraft Phone: 207-874-8430
Owner/Developer Name: University of Southern Maine, C/O Alexander Porteous
Owner/Developer Address: 246 Deering Avenue, Portland, ME 04102
Phone: (207) 780-4497 Fax: E-mail: alexander.porteous@maine.edu
Engineering Consultant Name: Jonah DeWaters, PE (Oak Point Associates)
Engineering Consultant Address: 231 Main Street, Biddeford, ME 04005
Phone: (207) 283-0193 Fax: (207) 283-4283 E-mail: jdewaters@oakpoint.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 2,540 GPD
Peaking Factor/ Peak Times: Weekdays, Normal Business Hours (+/- 8am to 5pm)
Specify the source of design guidelines: *(i.e.__"Handbook of Subsurface Wastewater Disposal in Maine,"*
"*Plumbers and Pipe Fitters Calculation Manual," __ Portland Water District Records, __ Other (specify)*
Handbook of Subsurface Wastewater Disposal in Maine

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

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values: 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.

Flow Calculation (non-simultaneous use - uses do not occur at the same time)

USE 1 - Classroom use (Weekdays during normal business hours)

Code Flow (based on K-12 school use, no showers or cafeteria): 10 GPD per student, 12 GPD per staff

Student/Staff count: 230 Students, 20 Staff

Daily flow: 230 students x 10 GPD per student + 20 staff x 12 GPD per staff = **2,540 GPD**

USE 2 - Event use (Evenings/Weekends)

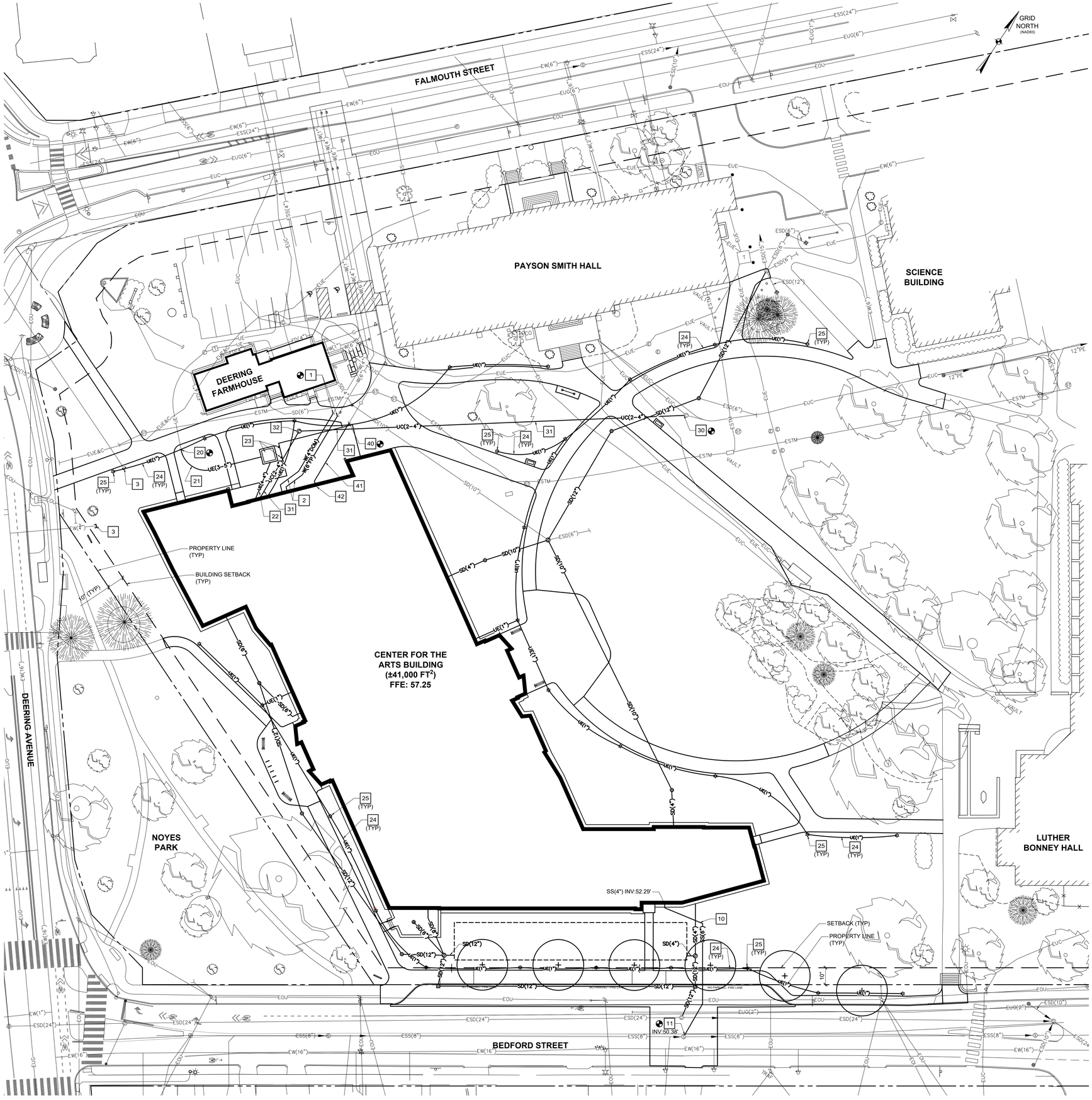
Code flow:
Assembly areas (no seats) = 2 GPD per person
Theater, Indoor = 5 GPD per seat plus 12 GPD per staff member

-Assembly space (Gallery) = 154 people

-Theater Space:
Performance Hall = 188 seats
Arts Lab (performance space) = 80 seats
Rehearsal Hall = 126 seats
Total Theater Seats = 394 Seats

Staff (assuming 5 staff per space) = 20 people

Daily Flow =
Assembly Space = 154 people x 2 GPD per person = 308 GPD
Theater Spaces = 394 seats x 5 GPD per seat = 1,970 GPD
Theater Staff = 5 staff x 12 GPD per staff = 60 GPD
Total Flow = **2,518 GPD**



1 CU101 UTILITY PLAN
SCALE: 1"=20'

NOTE: REFER TO SHEET CG101 FOR STORM DRAIN LINE INFORMATION.

GRAPHIC SCALE
20' 10' 0 20' 40'
1"=20'
CHECK GRAPHIC SCALE BEFORE USING

KEYNOTES: (THIS SHEET ONLY)

1. CONNECT WATER LINE TO CAPPED END OF EXISTING WATER LINES (INSTALLED AS PART OF FARMHOUSE RELOCATION PROJECT).
2. WATER LINE IN PIPE TRENCH. SEE DETAIL 1/C-503
3. REMOVE PORTION OF EXISTING WATER MAIN AS NECESSARY TO FACILITATE BUILDING CONSTRUCTION AND UTILITY INSTALLATION. PLUG END OF PIPE TO REMAIN.
4 - 9. NOT USED THIS SHEET.
10. SEWER LINE IN PIPE TRENCH. SEE DETAIL 1/C-503
11. CORE HOLE IN EXISTING SEWER MANHOLE AND CONNECT SANITARY SEWER LINE. SEE DETAIL 2/C-503 (SIM)
12 - 19. NOT USED THIS SHEET.
20. CONNECT TO CAPPED END OF EXISTING CONDUIT (INSTALLED AS PART OF FARMHOUSE RELOCATION PROJECT).
21. PRIMARY ELECTRICAL LINES IN CONDUIT TRENCH. SEE DETAIL 6/C-503
22. SECONDARY ELECTRICAL LINES IN CONDUIT TRENCH. SEE DETAIL 5/C-503
23. TRANSFORMER ON 9' SQUARE TRANSFORMER PAD. PROVIDE BOLLARDS BETWEEN TRANSFORMER AND EDGE OF PAVEMENT. SEE DETAILS 9/C-502 AND 7/C-503
24. UNDERGROUND LIGHTING LINE IN CONDUIT TRENCH. SEE DETAIL 5/C-503
25. PRECAST CONCRETE LIGHTPOLE BASE. SEE DETAIL 8/C-503
26 - 29. NOT USED THIS SHEET.
30. CORE HOLE IN EXISTING COMMUNICATIONS MANHOLE AND CONNECT COMMUNICATIONS CONDUIT.
31. COMMUNICATIONS LINES IN CONDUIT TRENCH. SEE DETAIL 5/C-503
32. COMMUNICATIONS SPLICE BOX. SEE DETAIL 4/C-503
33 - 39. NOT USED THIS SHEET.
40. EXPOSE CAPPED END OF EXISTING CONDUIT (INSTALLED AS PART OF FARMHOUSE RELOCATION PROJECT) FOR CONNECTION OF GAS MAIN (TO BE PERFORMED BY UNITIL. COORDINATE TIMING OF EXCAVATION AND CONNECTION WITH UNITIL.
41. GAS LINE IN PIPE TRENCH. PIPING AND CONNECTIONS BY UNITIL. COORDINATE TIMING OF EXCAVATION WITH UNITIL. SEE DETAIL 1/C-503
42. BUILDING-MOUNTED GAS REGULATOR AND METER (BY UNITIL) WITH TWO 6" SCHEDULE 40 STEEL BOLLARDS. SEE DETAIL 9/C-502

UNIVERSITY OF SOUTHERN MAINE
CENTER FOR THE ARTS
Portland, Maine
CBL: 114A,A001001 (ZONE R5 W/ USM OVERLAY)
Client:
University of Southern Maine
P.O. Box 9300
Portland, ME 04104

pfeiffer — A PERKINS EASTMAN STUDIO
PFEIFFER
700 SOUTH FLOWER STREET
SUITE 1150
LOS ANGELES, CA 90017
PHONE: 213.624.2775
FAX: 213.895.0923

OAK POINT ASSOCIATES — architecture engineering planning
OAK POINT ASSOCIATES
231 MAIN STREET
BIDDEFORD, ME 04005
PHONE: 207.283.0193
FAX: 207.283.4283

LANDSCAPE ARCHITECT/
CIVIL/ STRUCTURAL/ MEP ENGINEER
OAK POINT ASSOCIATES
231 MAIN STREET
BIDDEFORD, ME 04005
PHONE: 207.283.0193

THEATRICAL:
THEATRE PROJECTS
47 WATER STREET
SOUTH NORWALK, CT 06854
PHONE: 203.299.0835

ACOUSTICS/ AUDIO-VISUAL:
JAFFE HOLDEN
114A WASHINGTON STREET
NORWALK, CT 06854
PHONE: 203.838.4167

LIGHTING:
CLINE BETTRIDGE BERNSTEIN
116 EAST 27TH STREET, 4TH FLOOR
NEW YORK, NY 10016
PHONE: 212.741.3280

COST CONSULTANT:
VENUE
226 5TH AVE N, SUITE 705
ST PETERSBURG, FL 33701
PHONE: 727.498.1091

SEAL:

ISSUE NAME:

NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

UTILITY PLAN

SCALE: As indicated

CU101

PFEIFFER PARTNERS PROJECT NUMBER 6170.00

Section 11 – Site Design Standards

The project has been designed to meet the City's Site Plan Review Standards. Compliance with the Site Design Standards (14-14.6.4) are summarized below:

Massing, Ventilation and Wind Impact (14-14.6.4(A))
The building's massing has been designed to fit contextually within the University of Southern Maine's Portland Campus and surrounding City of Portland community. It is oriented to be parallel to the Bedford Street and Noyes Park property lines to maximize the size of the campus green to the north and create a more defined courtyard-style campus green ringed by Payson Smith Hall, Luther Bonney Hall and the proposed building. This location also provides substantial open space between existing buildings while complementing the surrounding landscape edges without impeding the existing wind climate or ventilation.

The building is a single story, but there are four double-height spaces: the central Gallery, Performance Hall, Arts Lab, and Rehearsal Hall. These spaces reflect greater than typical volumes, based on the needs for acoustics, performance technologies, and display in these spaces. These larger volume roofs have been shaped to bridge between the larger spaces and smaller teaching studio and support spaces. Roof-mounted HVAC units will be provided that have been strategically located over non-acoustically critical spaces. The units will be screened by parapet screen walls that are designed to protect the units, provide adequate ventilation and access, and provide screening from the view of public spaces and residential properties. Renderings demonstrating how the mechanical equipment will be screened from public views are included in the plans submitted with this application package.

Shadows (14-14.6.4(B))
The new building is designed to avoid the adverse impacts of shadows on publicly accessible open space in accordance with the shadow standards of the Technical Manual. Sun and shadow studies for various times throughout the year are included in the plans submitted with this application package.

Snow and Ice Loading (14-14.6.4(C))
Building roofs have been designed to prevent significant amounts of accumulated snow and ice from falling on adjacent properties and public space, and no roof has been designed to drain to the public way. The high gallery roof is sloped down away from perimeter edges with interior roof drains, and overflows onto adjacent roofs. The higher volume roofs are also sloped to adjacent roofs with interior drains. At the lower-level roofs, there will be interior roof drains with low level overflow. Interior roof drains flow into the stormwater treatment area between the building and Bedford Street.

View Corridors (14-14.6.4(D))
This standard is not applicable.

Historic Resources (14-14.6.4(E))

There are no historic resources on site. The existing farmhouse within the proposed building footprint is being relocated under a separate project in a way that is acceptable to the City's Historic Preservation Department.

Exterior Lighting (14-14.6.4(F))

Exterior lighting for this project includes building-mounted fixtures to illuminate entries, site lighting to illuminate pathways, and architectural accent lighting to illuminate select building features. Proposed exterior lighting is indicated on the included drawings. A Photometric Plan, details, and cutsheets for the proposed light fixtures are included in this section.

Architectural lighting has been strategically placed to accentuate the some of the building elements, particularly some of the overhangs on the side of the building facing Noyes Park, while minimizing light trespass beyond the building elements. Product data and a rendering of the lighted areas demonstrating how the building elements will be lit while controlling spillage onto other elements is also included in this section.

Meetings with representatives from the City revealed that the existing beech tree in Noyes park has a higher degree of sensitivity to excess artificial light. While the sidewalk between the building and the tree is being lit by pedestrian-scale lights for safety and to conform to City requirements and Illuminating Engineering Society (IES) standards, the following measures are being taken to reduce light trespass beyond the building or toward the beech tree:

- There are no artificial lights aimed, directed, are mounted near this tree.
- Any nearby exterior lighting is aimed to light the underside of the building soffits with a narrow beam. Any wall packs mounted on the building are full cutoff and directed downwards.
- The lighting within the nearby classrooms and gallery will not have any direct lighting aimed at the tree. In addition, the window glass will diminish the transmission of artificial light.
- The building's lights will be controlled by a combination timeclock/scheduling and occupancy sensors, allowing the classrooms and gallery lights turn off or dim during off-peak hours to minimize any glow from these areas. In addition, the classrooms closest to this tree can be on a different schedule from the other rooms as well to further minimize any possible glow.
- All light sources are LED with no UV.
- Light emanating from the building will generally be limited to soft, indirect lighting (bounce and reflected lighting from interior sources).

Noise and Vibration (14-14.6.4(G))

The building will be constructed to minimize the amount of interior noise that can be heard outside through the use of thick glazing and acoustical door assemblies. Further, exterior noise-producing

mechanical equipment will be minimal, and it will be mounted on the roof. The building will not have a standby generator.

Exceptions to this may include outdoor concerts and after-hours events, which will be in accordance with the City's written requirements. Further, USM has a strong relationship with the neighboring properties, which gives the neighbors the ability to communicate directly with University officials in the event they are dissatisfied with the noise levels.

Prior to occupancy, noise generated during construction activities will be in accordance with the City's noise requirements.

Signage and Wayfinding (14-14.6.4(H))

The project includes building-mounted fabricated dimensional lettering showing the building's address and building name, post-mounted pedestal-type street signs along the Bedford Street pull-off, and freestanding building signs facing Bedford Street and Deering Avenue. Information on these signs is included on the drawings included with this application package.

Zone-Related Design Standards (14-14.6.4(I))

Refer to Section 12 of this permit application package.

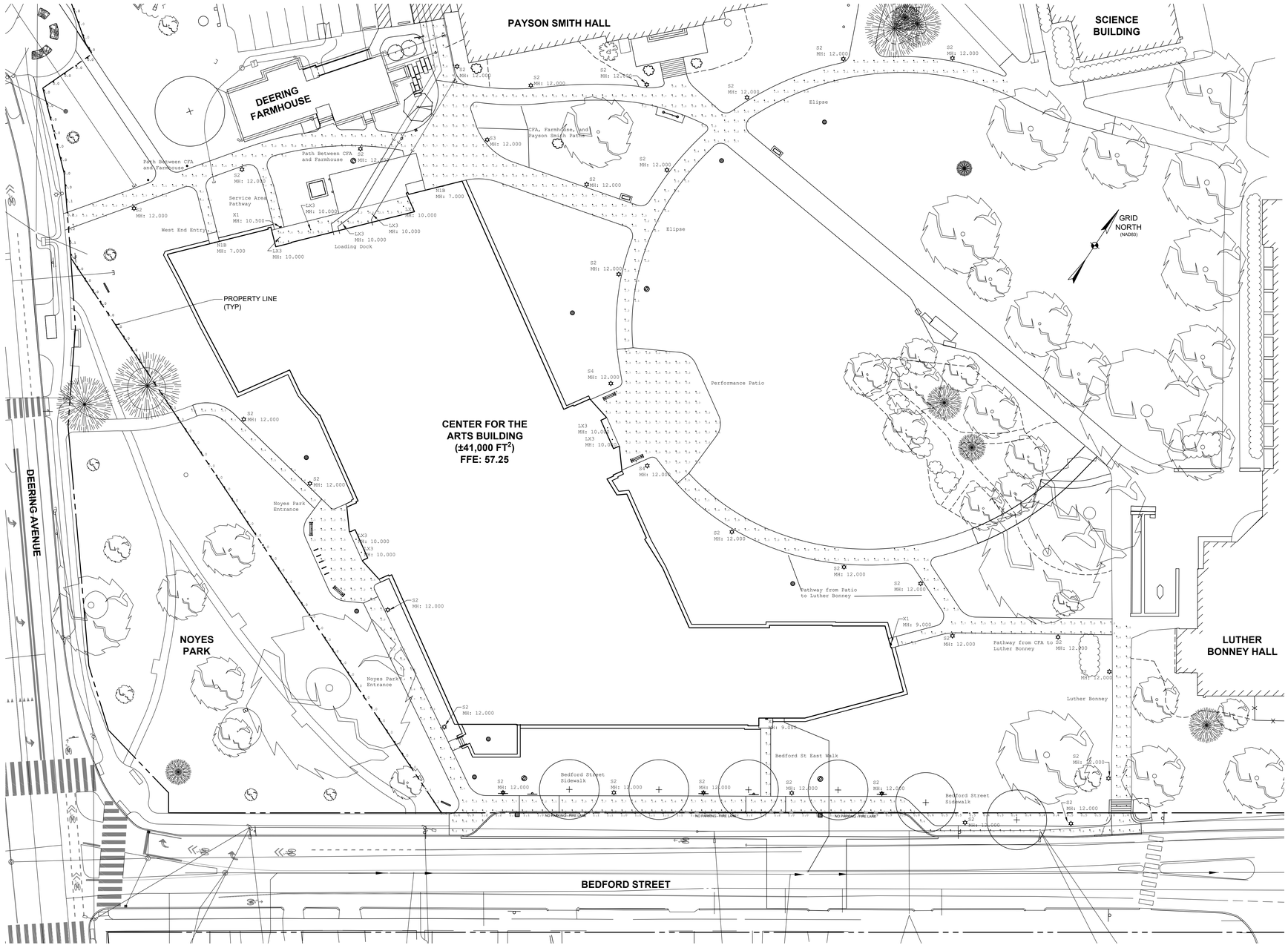
Appendix A – Photometric Plan and Site Lighting Information

Luminaire Schedule

LABEL	DESCRIPTION	LUM. LUMENS	LUMINAIRE WATTS	[MANUFAC]	CATALOG NUMBER	MOUNTING HEIGHT	MOUNTING TYPE	BUG RATING	LLF	FULL CUTOFF	CONTROLS
N1B	LINEAR, WALL MOUNT, LED	392	7.2	Nanometer Lighting	L18W-HO-30-14_76-8-XXX-XX	7	BUILDING WALL MOUNT	-	2.500	YES	PHOTOCELL/TIMECLOCK
S4	POST TOP, PEDESTRIAN SCALE SITE LED	3056	25	KIM LIGHTING	UR20-24L-25-3K7-4-PT	12	POLE MOUNT	B0-U0-G1	0.900	YES	PHOTOCELL/TIMECLOCK
S3	POST TOP, PEDESTRIAN SCALE SITE LED	3008	25	KIM LIGHTING	UR20-24L-25-3K7-3-PT	12	POLE MOUNT	B1-U0-G1	0.450	YES	PHOTOCELL/TIMECLOCK
S2	POST TOP, PEDESTRIAN SCALE SITE LED	2943	25	KIM LIGHTING	UR20-24L-25-3K7-2-PT	12	POLE MOUNT	B1-U0-G1	0.450	YES	PHOTOCELL/TIMECLOCK
X1	WALL MOUNT LED, WALLPACK	1024	20.5	BEGA	22360	9, 10.5	BUILDING WALL MOUNT	B1-U0-G0	0.900	YES	PHOTOCELL/TIMECLOCK
LX3	RECESSED, ROUND DOWNLIGHT, LED	1320	15.4	Visual Comfort & Co.	ENCL3RFD-930W - 15W - 40deg	10	BUILDING, RECESSED CANOPY MOUNT	B2-U0-G0	0.900	YES	PHOTOCELL/TIMECLOCK

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	Notes
Bedford St East Walk	Illuminance	Fc	0.64	2.0	0.1	6.40	20.00	
Bedford Street Sidewalk	Illuminance	Fc	1.37	2.2	0.2	6.85	11.00	
CFA Farmhouse Payson Paths	Illuminance	Fc	1.08	3.1	0.2	5.40	15.50	
Elispe	Illuminance	Fc	1.31	2.1	0.4	3.28	5.25	
Loading Dock	Illuminance	Fc	8.69	18.5	1.0	8.69	18.50	IES RECOMMENDATION FOR LOADING DOCK IS 10FC.
Luther Bonney	Illuminance	Fc	1.37	1.7	1.0	1.37	1.70	
Noyes Park Entrance	Illuminance	Fc	1.06	3.4	0.2	5.30	17.00	
Path Between CFA and Farmhouse	Illuminance	Fc	1.14	2.0	0.3	3.80	6.67	
Pathway from CFA to Luther Bonne	Illuminance	Fc	1.47	3.3	0.9	1.63	3.67	
Pathway from Patio to Luther Bon	Illuminance	Fc	1.35	2.1	0.7	1.93	3.00	
Performance Patio	Illuminance	Fc	1.37	4.5	0.3	4.57	15.00	
Property Line	Illuminance	Fc	0.31	1.4	0.0	N.A.	N.A.	
Service Area Pathway	Illuminance	Fc	0.89	2.8	0.2	4.45	14.00	
West End Entry	Illuminance	Fc	0.83	2.4	0.2	4.15	12.00	



1 ES101 PHOTOMETRIC PLAN
SCALE: 1"=20'

GRAPHIC SCALE
20' 10' 0 20' 40'
1"=20'
CHECK GRAPHIC SCALE BEFORE USING

DRAWING NOTE

1. MH = MOUNTING HEIGHT.

UNIVERSITY OF SOUTHERN MAINE
CENTER FOR THE ARTS
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CBL: 114A A001001 (ZONE RS W/ USM OVERLAY)
Client:
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ST PETERSBURG, FL 33701
PHONE: 727.498.1091

SEAL:
STATE OF MAINE — DALE C. LINCOLN, II — No. 10443 — 11/1/22 — LICENSED PROFESSIONAL ENGINEER

ISSUE NAME:

NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

PHOTOMETRIC PLAN 1

SCALE: As indicated

ES101

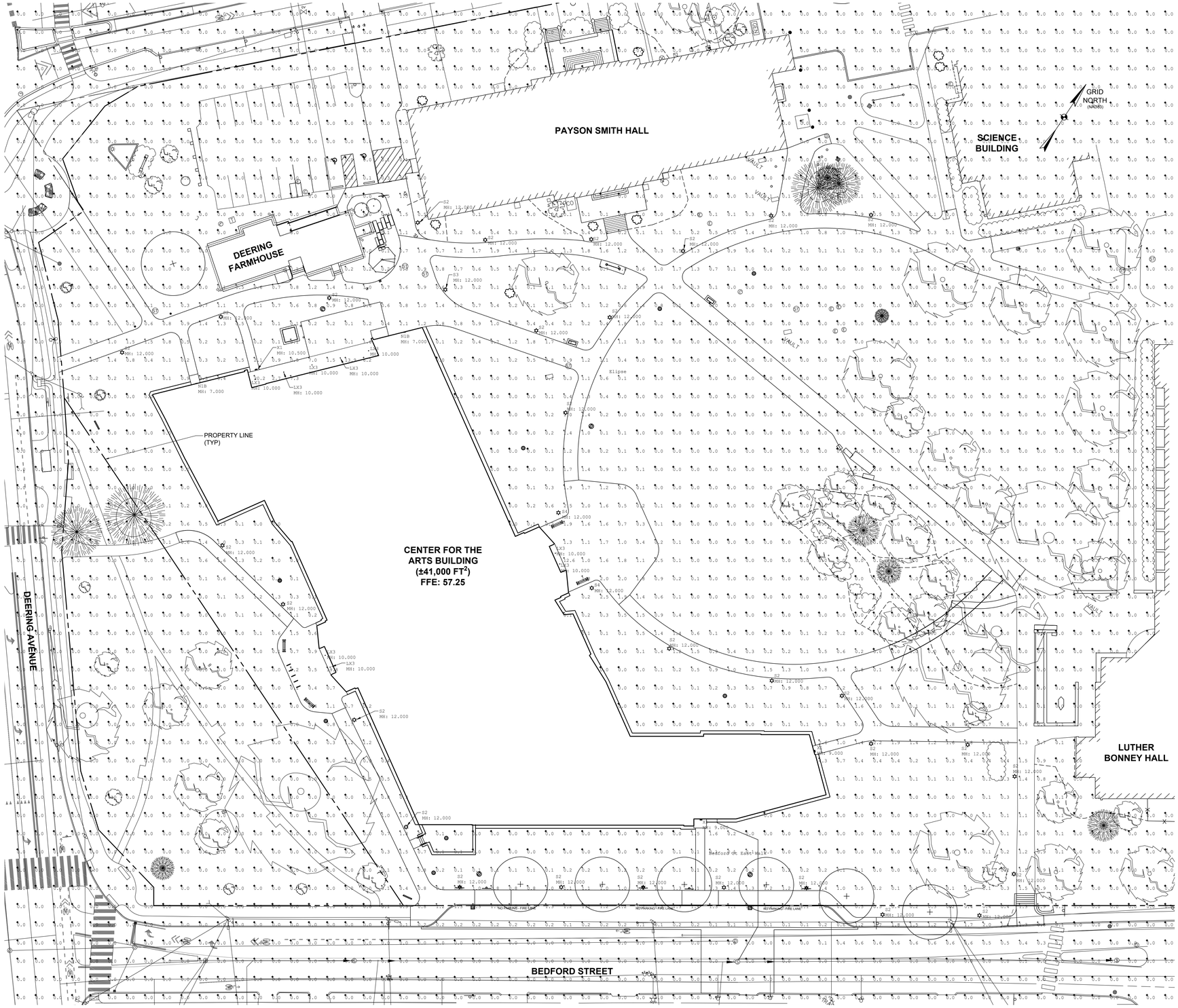
PFEIFFER PARTNERS PROJECT NUMBER 6170.00

Luminaire Schedule

LABEL	DESCRIPTION	LUM. LUMENS	LUMINAIRE WATTS	[MANUFAC]	CATALOG NUMBER	MOUNTING HEIGHT	MOUNTING TYPE	BUG RATING	LLF	FULL CUTOFF	CONTROLS
N1B	LINEAR, WALL MOUNT, LED	392	7.2	Nanometer Lighting	L18W-HO-30-14_76-8-XXX-XX	7	BUILDING WALL MOUNT	-	2.500	YES	PHOTOCELL/TIMECLOCK
S4	POST TOP, PEDESTRIAN SCALE SITE LED	3056	25	KIM LIGHTING	UR20-24L-25-3K7-4-PT	12	POLE MOUNT	B0-U0-G1	0.900	YES	PHOTOCELL/TIMECLOCK
S3	POST TOP, PEDESTRIAN SCALE SITE LED	3008	25	KIM LIGHTING	UR20-24L-25-3K7-3-PT	12	POLE MOUNT	B1-U0-G1	0.450	YES	PHOTOCELL/TIMECLOCK
S2	POST TOP, PEDESTRIAN SCALE SITE LED	2943	25	KIM LIGHTING	UR20-24L-25-3K7-2-PT	12	POLE MOUNT	B1-U0-G1	0.450	YES	PHOTOCELL/TIMECLOCK
X1	WALL MOUNT LED, WALLPACK	1024	20.5	BEGA	22360	9, 10.5	BUILDING WALL MOUNT	B1-U0-G0	0.900	YES	PHOTOCELL/TIMECLOCK
LX3	RECESSED, ROUND DOWNLIGHT, LED	1320	15.4	Visual Comfort & Co.	ENCL3RFD-930W - 15W - 40deg	10	BUILDING, RECESSED CANOPY MOUNT	B2-U0-G0	0.900	YES	PHOTOCELL/TIMECLOCK

DRAWING NOTE

1. MH = MOUNTING HEIGHT.



1 ES102 PHOTOMETRIC PLAN
SCALE: 1"=20'

GRAPHIC SCALE
20' 10' 0 20' 40'
1"=20'
CHECK GRAPHIC SCALE BEFORE USING

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COST CONSULTANT:
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PHONE: 727.498.1091

SEAL:
STATE OF MAINE
DALE C. LINCOLN, II
No. 10443
LICENSED PROFESSIONAL ENGINEER

ISSUE NAME:

NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

PHOTOMETRIC PLAN 2

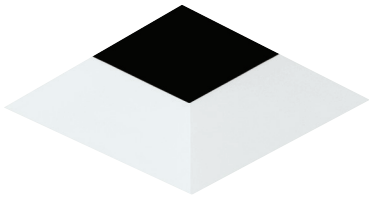
SCALE: As indicated

ES102

PFEIFFER PARTNERS PROJECT NUMBER 6170.00

TECH LIGHTING

ELEMENT™ 3" LED
FIXED DOWNLIGHT



SHOWN IN FLANGELESS BEVEL SQUARE

The ELEMENT 3" Next Generation Fixed recessed downlight features a patented high/low lamp positioning which allows the LED to be positioned closer to the aperture for maximum light output and efficiency or higher in the ceiling to minimize glare and flash on the trim. LED options include premium warm dimming, tunable white, Xicato and Xicato Artist Series. Trim options include flanged or flangeless and flangeless in wood ceiling.

- Housing reduced by 60%
- Patented high/low lamp positioning
- 2-step standard
- Standard dimming down to 1%
- Trim reflector options
- Solite Soft Focus lens option

LUMEN MULTIPLIER (CRI/CCT)

CCT	80 CRI MULTIPLIER	90 CRI MULTIPLIER
2700K	0.95	0.80
3000K	1.00	0.85
3500K	1.05	0.90

Lumen output will vary by CCT and CRI.
See photometric charts for output information.

SPECIFICATIONS

	STATIC WHITE		XICATO		WARM DIM		TUNABLE WHITE	
	HIGH OUTPUT	LOW OUTPUT	STANDARD SERIES	ARTIST SERIES	HIGH OUTPUT	LOW OUTPUT	HIGH OUTPUT (5000K)	HIGH OUTPUT (4000K)
DELIVERED LUMENS	1800/1450	1319/1124	1129	945	1300	900	1272	1150
WATTS	17	12	15	15	17	12	18	18
EFFICACY	106/85	110/94	75	63	76	75	72	64
CRI	80+/90+		80+	95+	90+		90+	
CBCP	10° - 19,414 | 18° - 5,848 25° - 5,416 | 40° - 3,230 60° - 2,305		21° - 3,184 43° - 2,733 60° - 1,014		18° - N/A | 25° - N/A | 40° - 1,622 | 60° - N/A			
CCT	2700K, 3000K, or 3500K		2700K, 3000K, or 3500K[3]		3000K - 1800K		5000K - 2700K	4000K - 1800K
COLOR CONSISTENCY	2-step		1 X 2-step		3-step		2-step	
VOLTAGE	120V or 277V							
DIMMING[1]	Standard reverse-phase, forward-phase, TRIAC, and 0-10V dimming (down to 1%) eldoLED 0-10V or DALI-2 (down to 0.1%) Lutron has placed their LTEA (2-Wire) and 0.1% PEQ eco drivers on indefinite hold. Please consult Factory for alternative Lutron drivers (e.g. LDE 1%) or other driver solutions.						eldoLED 0-10V or DALI-2 (down to 0.1%)	
POWER SUPPLY	Constant current driver with +.9 power factor and +80% efficiency							
OPTICS	Field changeable: 10°, 18°, 25°, 40°, or 60° TIR		Field changeable: 21°, 43°, or 60° Reflector		Field changeable: 18°, 25°, 40°, or 60° TIR			
ADJUSTABILITY	High/low lamp positioning; 45° collar rotation							
CEILING APPEARANCE	Flanged, flangeless or flangeless in wood ceiling							
CEILING THICKNESS	Flanged: Up to 2-1/2" Flangeless: No ceiling thickness limitations | Flangeless in wood ceiling: 1/2" to 1-1/2" Note: Thicker ceilings impact light cutoff							
CEILING APERTURE	3-7/8" ceiling cutout							
HOUSING	IC Airtight, Non-IC Airtight, Chicago Plenum. IC suitable up to R60 spray foam insulation. Sauna/Steam-room use available only with combination of H Shower trim, LO Low Output housing, and I IC housing rating.							
CONSTRUCTION	Housing: Heavy-Gauge, Cold-Rolled Steel | Trim: Die-Cast Aluminum							
FINISH	Housing: Black powder coat | Trim: Antique Bronze, Black, Satin Nickel, or White (paintable)							
GENERAL LISTINGS	ETL Listed. Damp Location. Shower version Wet Listed.							
CALIFORNIA TITLE 24	Registered CEC Appliance Database. Can be used to comply with CEC 2019 Title 24 Part 6 (JA8-2016, JA8-2019) (for 90 CRI versions).							
L70	50,000 hours min							
WARRANTY[2]	5 years							

Data in chart reflect 3000K/80 CRI values unless noted.
Custom output/custom RAL/custom CCT available, contact Quotes Department
Ordering grids available on page 2.
Accepts two optical controls and an optional trim-mounted lens.
[1]See ELEMENT-Lighting.com for dimmer compatibility.
[2]Visit ELEMENT-Lighting.com for specific warranty limitations and details.
[3]3500K Xicato module not available for Artist series.

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UPDATED 10/31/22

ELEMENT™ 3" LED
FIXED DOWNLIGHT

ORDERING GRIDS

HOUSING

PRODUCT	CEILING APPEARANCE	OUTPUT	LAMP	BEAM SPREAD	FUNCTION	HOUSING RATING	DRIVER
E3R ELEMENT 3" ROUND **E3S** ELEMENT 3" SQUARE	**LF** FLANGELESS **FF** FLANGED **WC** WOOD CEILING[1]	**-LH** HIGH OUTPUT, 17W[2] **-LO** LOW OUTPUT, 12W[3]	**827** 80 CRI, 2700K, 2-STEP **830** 80 CRI, 3000K, 2-STEP **835** 80 CRI, 3500K, 2-STEP **927** 90 CRI, 2700K, 2-STEP **930** 90 CRI, 3000K, 2-STEP **935** 90 CRI, 3500K, 2-STEP **WD** 90 CRI, 3000-1800K, WARM DIM, 3-STEP **TW52** 90 CRI, 5000K-2700K, TUNABLE WHITE, 2-STEP[4] **TW41** 90 CRI, 4000K-1800K, TUNABLE WHITE, 2-STEP[4]	**0** 10°[5] **1** 18° **2** 25° **4** 40° **6** 60°	**D** DOWNLIGHT	**I** IC AIRTIGHT **N** NON-IC AIRTIGHT **C** CHICAGO PLENUM	**INTEGRATED DRIVERS 120V/277V** UNIVERSAL PHASE/0-10V 1% (LEAVE BLANK)[6] **-ELD0** ELDOLED 0.1% 0-10V LINEAR[7] **-ELD0A** ELDOLED 0.1% 0-10V LOGARITHMIC[7] **-ELDD** ELDOLED 0.1% DALI-2[7] **-ELT0** ELDOLED TUNABLE WHITE 0.1% 0-10V LINEAR[4,7] **-ELTD** ELDOLED TUNABLE WHITE 0.1% DALI-2[4,7]
		-X XICATO, HIGH OUTPUT, 14W[8]	**I27** 80 CRI, 2700K, 1X2-STEP, XICATO **I30** 80 CRI, 3000K, 1X2-STEP, XICATO **I35** 80 CRI, 3500K, 1X2-STEP, XICATO **A27** 95 CRI, 2700K, 1X2-STEP, XICATO ARTIST **A30** 95 CRI, 3000K, 1X2-STEP, XICATO ARTIST	**21** 21° XICATO **43** 43° XICATO **60** 60° XICATO			
		-			D		

Trims are required and must be ordered separately.
For dimming details, refer to dimmer compatibility chart.

Lutron has placed their LTEA (2-Wire) and 0.1% PEQ eco drivers on indefinite hold. Please consult Factory for alternative Lutron drivers (e.g. LDE 1%) or other driver solutions.

[1]WC - Wood ceiling option accommodates flangeless trims only.
[2]LH - High output available for wet applications. Not available for sauna/steam-room.
[3]LO - Sauna/steam-room use available only with combination of H shower trim, LO low output housing, and I IC housing rating.
[4]TW52/TW41/ELT0/ELTD - Tunable white only available in high output, only available with ELT0 (0-10V, linear), or ELTD (DALI-2). For 0-10V logarithmic dimming consult Quotes Department.
[5]0 - 10° optic has a unique LED module not available with warm dim or tunable white. Changing optics to 18°, 25°, 40° or 60°, will require a new LED module.
[6]Universal dimming is reverse-phase, forward-phase, TRIAC and 0-10V. 277V is only compatible with 0-10V dimming.
[7]EldoLED drivers not compatible with round flangeless (E3RLF) or round wood ceiling (E3RWC) housings.
[8]X - Xicato housings utilize dedicated standard phase, 0-10V, 120V and 277V drivers. If ordering Xicato with standard drivers (non-Lutron or eldoLED), at the end of the item number please specify: **-010** for 0-10V 120V, **-277** for phase 277V or **-010-277** for 0-10V 277. For example: E3RLF-XA2743DI**-010** or E3RLF-XA2743DI**-277** or E3RLF-XA2743DI**-010-277**. Due to the size of some of the Xicato Reflectors, it may not be feasible to tilt the fixture in the 'low' position. It is still tiltable in the 'high' position.

TRIM

PRODUCT	CEILING APPEARANCE	STYLE	APERTURE	FINISH
E3R ELEMENT 3" ROUND **E3S** ELEMENT 3" SQUARE	**L** FLANGELESS **F** FLANGED UP TO 1" CEILING THICKNESS **F15** FLANGED 1.1"-1.5" CEILING THICKNESS **F20** FLANGED 1.6"-2.0" CEILING THICKNESS **F25** FLANGED 2.1"-2.5" CEILING THICKNESS	**B** BEVEL **F** FLAT	**-O** NO LENS **-H** SHOWER[1,2] **-L** LENSED[2]	**Z** ANTIQUE BRONZE **B** BLACK **S** SATIN NICKEL **W** WHITE
			-	

Wood ceiling option accommodates flangeless trims only.
[1]H - Sauna/steam-room use available only with combination of H shower trim, LO low output housing, and I IC housing rating.
[2]H, L - Lensed products come with Solite Soft Focus lens.

FROSTED BOROSILICATE LENS KIT

PRODUCT	
240E3SBLSP-B	BOROSILICATE LENS KIT | E3 SQUARE BEVEL TRIM
240E3SQLSP-B	BOROSILICATE LENS KIT | E3 SQUARE FLAT TRIM
240E3RBLSP-B	BOROSILICATE LENS KIT | E3 ROUND BEVEL TRIM
240E3RDLSP-B	BOROSILICATE LENS KIT | E3 ROUND FLAT TRIM

Includes frosted borosilicate lens, lens spring, and screws to mount to ELEMENT 3" trim.

PLASTER PLATES

PRODUCT	
150E3RPPLT-A	3" PLASTER PLATE | ROUND DIE-CAST METAL[1]
150E3SPPLT-A	3" PLASTER PLATE | SQUARE DIE-CAST METAL[1]
150E3RTPPLT-W	3" PLASTER PLATE | ROUND SHEET METAL[2]
150E3STPPLT-W	3" PLASTER PLATE | SQUARE SHEET METAL[2]

Plaster plates are used to convert flanged housings into flangeless housings.
[1]Ships standard with flangeless housings. Round not compatible with Lutron Hi-lume or eldoLED drivers.
[2]Optional, thinner, meshed sheet-metal mud plates available for minimized plaster feathering to meet installer preference. Round not compatible with Lutron Hi-lume or eldoLED drivers. Square not compatible with eldoLED drivers.

PREMIUM LENS HOLDER

PRODUCT	LENSES
240E3LENSHLDR	**1** ONE LENS **2** TWO LENSES

240E3LENSHLDR

Provides more secure mounting of additional lenses than the lens holder that ships with each fixture.
Not compatible with the 10° beam spread.

REPLACEMENT OPTICS

PRODUCT	BEAM SPREAD
353E4LEDCOPT	**18** 18° **25** 25° **40** 40° **60** 60°

353E4LEDCOPT

LENSES / LOUVERS[1]

PRODUCT	
140MR16SF	SOLITE SOFT FOCUS LENS
140MR16SB	SANDBLASTED LENS
140MR16LL	LINEAR SPREAD LENS
140MR16DF	DIFFUSER SPREAD LENS
EL2RHCBK	EGGCRATE/HEXCELL LOUVER

[1]For additional lenses, louvers, optical controls and accessories, reference ELEMENT-lighting.com/Products/Accessories. ELEMENT allows up to two lenses or louvers per fixture.

REPLACEMENT REFLECTORS[1]

PRODUCT	BEAM SPREAD
352LEDXREF	**21** 21° **43** 43° **60** 60°

352LEDXREF

[1]For use with Xicato modules only.

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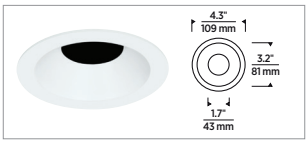
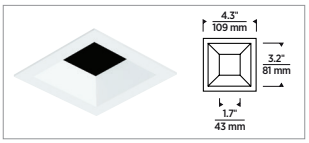
ELEMENT™ 3" LED
FIXED DOWNLIGHT

TRIMS

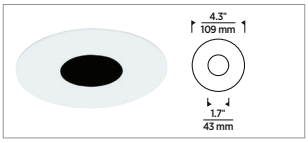
FLANGED



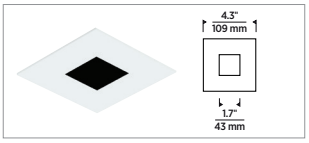
ROUND BEVEL



SQUARE BEVEL

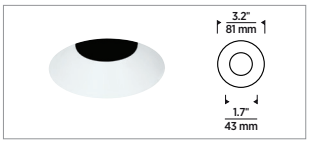


ROUND FLAT

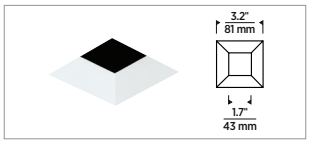


SQUARE FLAT

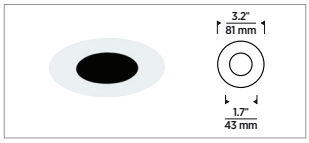
FLANGELESS



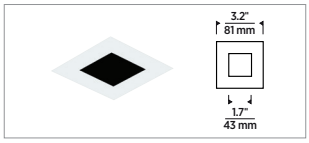
ROUND BEVEL



SQUARE BEVEL



ROUND FLAT



SQUARE FLAT

FINISH

ANTIQUE BRONZE

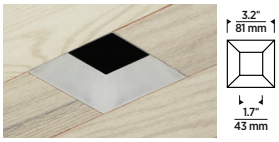
BLACK

SATIN NICKEL

WHITE (PAINTABLE)

FLANGELESS IN WOOD CEILING

ROUND BEVEL (ANTIQUE BRONZE)



SQUARE BEVEL (SATIN NICKEL)

ROUND FLAT (ANTIQUE BRONZE)

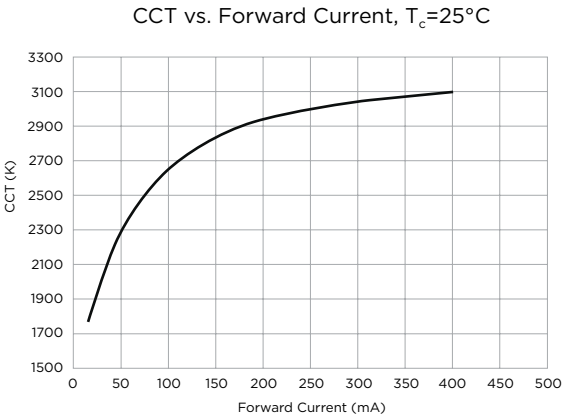
SQUARE FLAT (SATIN NICKEL)

LENS OPTION

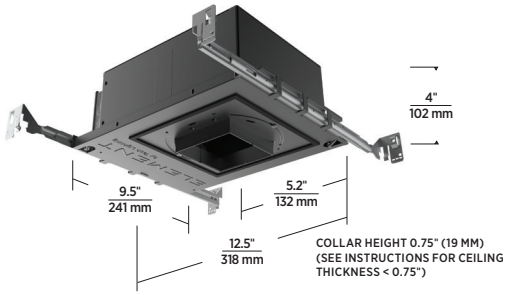
SHOWN WITH AND WITHOUT A LENS (SQUARE FLANGED BEVEL)

SHOWN WITH AND WITHOUT A LENS (ROUND FLANGELESS BEVEL)

WARM DIM CURVE



HOUSING



IC AIRTIGHT / NON-IC AIRTIGHT / CHICAGO PLENUM

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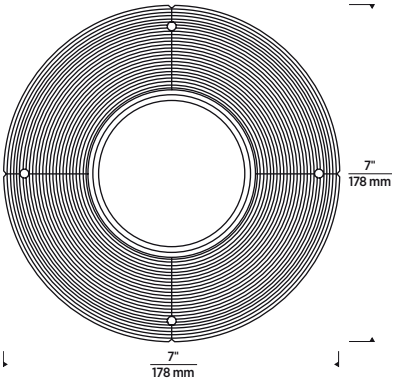
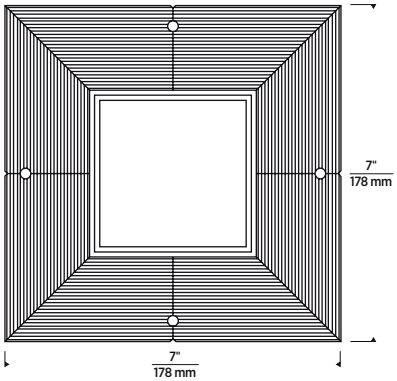
ELEMENT™ 3" LED
FIXED DOWNLIGHT

PLASTER PLATES

INCLUDED DIE-CAST

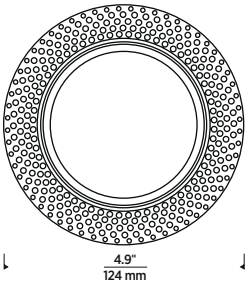


ROUND DIE-CAST (INCLUDED FOR FLANGELESS INSTALLATION)

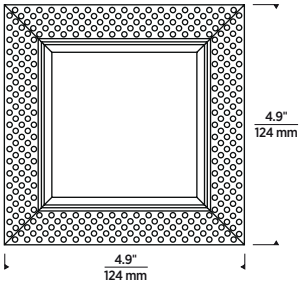


SQUARE DIE-CAST (INCLUDED FOR FLANGELESS INSTALLATION)

OPTIONAL SHEET METAL

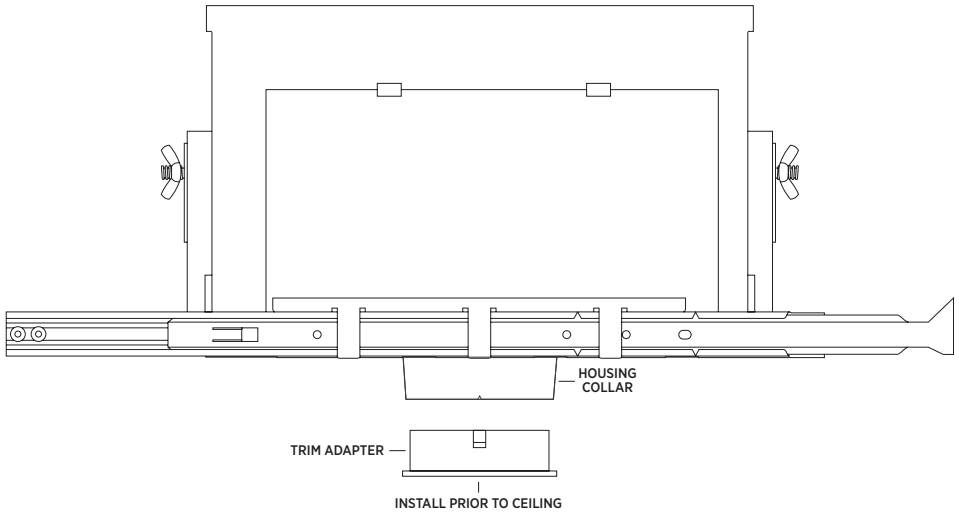


ROUND SHEET METAL (OPTIONAL FOR FLANGELESS INSTALLATION)

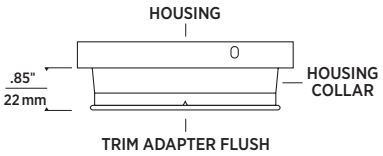


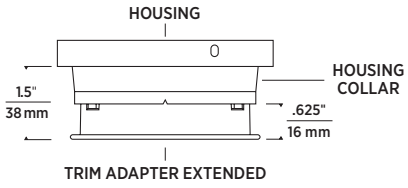
SQUARE SHEET METAL (OPTIONAL FOR FLANGELESS INSTALLATION)

FLANGELESS IN WOOD CEILING TRIM ADAPTER



TRIM ADAPTER INSTALLED





Wood ceiling housings ("WC" designation in the ordering grid) ship with an adjustable trim adapter that inserts into the housing aperture and allows standard ELEMENT 3" flangeless trims to achieve a truly flangeless, flush ceiling appearance in special applications such as wood or stone installation. For use in new construction. Consult installation instructions regarding plenum requirements and ceiling thickness ratios.

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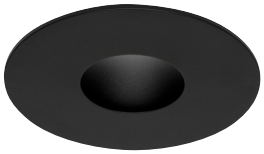
ELEMENT™ 3" LED
FIXED DOWNLIGHT

TRIM-MOUNTED REFLECTORS

ELEMENT Specular Reflectors reduce glare while creating a clean, quiet ceiling appearance. Available finishes include Anodized Silver for a decorative accent or Anodized Black for an ultimate quite ceiling aesthetic. These beautiful trim accessories have been specifically designed to minimize any effect on light performance, color and output. Specular Reflectors are available for both adjustable and fixed downlights and are compatible with ELEMENT 3" trims and housings.

- Can be easily installed or removed
- Assembles to existing trim
- Compatible with fixed and adjustable housings
- Finish Options: Anodized Black (B) or Anodized Silver (S)



SHOWN IN ANODIZED BLACK
(BELOW CEILING VIEW)

SHOWN IN ANODIZED SILVER
(BELOW CEILING VIEW)

SHOWN IN ANODIZED SILVER
(BELOW CEILING VIEW)

SHOWN IN ANODIZED BLACK
(TRIM MOUNTED)

SPECIFICATIONS

COMPATIBLE TRIMS		NON-SLOTTED (FOR FIXED)
	3" round, flanged, bevel	**E3TREFNS1 (B OR S)**
	3" square, flanged, bevel	**E3TREFNS5 (B OR S)**
	3" round, flanged, flat	**E3TREFNS1 (B OR S)**
	3" square, flanged, flat	**E3TREFNS3 (B OR S)**
	3" round, flangeless, bevel	**E3TREFNS2 (B OR S)**
	3" square, flangeless, bevel	**E3TREFNS6 (B OR S)**
	3" round, flangeless, flat	**E3TREFNS4 (B OR S)**
	3" square, flangeless, flat	**E3TREFNS3 (B OR S)**

May require lamp to be placed in high position.
Not compatible with lensed trims.

SHOWN IN ANODIZED BLACK AND
SILVER (REFLECTOR ONLY)

ORDERING GRID

E3 TRIM-MOUNTED REFLECTORS

PRODUCT	STYLE	FINISH
E3TREF	**NS1** NON-SLOTTED	**B** ANODIZED BLACK
	NS2 NON-SLOTTED	**S** ANODIZED SILVER
	NS3 NON-SLOTTED	
	NS4 NON-SLOTTED	
	NS5 NON-SLOTTED	
	NS6 NON-SLOTTED	

E3TREF

Reflectors are placed on top of the inside of the trim or affixed via screws (only if provided).

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ELEMENT™ 3" LED
FIXED DOWNLIGHT

PHOTOMETRICS

Description:	3" LED Module 10° Beam - 0° Tilt, 80 CRI, 3000K
Model:	E3 Citizen LED
Input Power (Watts):	16.3
Input Power Factor:	0.98
Absolute Luminous Flux (Lumens):	1337
Lumen Efficacy (Lumens per Watt):	82

Description:	3" LED Module 18° Beam - 0° Tilt, 80 CRI, 3000K
Model:	E3 Citizen LED
Input Power (Watts):	18.1
Input Power Factor:	0.98
Absolute Luminous Flux (Lumens):	1598
Lumen Efficacy (Lumens per Watt):	88.1

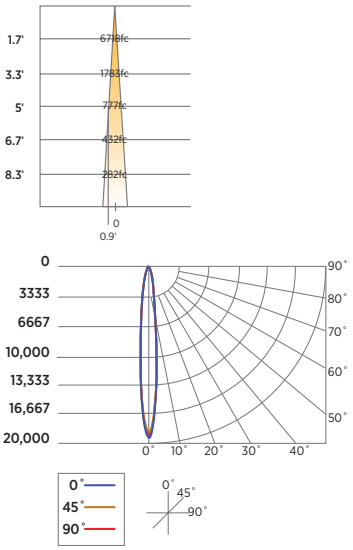
Description:	3" LED Module 25° Beam - 0° Tilt, 80 CRI, 3000K
Model:	E3 Citizen LED
Input Power (Watts):	18.3
Input Power Factor:	0.98
Absolute Luminous Flux (Lumens):	1754
Lumen Efficacy (Lumens per Watt):	95.5

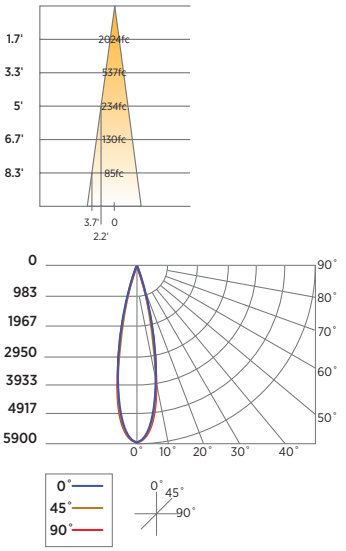
Output difference between CCTs - 5%, CRIs - 15%.

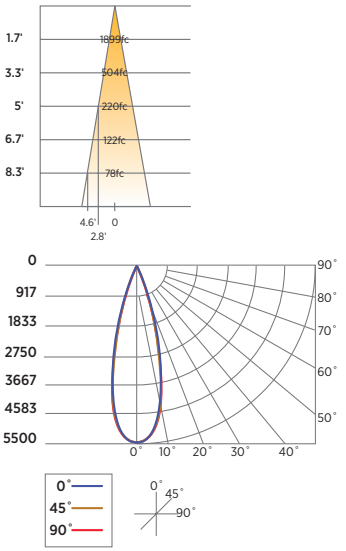
ANGLE	0°	45°	90°
0°	19414	19414	19414
5°	10254	10254	10254
10°	3511	3511	3511
15°	1342	1342	1342
20°	383	383	383
25°	126	126	126
30°	84	84	84
35°	54	54	54
40°	31	31	31
45°	22	22	22
50°	18	18	18
55°	11	11	11
60°	6	6	6
65°	3	3	3
70°	2	2	2
75°	0	0	0
80°	0	0	0
85°	0	0	0
90°	0	0	0

ANGLE	0°	45°	90°
0°	5848	5848	5848
5°	5500	5478	5491
10°	3919	3944	3905
15°	2103	2212	2149
20°	1058	1199	1075
25°	507	548	508
30°	250	237	250
35°	148	140	141
40°	93	98	94
45°	51	69	61
50°	33	46	37
55°	21	27	24
60°	4	15	10
65°	2	3	2
70°	2	2	2
75°	0	0	0
80°	0	0	0
85°	0	0	0
90°	0	0	0

ANGLE	0°	45°	90°
0°	5422	5416	5427
5°	4916	4872	4888
10°	3800	3718	3721
15°	2040	2115	2016
20°	870	979	900
25°	400	441	414
30°	190	190	196
35°	103	103	105
40°	60	65	61
45°	27	43	31
50°	16	25	17
55°	7	12	7
60°	2	5	2
65°	2	2	2
70°	1	1	2
75°	0	0	0
80°	0	0	0
85°	0	0	0
90°	0	0	0







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ELEMENT™ 3" LED
FIXED DOWNLIGHT

PHOTOMETRICS

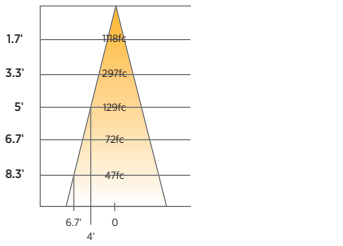
Description:	3" LED Module 40° Beam - 0° Tilt, 80 CRI, 3000K
Model:	E3 Citizen LED
Input Power (Watts):	16.9
Input Power Factor:	0.98
Absolute Luminous Flux (Lumens):	1774
Lumen Efficacy (Lumens per Watt):	104.6

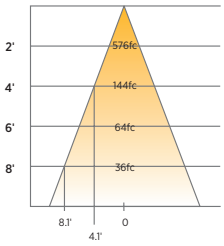
Description:	3" LED Module 60° Beam - 0° Tilt, 80 CRI, 3000K
Model:	E3 Citizen LED
Input Power (Watts):	18.4
Input Power Factor:	0.98
Absolute Luminous Flux (Lumens):	1536
Lumen Efficacy (Lumens per Watt):	83.5

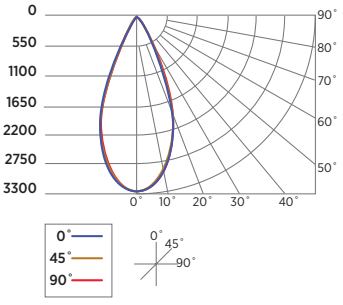
Output difference between CCTs - 5%, CRIs - 15%.

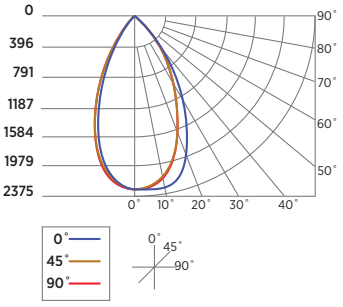
ANGLE	0°	45°	90°
0°	3230	3230	3230
5°	3107	3126	3159
10°	2824	2830	2871
15°	2415	2407	2463
20°	1863	1866	1937
25°	1111	1125	1128
30°	490	521	479
35°	221	232	205
40°	115	114	110
45°	65	64	59
50°	30	38	22
55°	14	22	11
60°	6	9	4
65°	1	3	1
70°	1	1	1
75°	1	1	1
80°	0	0	0
85°	0	0	0
90°	0	0	0

ANGLE	0°	45°	90°
0°	2305	2305	2305
5°	2313	2298	2268
10°	2295	2248	2155
15°	2219	2116	1938
20°	1964	1876	1714
25°	1548	1544	1330
30°	1113	1176	1013
35°	749	835	704
40°	450	511	428
45°	230	283	221
50°	94	140	91
55°	38	69	35
60°	18	31	16
65°	8	13	6
70°	0	4	0
75°	0	0	0
80°	0	0	0
85°	0	0	0
90°	0	0	0









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ELEMENT™ 3" LED
FIXED DOWNLIGHT

PROJECT INFORMATION

JOB NAME AND INFORMATION

FIXTURE TYPE AND QUANTITY

NOTES

TECH LIGHTING
7400 Linder Ave., Skokie, IL 60077
T 847.410.4400
www.techlighting.com

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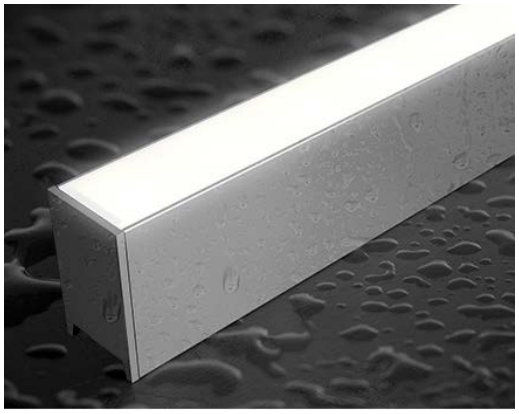
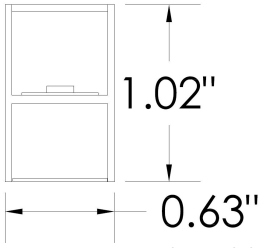
Type | **Project Name**

L18W
Static White



shown with endcap

QUICK VIEW



shown with the optic layer

QUICK FACTS

35 diodes per foot, 8 MM on-center

80+ CRI - Standard
90+ CRI - Optional

Fully Configurable in 2.46" Increments
Available in 2700K, 3000K, 3500K, 4000K

Plug and play long continuous runs

0-10V, ELV, DMX Controlled Dimming

Operating temperature -10F to 102F

Beam Angle 120 degrees

UL Listed Wet Location

Allow 1/2" Spacing at end of Run

032520

APPLICATION

UL Listed for Wet Location, L18W offers static white single-color linear fixture. With its sleek look, the L18W can be used to create lighting settings enhancing the experience in any outdoor space, efficiently and effectively. Product is designed for a variety of applications; hospitality, corporate, retail, commercial and residential. Fixtures may be joined together for long continuous runs with our unique plug and play system with all wires contained within the channel below or used as individual luminaires. LED's are mounted in aluminum extrusion with opal encapsulation and silicon end caps. Great for mill work, niches, suspended lines, coves and decorative materials.

The L18W is a low voltage, remote driver system bright enough for general illumination or available with lower outputs for a warm glow.

LIGHT OUTPUT & POWER CONSUMPTION

		HIGH OUTPUT		MEDIUM OUTPUT		STANDARD OUTPUT	
Nominal (Inches)	Actual (Inches)	Lumens	Watts	Lumens	Watts	Lumens	Watts
6"	5.4"	HO 449 lm	2.9W	MO 341 lm	2.2W	SO 237 lm	1.5W
12"	10.3"	HO 898 lm	5.8W	MO 683 lm	4.4W	SO 475 lm	2.9W
18"	17.7"	HO 1347 lm	8.7W	MO 1023 lm	6.6W	SO 711 lm	4.5W
24"	22.6"	HO 1796 lm	11.6W	MO 1366 lm	8.8W	SO 950 lm	5.8W
36"	34.9"	HO 2694 lm	17.4W	MO 2048 lm	13.2W	SO 1422 lm	9.0W
48"	47.2"	HO 3592 lm	23.2W	MO 2730 lm	17.6W	SO 1900 lm	11.6W
60"	59.5"	HO 4490 lm	29.0W	MO 3412 lm	22.0W	SO 2375 lm	14.5W
72"	71.8"	HO 5388 lm	34.8W	MO 4096 lm	26.4W	SO 2844 lm	17.4W

Data Based on 80+ CRI and 3000K

ELECTRICAL
Auto-ranging 120V to 277V mains
24V DC Constant Voltage Output

DIMMING
0-10V, ELV, DMX Controlled Dimming

FINISH
Anodized Aluminum Finish

ORDERING INFORMATION

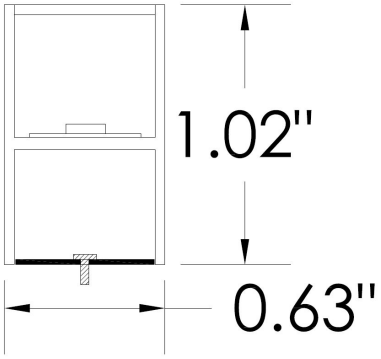
L18W - ☐ - ☐ - ☐ - ☐ - ☐ - ☐

- OUTPUT: HO - High Output; MO - Medium Output; SO - Standard Output
- CCT: 27 - 2700K; 30 - 3000K; 35 - 3500K; 40 - 4000K; 55 - 5500K**
- LENGTH: In Inches
- CRI: 8 = 80+; 9 = 90+*
- OPTIONS: 010 - 010V Dimming; ELV - Electronic Low Voltage Dimming; DM4- DMX Dimming
- ACCESSORIES: MC - Mounting Clip

* Lumen Loss apply
20% Watts increased
**Consult factory for custom CCT and lengths

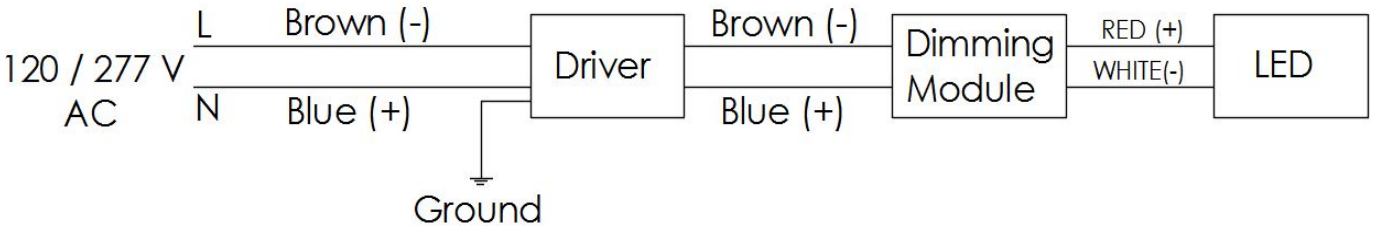
nanometer lighting
57-10 49th place
maspeth, ny 11378
p. 718.497.0394
f. 718.821.9316

SECTIONAL END VIEW

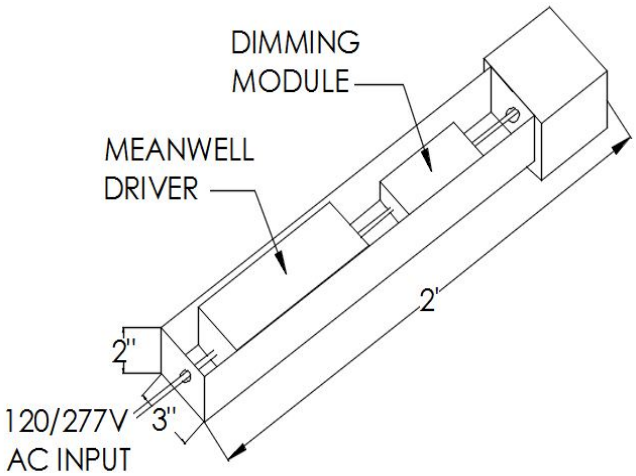


With Mounting Clip

WIRING DIAGRAM



POWERBOX DIAGRAM



Standard 10' 18 AWG with Driver provided

Driver can be remoted at various maximum distance*

Wire Size (AWG)	Distance (feet)
18	25
14	50
10	100

*DISTANCE VARY WITH LOAD. PLEASE VARIFY IT BEFORE RELEASE.

DISCLAIMER:

BE SURE TO VERIFY ALL WATTAGES, DIMENSIONS AND LENGTHS DUE TO RAPIDLY CHANGING TECHNOLOGY

032520

nanometer lighting
57-10 49th place
maspeth, ny 11378
p. 718.497.0394
f. 718.821.9316

KIM LIGHTING®

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

UR20 - Post Top

ARCHITECTURAL AREA/SITE

Ouro™

FEATURES

- 20” size in single/dual arm post top, pole and wall mount
- High performance optics up to 16,874 delivered lumens
- Elegant form factor
- Diffusion lens option
- UL/cUL listed for wet locations, IP66 and 4G/1.5G vibration rated

3000K and warmer CCTs only

See Certification Specifications

Ouro Post Top

CONTROL TECHNOLOGY

NX LIGHTING CONTROLS wiSCAPE

RELATED PRODUCTS

Ouro Small Arm Mount

Ouro Large Post Top

Ouro Large Arm Mount

SPECIFICATIONS

CONSTRUCTION

- Low copper aluminum alloy die-casting is designed as one-piece.
- Molded silicone gasket throughout insures the sealing between the two compartments and provides ingress protection.
- All external fasteners are stainless steel.
- Cover is secured to Lens frame by the latch and hinge.

OPTICS

- LEDs mount to a metal printed circuit board assembly (MCPCB).
- Optical lenses are clear injection molded PMMA acrylic.
- Optional Backlight Control on each LED module to completely control unwanted backlight.
- Optional fixture finish optical surfaces will not exceed BUG ratings of the standard white finish.

LENS

- Standard lens (CLR) IK08
- Clear Polycarbonate Lens (CP) IK10

INSTALLATION

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

ELECTRICAL

- Universal voltage, 120 through 277V with a ±10% tolerance. Driver is Underwriters Laboratories listed.
- High voltage configurations, 347/480. Driver has a 0-10V dimming interface for multi-level illumination options. Driver is Underwriters Laboratories listed.
- "Thermal Shield”, secondary side, thermistor provides protection for the sustainable life of LED module and electronic components
- Drivers shall have greater than a 0.9 power factor, less than 20% harmonic distortion, and be suitable for operation in -40°C to 40°C ambient environments.
- Luminaire shall be capable of operating at 100% brightness in a 40°C environment. Both driver and optical array have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C.
- Surge protection: 10,000k in parallel, 20,000k in series
- Wiring: No. 18AWM rated 105°C, wet rating.

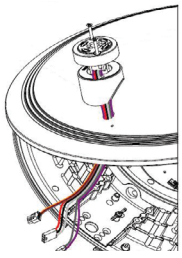
CONTROLS

7PR

- Fully gasketed and wired 7-pin receptacle option. Easy access location above the electrical compartment. 7-pin construction allows for a user-defined interface and provides a controlled definition of operational performance. ANSI twist-lock control module by-others.

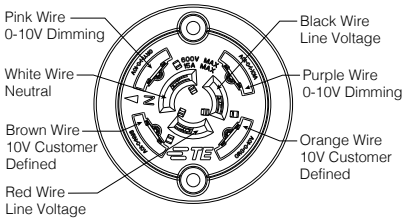
Standard customer operation modes:

- Traditional on/off photoelectric control.
- 5-pin wireless photoelectric control for added dimming feature.
- 7-pin wireless photoelectric control for for dimming and additional I/O connections for customer use.



7-Pin receptacle placement

KEY DATA	
Lumen Range	2694 – 16874
Wattage Range	25 – 150
Efficacy Range (LPW)	95 – 133
Reported Life (Hours)	L70/>60,000
Weight	35 lbs – 15.8 Kg
EPA	0.608



[1] Clear Polycarbonate Lens (CP) IK10, Standard lens (CLR) IK08, Consult factory for details

(Specifications continued on page 3)

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KIM LIGHTING®

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

UR20 - Post Top

ARCHITECTURAL AREA/SITE

ORDERING GUIDE

Example: UR20-24L-25-3K8-3-L-UNV-FMSA33-BLT-7PR-BC

CATALOG #

HOUSING

UR20

Model		LED Engine	CCT/CRI	Distribution	Rotation	Voltage
UR20	Ouro	**No Lens or Clear Lens** **24L-25** 3,000 lm **24L-65** 7,000 lm **56L-75** 10,000 lm **56L-110** 15,000 lm **56L-140** 17,000 lm **HDL - High Diffusion Lens** **28L-30** 3,000 lm **28L-70** 7,000 lm **68L-80** 9,000 lm **68L-115** 13,000 lm **68L-150** 15,000 lm	**AM** [11] Amber, 595nm **27K8** 2700K, 80 CRI **3K7** 3000K, 70 CRI **3K8** 3000K, 80 CRI **35K8** 3500K, 80 CRI **3K9** 3000K, 90 CRI **4K7** 4000K, 70 CRI **4K8** 4000K, 80 CRI **5K7** 5000K, 70 CRI Consult factory for other CCTs and CRIs	**No Lens or Clear Lens** **FR** Type 1/Front Row **2** Type II **3** Type III **4** Type IV **4W** Type IV Wide **5QM** Type V Square Medium **5QN** Type V Square Narrow **5R** Type V Rectangular **5W** Type V Wide (Round) **HDL - High Diffusion Lens** **3** Type III/Asymmetric **5W** Type V/Symmetric	**(Blank)** Blank for no rotation **L** [1] Optic rotation left **R** [1] Optic rotation right	**UNV** 120-277V **347** 347V **480** 480V **DALI** 120-277V **Consult factory**

Mounting		Fixture Finish		Control Options		Options		Control Accessories	
FM33	Flush mt 3.0" OD pole, 3" fixture base	**BLS**	Black Gloss Smooth	**7PR-TL**	7 pin PCR with twist lock photocontrol	**BC** [6]	Back-light Control	**WIR-RME-L**	wiSCAPE External Fixture Module
FM44	Flush mt 3.6" to 4.0" OD pole, 4" fixture base	**BLT**	Black Matte Textured	**7PR-SC**	7 pin PCR with shorting cap	**SF**	Single Fuse	**SCH-R**	Occ. Sensor for Round Pole (up to 30' MH)
PT23	3" Post Top mount for 2 3/8" OD x 4" Long Tenon Tenon	**DBS**	Dark Bronze Gloss Smooth	**7PR**	7 pin PCR, wireless control enabled	**DF**	Double Fuse	**SCH-S**	Occ. Sensor for Square Pole (up to 30' MH)
PT24	4" Post Top mount for 2 3/8" OD T x 4" Long Tenon	**DBT**	Dark Bronze Matte Textured	**AD-01** [2]	AstroDIM: 50% output at midnight	**CLR** [5,6,13]	Clear Lens	**NXOFM-1R1D-UNV**	NX 7-Pin Twist-Lock® with NX Networked Wireless Radio, Integral Automatic Dimming Photocell, Integral Single Pole Relay with Dimming, and Bluetooth Programming
PT34	4" Post Top mount for 2 7/8" OD x 4" Long Tenon Tenon	**GTT**	Graphite Matte Textured	**AD-02** [2]	AstroDIM: 50% output midnight to 4 AM	**TPL**	Tamper proof latch		
FMSA33	Solo Arm Post Top Flush Mount 3.0" OD Pole, 3" fixture base	**LGS**	Light Grey Gloss Smooth	**AD-03** [2]	AstroDIM: 50% output 10PM	**CP** [5, 6, 12]	Clear Polycarbonate Lens		
FMSA34	Solo Arm Post Top Flush Mount 3.6" to 4.0" OD Pole, 4" fixture base	**LGT**	Light Grey Matte Textured	**AD-04** [2]	AstroDIM: 50% output 10PM to 4AM	**WBFM3** [14]	3" Solo Arm/ Standard Post Top Mount Wall Bracket		
PTSA23	3" Solo Arm Post Top Mount for 2-3/8" OD x 4" Long Tenon	**PSS**	Platinum Silver Gloss Smooth	**NXW** [15]	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor	**WBFM4** [14]	4" Solo Arm/ Standard Post Top Mount Wall Bracket		
PTSA24	4" Solo Arm Post Top Mount for 2-3/8" OD x 4" Long Tenon	**VGT**	Verde Green Matte Textured	**WSP-40F-1** [2,5]	Dimming Occ. Sensor for up to 40' MH, 120/277/347V	**TAFM3** [14, 16]	3" Solo Arm/ Standard Post Top Mount Twin Arm Mount		
PTSA34	4" Solo Arm Post Top Mount for 2-7/8" OD x 4" Long Tenon	**WHS**	White Gloss Smooth	**WSP-40F-2** [2,5]	Dimming Occ. Sensor for up to 40' MH, 208/240V	**TAFM4** [14, 16]	4" Solo Arm/ Standard Post Top Mount Twin Arm Mount		
		WHT	White Matte Textured	**WSP-40F-3** [2,5]	Dimming Occ. Sensor for up to 40' MH, 480V				
		Color Option		**NXWS16F** [2,5,15]	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming				
		CC [7]	Custom Color	**NXWS40F** [2,5,15]	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming				

1 Not available with 5QM, 5QN, and 5W distributions.
2 Not available with other sensor or wireless control options.
4 Not available with 347V and 480V.
5 24L and 56L only
6 Not available with HDL option.
7 Consult factory for custom color, marine and corrosive finish options.
8 Turtle Friendly.
9 Please see Delivered Lumens chart on Page 5 for lumen
10 Microsoft, Encarta, MSN, and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
11 Not available with 24L-65 and the 56L-140 configuration of the LED Engine
12 IK10 rated. Consult factory for details
13 IK08 rated. Consult factory for details
14 Must order with Flush Mount "FM" mounting option and correct pole diameter.
15 Not available with Solo Arm Post Top (FMSA/PTSA)
16 Order one for each pair of fixtures per pole.

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UR20 - Post Top

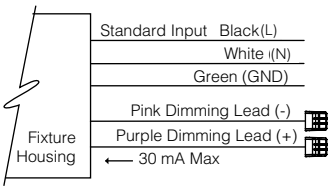
ARCHITECTURAL AREA/SITE

SPECIFICATIONS (CONTINUED)

CONTROLS (CONTINUED)

DIMMING:

- Dimming range from 100% to 10% through the use of the standard 0-10V interface on the programmable driver.
- Modular wiring harness in the service area provides user access to the dimming circuitry.
- Dimming circuitry compatible with 0-10V, user-defined control devices.
- Optional factory programmed dimming profile.



WIRELESS CONTROLS

WISCAPE™

- wiSCAPE™ wireless control modules allow an individual fixture to managed, monitored and measured. The modules communicate securely over a robust certified meshed radio signal. The wiSCAPE modules provide on/off/dim control, external device input, alerts and metering.

WIR-RME-L

- wiSCAPE External Module,120-480V, 1000ft range (LOS), Internal Photocell, 1 Digital Input, Compatible with the A-25-7H option

NX LIGHTING CONTROLS

- NX lighting controls platform utilizes a Distributed Network Architecture (DNA) that connects intelligent devices including luminaires, controllers, panels, occupancy sensors, photocells, wall switches and dimmers, creating a system with an unmatched level of reliability, scalability and simplicity

POLE MOUNTED

ROUND POLE-MOUNTED OCCUPANCY

- Sensor up to 30'. Select voltage and finish color.

SCH-R

- Round Pole-Mounted Occupancy Sensor: up to 30' - an outdoor occupancy sensor with 0-10V interface dimming control that mounts directly to the pole. Wide 360° pattern. Module colors are available in Black, Gray, and White. Module is cut for round pole mounting. Pole diameter is needed upon order. Poles to be drilled in the field will be provided with installation instructions.
- Ordering Example: SCH-R4[4]/277[2]/BL[3]

SQUARE POLE-MOUNTED OCCUPANCY

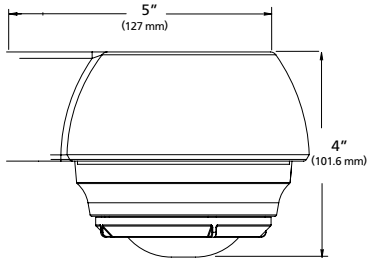
Sensor up to 30'. Select voltage and finish color.

SCH-S

- Square Pole-Mounted Occupancy Sensor: up to 30' - an outdoor occupancy sensor with 0-10V interface dimming control that mounts directly to the pole. Wide 360° pattern. Module colors are available in Black, Gray, and White. Module is cut for round pole mounting. Pole diameter is needed upon order. Poles to be drilled in the field will be provided with installation instructions.
- Ordering Example: SCH-S/277[2]/BL[3]

ASTRODIM

- AstroDIM provides multi-stage night-time power reduction based on an internal timer referenced to the power on/off time. There is no need for an external control infrastructure. The unit automatically performs a dimming profile based on the predefined scheduled reference to the midpoint, which is calculated based on the power on/off times.



OPTIONAL FUSING:

- SF for 120, 277, and 347 Line volts

CAUTION:

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

CERTIFICATIONS AND LISTINGS

- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures
- ANSI C136.31-2010 Vibration tested and compliant 1.5G and 4G reference page 4
- IEC 66262 Mechanical Impact Code IK08, IK10
- IDA approved, 3000K and warmer CCTs only
- IP66 rated
- RoHS compliant
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 6/06/2020. See Buy American Solutions

WARRANTY

- 5 year warranty

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KIM LIGHTING®

DATE: LOCATION:

TYPE: PROJECT:

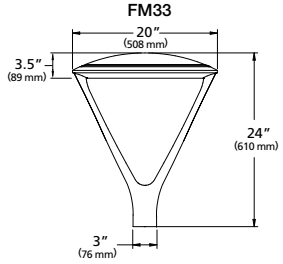
CATALOG #:

UR20 - Post Top

ARCHITECTURAL AREA/SITE

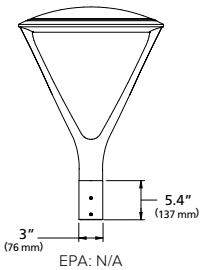
DIMENSIONS

FM33



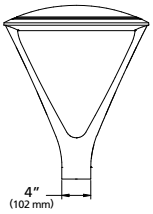
EPA: .512

PT23



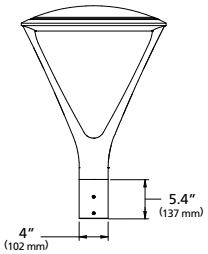
EPA: N/A

FM44



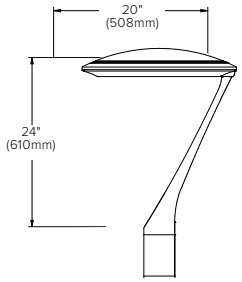
EPA: .534

PT24 / PT34



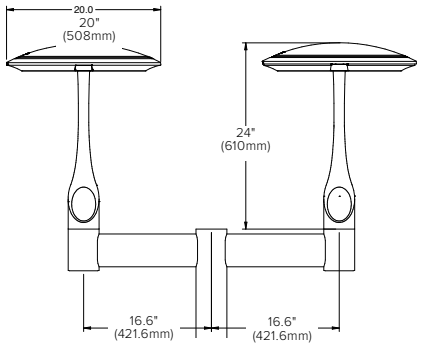
EPA: .424 / .608

FMSA33/PTSA23
FMSA34, PTSA24, PTSA34

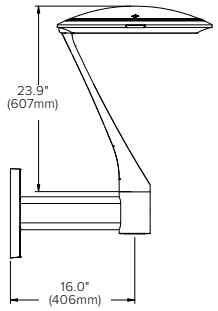


ARM	DIAMETER
FMSA33	3" diameter
FMSA34	4" diameter
PTSA23	3" diameter with Tenon mount
PTSA24	4" diameter with Tenon mount
PTSA34	4" diameter with tenon mount

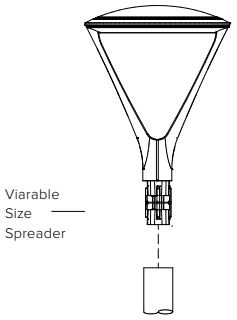
TAFM3/TAFM4



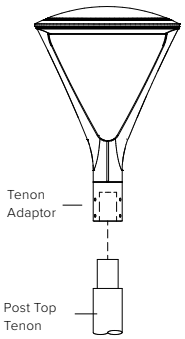
WBFM3/WBFM4



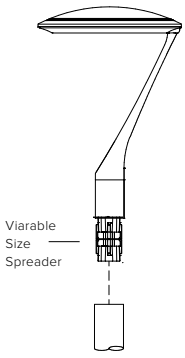
MOUNTING INSTALLATION



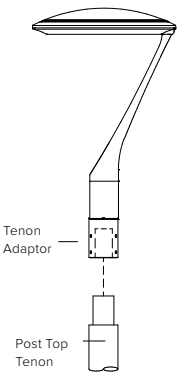
Flush Mount
FM33/44



Post Top
PT23/24/34

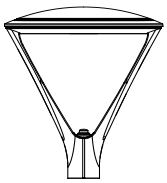


Flush Mount
FMSA33/34

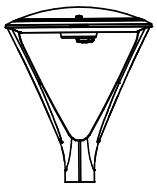


Post Top
PTSA23/24/34

SENSOR PLACEMENT



NXW



WSP-40F

MOUNTING VIBRATION RATINGS

UR 20 Arm		UR28 Arm		UR 20 Post Top		UR 28 Post Top		UR 20 Solo Arm	
Ordering Code	Rating	Ordering Code	Rating	Ordering Code	Rating	Ordering Code	Rating	Ordering Code	Rating
ASQ	4G	ASQ	4G	FM33	4G	FM44	1.5G	FMSA33	1.5G
A34	4G	A34	4G	FM44	1.5G	FM45	1.5G	FMSA34	1.5G
A46	4G	A46	4G	PT23	4G	PT24	1.5G	PTSA23	1.5G
MAF	4G	MAF	4G	PT24	4G	PT34	1.5G	PTSA24	1.5G
				PT34	1.5G	PT25	1.5G	PTSA34	1.5G

For the 4 G test, ANSI C136.31-2010 Vibration is tested to comply with Vibration Test Level 1 Normal Applications, Vibration Test Level 2 Bridge/Overpass Applications, and Vibration Test Level 3

For the 1.5G test, ANSI C136.31-2010 Vibration is tested to comply with Vibration Level 1 Bridge/Overpass Applications

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

UR20 - Post Top

ARCHITECTURAL AREA/SITE

DELIVERED LUMENS

LEDs #	Lumens Package	Drive Current	Nominal Watts	Lens Options	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
						Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w
							B	U	G			B	U	G			B	U	G	
24L	3,000	298mA	25	No lens	FR	2932	0	0	1	115	3119	0	0	1	123	3098	0	0	1	124
					FR-BC	1994	0	0	0	78	2121	0	0	0	83	2107	0	0	0	83
					2	2943	1	0	1	116	3099	1	0	1	122	3110	1	0	1	124
					2-BC	1724	0	0	1	68	1834	0	0	1	72	1822	0	0	1	72
					3	3007	1	0	1	118	3200	1	0	1	126	3178	1	0	1	127
					3-BC	1830	0	0	1	73	1947	0	0	1	78	1934	0	0	1	77
					4	3056	0	0	1	120	3251	0	0	1	128	3229	0	0	1	129
					4-BC	2235	0	0	1	88	2377	0	0	1	93	2362	0	0	1	93
					4W	3171	1	0	1	125	3374	1	0	1	133	3351	1	0	1	134
					4W-BC	1912	0	0	1	75	2034	0	0	1	80	2020	0	0	1	79
					5QM	2931	2	0	1	115	3119	2	0	1	123	3098	2	0	1	124
					5QN	2694	2	0	1	106	2866	2	0	1	113	2847	2	0	1	114
					5R	3054	2	0	2	120	3250	2	0	2	128	3228	2	0	2	129
					5W	3043	2	0	1	120	3237	2	0	1	127	3216	2	0	1	129
				Clear lens	FR	2773	0	0	1	109	2951	0	0	1	116	2930	0	0	1	117
					FR-BC	1886	0	0	1	74	2007	0	0	1	79	1993	0	0	1	78
					2	2784	1	0	1	109	2963	1	0	1	116	2942	1	0	1	118
					2-BC	1631	0	0	1	64	1736	0	0	1	68	1723	0	0	1	67
					3	2845	1	0	1	111	3028	1	0	1	119	3007	1	0	1	120
					3BC	1806	0	0	1	72	1922	0	0	1	77	1909	0	0	1	76
					4	2891	0	0	1	113	3076	0	0	1	120	3055	0	0	1	122
					4-BC	2114	0	0	1	83	2250	0	0	1	88	2234	0	0	1	88
					4W	2999	1	0	1	117	3192	1	0	1	125	3169	1	0	1	127
					4W-BC	1808	0	0	1	71	1924	0	0	1	75	1911	0	0	1	76
					5QM	2773	1	0	1	109	2950	2	0	1	116	2931	2	0	1	117
					5QN	2549	1	0	0	100	2712	2	0	1	106	2693	2	0	1	108
					5R	2890	2	0	2	113	3075	2	0	2	120	3054	2	0	2	122
					5W	2879	2	0	1	113	3064	2	0	1	120	3042	2	0	1	122
28L		298mA	30	HDL lens	3	2816	1	0	1	96	2997	1	0	1	102	3020	1	0	1	101
					5W	2917	1	0	1	100	3105	1	0	1	106	3084	1	0	1	103

Scaling factors 27K8 = 0.859, 35K8 = 0.906 of 5K7 lumen packages

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DELIVERED LUMENS (CONTINUED)

LEDs #	Lumens Package	Drive Current	Nominal Watts	Lens Options	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
						Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w
							B	U	G			B	U	G			B	U	G	
24L	7,000	800mA	65	No lens	FR	6754	1	0	1	104	7187	1	0	1	111	7138	1	0	1	110
					FR-BC	4392	0	0	1	68	4673	0	0	1	72	4641	0	0	1	71
					2	6571	1	0	2	101	6992	1	0	2	108	6944	1	0	2	107
					2-BC	3799	0	0	1	58	4042	0	0	1	62	4014	0	0	1	62
					3	6625	1	0	2	102	7051	1	0	2	108	7002	1	0	2	108
					3BC	4032	0	0	1	62	4291	0	0	1	66	4261	0	0	1	66
					4	6788	1	0	2	104	7223	1	0	2	111	7174	1	0	2	110
					4-BC	4924	0	0	2	76	5239	0	0	2	81	5203	0	0	2	80
					4W	6900	1	0	2	106	7343	1	0	2	113	7291	1	0	2	112
					4W-BC	4212	0	0	2	65	4482	0	0	2	69	4451	0	0	2	68
					5QM	7025	3	0	1	108	7477	3	0	1	115	7425	3	0	1	114
					5QN	6964	3	0	1	107	7410	3	0	1	114	7323	3	0	1	113
					5R	7038	3	0	3	108	7489	3	0	3	115	7437	3	0	3	114
					5W	7011	3	0	2	108	7460	3	0	2	115	7409	3	0	2	114
				Clear lens	FR	6432	1	0	1	97	6844	1	0	1	104	6798	1	0	1	105
					FR-BC	4182	0	0	1	63	4450	0	0	1	67	4420	0	0	1	67
					2	6258	1	0	1	95	6659	1	0	2	101	6613	1	0	2	102
					2-BC	3617	0	0	1	55	3849	0	0	1	58	3823	0	0	1	58
					3	6310	1	0	2	96	6714	1	0	2	102	6668	1	0	2	103
					3-BC	3599	0	0	1	55	3829	0	0	1	59	3803	0	0	1	59
					4	6465	1	0	2	98	6879	1	0	2	104	6832	1	0	2	105
					4-BC	4688	0	0	2	71	4990	0	0	2	76	4955	0	0	2	75
					4W	6572	1	0	2	100	6993	1	0	2	106	6944	1	0	2	107
					4W-BC	4011	0	0	2	61	4268	0	0	2	65	4238	0	0	2	64
					5QM	6691	3	0	1	101	7119	3	0	1	108	7070	3	0	1	109
					5QN	6632	2	0	1	100	7058	3	0	1	107	7009	3	0	1	108
					5R	6702	3	0	3	102	7131	3	0	3	108	7082	3	0	3	109
					5W	6676	3	0	2	101	7104	3	0	2	108	7055	3	0	2	109
28L		700mA	70	HDL lens	3	6047	2	0	2	92	6047	2	0	2	92	6236	2	0	2	89
					5W	6221	2	0	1	94	6619	2	0	1	100	6525	2	0	1	93

Scaling factors 27K8 = 0.859, 35K8 = 0.906 of 5K7 lumen packages

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DELIVERED LUMENS (CONTINUED)

LEDs #	Lumens Package	Drive Current	Nominal Watts	Lens Options	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
						Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w
							B	U	G			B	U	G			B	U	G	
56L	10,000	420mA	75	No lens	FR	9315	1	0	1	124	9913	1	0	1	132	9845	1	0	1	131
					FR-BC	6058	0	0	1	81	6445	0	0	1	86	6402	0	0	1	85
					2	9063	2	0	2	120	9644	2	0	2	128	9578	2	0	2	128
					2-BC	5239	0	0	1	70	5575	0	0	1	74	5536	0	0	1	74
					3	9139	2	0	2	125	9725	2	0	2	134	9657	2	0	2	129
					3-BC	5561	0	0	2	74	5877	0	0	2	78	5561	0	0	2	74
					4	9362	1	0	2	124	9362	1	0	2	124	9876	1	0	2	132
					4-BC	6791	0	0	2	90	7226	0	0	2	96	7168	0	0	2	96
					4W	9518	1	0	2	126	10129	1	0	2	135	10058	1	0	2	134
					4W-BC	5809	0	0	2	77	6181	0	0	2	82	6138	0	0	2	82
					5QM	9691	3	0	1	129	10312	3	0	1	137	10240	3	0	1	137
					5QN	9606	3	0	1	128	10222	3	0	1	136	10151	3	0	1	135
					5R	9706	3	0	3	129	10328	3	0	3	137	10258	3	0	3	137
					5W	9669	4	0	2	129	10289	4	0	2	137	10217	4	0	2	136
				Clear lens	FR	8871	1	0	1	117	9760	1	0	1	129	9374	1	0	1	125
					FR-BC	5769	0	0	1	76	6138	0	0	1	81	6096	0	0	1	81
					2	8631	2	0	2	114	9183	2	0	2	121	9121	2	0	2	122
					2-BC	4989	0	0	1	67	5309	0	0	1	71	5272	0	0	1	62
					3	8703	1	0	2	115	9260	2	0	2	122	9197	2	0	2	123
					3-BC	4964	1	0	1	66	5282	1	0	2	70	5245	1	0	2	69
					4	8916	1	0	2	118	9487	1	0	2	125	9423	1	0	2	126
					4-BC	6467	0	0	2	85	6881	0	0	2	91	6834	0	0	2	90
					4W	9065	1	0	2	120	9646	1	0	2	128	9579	1	0	2	128
					4W-BC	5532	0	0	2	74	5887	0	0	2	78	5845	0	0	2	78
					5QM	9228	3	0	1	122	9820	3	0	1	130	9752	3	0	1	130
					5QN	9147	3	0	1	121	9734	3	0	1	129	9668	3	0	1	129
					5R	9244	3	0	3	122	9836	3	0	3	130	9769	3	0	3	130
					5W	9208	4	0	2	122	9798	4	0	2	130	9732	4	0	2	130
68L		350mA	80	HDL lens	3	7853	2	0	2	99	8356	2	0	2	106	8299	2	0	2	104
					5W	8080	2	0	2	102	8684	3	0	2	110	8684	3	0	2	109

Scaling factors 27K8 = 0.859, 35K8 = 0.906 of 5K7 lumen packages

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DELIVERED LUMENS (CONTINUED)

LEDs #	Lumens Package	Drive Current	Nominal Watts	Lens Options	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
						Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w
							B	U	G			B	U	G			B	U	G	
56L	15,000	600mA	110	No lens	FR	13533	1	0	1	125	14399	1	0	2	133	14301	1	0	2	130
					FR-BC	8799	1	0	1	81	9363	1	0	1	86	9300	1	0	1	85
					2	13165	2	0	2	121	14009	2	0	2	129	13913	2	0	2	126
					2-BC	7611	1	0	2	70	8098	1	0	2	75	8042	1	0	2	74
					3	13275	2	0	3	122	14126	2	0	3	130	14030	2	0	3	128
					3-BC	8079	1	0	2	73	8596	1	0	2	78	8538	1	0	2	78
					4	13601	1	0	3	125	14472	1	0	3	133	14373	1	0	3	131
					4-BC	9865	1	0	2	91	10497	1	0	3	97	10425	1	0	3	96
					4W	13827	2	0	3	127	14713	2	0	3	136	14611	2	0	3	133
					4W-BC	8437	0	0	2	78	8978	0	0	2	83	8916	0	0	2	82
					5QM	14077	4	0	2	130	14979	4	0	2	138	14876	4	0	2	135
					5QN	13953	4	0	1	129	14848	4	0	1	137	14747	4	0	1	134
					5R	14100	4	0	4	130	15004	4	0	4	138	14901	4	0	4	135
					5W	14046	4	0	2	129	14946	4	0	2	138	14844	4	0	3	135
				Clear lens	FR	12803	1	0	1	118	13624	1	0	1	126	13531	1	0	1	123
					FR-BC	9298	1	0	1	86	8325	1	0	1	77	8798	1	0	1	81
					2	12455	2	0	2	115	13254	2	0	2	123	13164	2	0	2	120
					2-BC	7200	1	0	1	67	7661	1	0	2	71	7610	1	0	2	70
					3	12560	2	0	3	116	13365	2	0	3	124	13273	2	0	3	121
					3-BC	7163	1	0	2	65	7622	1	0	2	69	7570	1	0	2	69
					4	12868	1	0	3	119	13692	1	0	3	127	13599	1	0	3	124
					4-BC	9333	1	0	2	86	9931	1	0	2	92	9864	1	0	2	90
					4W	13081	2	0	3	121	13920	2	0	3	129	13823	2	0	3	126
					4W-BC	7983	0	0	2	74	8495	0	0	2	79	8436	0	0	2	78
					5QM	13318	3	0	2	123	14172	4	0	2	131	14075	4	0	2	128
					5QN	13202	3	0	1	122	14048	4	0	1	130	13951	4	0	1	127
					5R	13341	4	0	4	123	14195	4	0	4	131	14099	4	0	4	128
					5W	13290	4	0	2	123	14141	4	0	2	131	14044	4	0	2	128
68L		500mA	115	HDL lens	3	11577	2	0	2	102	12320	2	0	2	109	12236	2	0	2	106
					5W	11912	3	0	2	105	12676	3	0	2	112	12588	3	0	2	109

Scaling factors 27K8 = 0.859, 35K8 = 0.906 of 5K7 lumen packages

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DELIVERED LUMENS (CONTINUED)

LEDs #	Lumens Package	Drive Current	Nominal Watts	Lens Options	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
						Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w
							B	U	G			B	U	G			B	U	G	
56L	17,000	750mA	140	No lens	FR	15323	2	0	2	111	16306	2	0	2	118	16194	2	0	2	116
					FR-BC	9964	1	0	1	72	10603	1	0	1	77	10530	1	0	1	76
					2	14897	2	0	2	108	15852	2	0	2	115	15743	2	0	2	112
					2-BC	8618	1	0	2	63	9169	1	0	2	67	9107	1	0	2	66
					3	15032	2	0	3	109	15996	2	0	3	116	15886	2	0	3	113
					3-BC	9147	1	0	2	65	9733	1	0	2	70	9667	1	0	2	69
					4	15400	1	0	3	112	16387	1	0	4	119	16275	1	0	4	116
					4-BC	11170	1	0	3	81	11886	1	0	3	86	11804	1	0	3	86
					4W	15656	2	0	3	114	16660	2	0	4	121	16544	2	0	4	118
					4W-BC	9554	0	0	2	69	10166	0	0	2	74	10095	0	0	2	73
					5QM	15939	4	0	2	116	16962	4	0	2	123	16845	4	0	2	120
					5QN	15801	4	0	1	115	16813	4	0	1	122	16698	4	0	1	119
					5R	15966	4	0	4	116	16990	4	0	4	123	16874	4	0	4	121
					5W	15906	4	0	3	115	16925	4	0	3	123	16808	4	0	3	120
				Clear lens	FR	14541	1	0	2	105	15473	2	0	2	111	15367	2	0	2	110
					FR-BC	9456	1	0	1	68	10061	1	0	1	72	9993	1	0	1	72
					2	14146	2	0	2	102	15053	2	0	2	108	14950	2	0	2	107
					2-BC	8178	1	0	2	59	8702	1	0	2	63	8642	1	0	2	62
					3	14265	2	0	3	103	15179	2	0	3	109	15076	2	0	3	108
					3BC	8136	1	0	2	58	8657	1	0	2	62	8598	1	0	2	61
					4	14614	1	0	3	105	15551	1	0	3	112	15445	1	0	3	110
					4-BC	10600	1	0	3	76	11279	1	0	3	81	11203	1	0	3	81
					4W	14858	2	0	3	107	15811	2	0	3	114	15700	2	0	3	112
					4W-BC	9067	0	0	2	65	9649	0	0	2	70	9581	0	0	2	69
					5QM	15126	4	0	2	109	16095	4	0	2	116	15985	4	0	2	114
					5QN	14994	4	0	1	108	15955	4	0	1	115	15846	4	0	1	113
					5R	15152	4	0	4	109	16122	4	0	4	116	16012	4	0	4	114
					5W	15094	4	0	3	109	16061	4	0	3	116	15951	4	0	3	114
68L		625mA	150	HDL lens	3	13240	2	0	2	89	13992	3	0	3	95	13897	3	0	3	93
					5W	13623	3	0	2	92	14396	3	0	2	97	14298	3	0	2	95

Scaling factors 27K8 = 0.859, 35K8 = 0.906 of 5K7 lumen packages

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PHOTOMETRY

UR20-56L-140-4K7-FR-PT

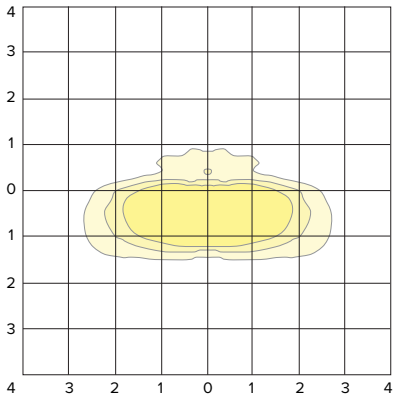
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**16306**
Watts	**140**
Efficacy	**116.5**
IES Type	**II**
BUG Rating	**B2-U0-G2**
Mounting Height	**30 ft**
Grid Scale	**30 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	14198	87.1%
Downward House Side	2108	12.9%
Downward Total	16306	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	16306	100%

ISOFOOT CANDLE PLOT



UR20-56L-140-4K7-2-PT

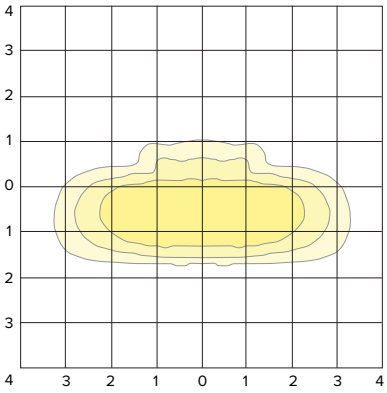
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**15852**
Watts	**140**
Efficacy	**113.2**
IES Type	**II**
BUG Rating	**B2-U0-G2**
Mounting Height	**30 ft**
Grid Scale	**30 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	12851	81.1%
Downward House Side	3001	18.9%
Downward Total	15852	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	15852	100%

ISOFOOT CANDLE PLOT



UR20-56L-140-4K7-3-PT

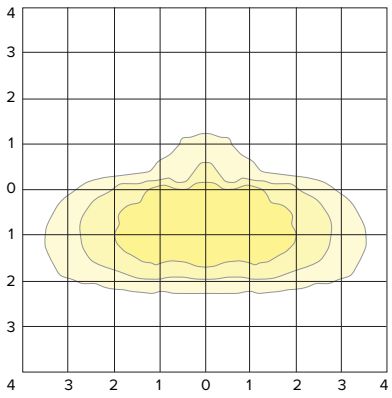
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**15996**
Watts	**140**
Efficacy	**114.3**
IES Type	**III**
BUG Rating	**B2-U0-G3**
Mounting Height	**30 ft**
Grid Scale	**30 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	13422	83.9%
Downward House Side	2574	16.1%
Downward Total	15996	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	15996	100%

ISOFOOT CANDLE PLOT



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PHOTOMETRY

UR20-56L-140-4K7-4-PT

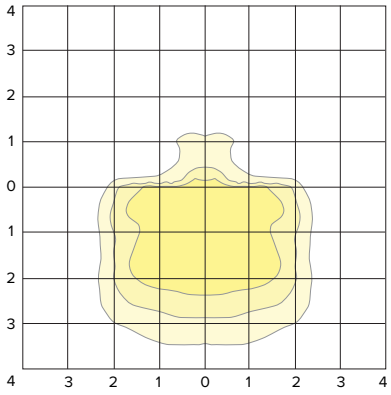
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**16387**
Watts	**140**
Efficacy	**117.1**
IES Type	**IV**
BUG Rating	**B1-U0-G4**
Mounting Height	**30 ft**
Grid Scale	**30 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	14697	89.7%
Downward House Side	1690	10.3%
Downward Total	16387	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	16387	100%

ISOFOOT CANDLE PLOT



UR20-56L-140-4K7-4W-PT

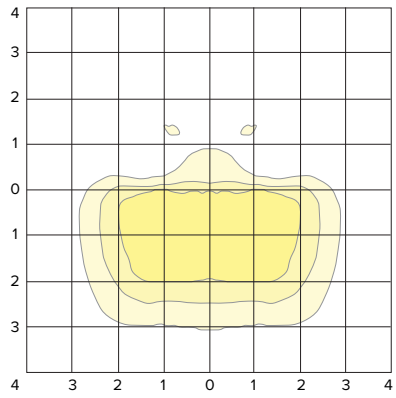
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**16660**
Watts	**138**
Efficacy	**120.7**
IES Type	**IV**
BUG Rating	**B2-U0-G4**
Mounting Height	**30 ft**
Grid Scale	**30 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	14955	89.8%
Downward House Side	1705	10.2%
Downward Total	16660	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	16660	100%

ISOFOOT CANDLE PLOT



UR20-56L-140-4K7-5QM-PT

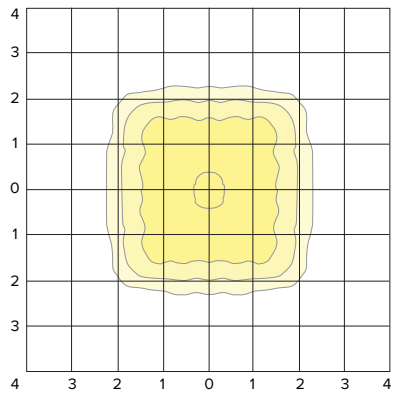
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**16962**
Watts	**140**
Efficacy	**121.2**
IES Type	**VS**
BUG Rating	**B4-U0-G2**
Mounting Height	**30 ft**
Grid Scale	**30 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	8481	50.0%
Downward House Side	8481	50.0%
Downward Total	16962	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	16962	100%

ISOFOOT CANDLE PLOT



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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

UR20 - Post Top

ARCHITECTURAL AREA/SITE

PHOTOMETRY

UR20-56L-140-4K7-5QN-PT

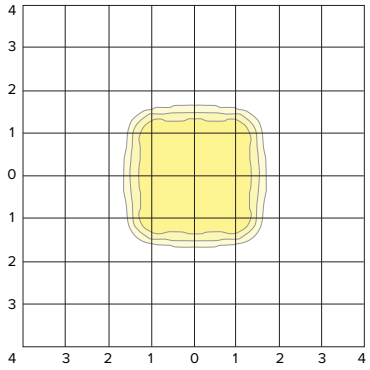
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**16813**
Watts	**140**
Efficacy	**120.1**
IES Type	**VS**
BUG Rating	**B4-U0-G1**
Mounting Height	**30 ft**
Grid Scale	**30 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	8407	50.0%
Downward House Side	8407	50.0%
Downward Total	16813	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	16813	100%

ISOFOOT CANDLE PLOT



UR20-56L-140-4K7-5R-PT

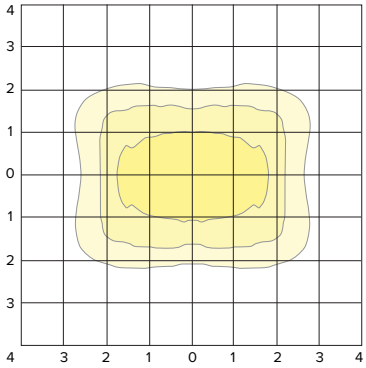
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**16990**
Watts	**140**
Efficacy	**121.4**
IES Type	**III**
BUG Rating	**B4-U0-G4**
Mounting Height	**30 ft**
Grid Scale	**30 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	8495	50.0%
Downward House Side	8495	50.0%
Downward Total	16990	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	16990	100%

ISOFOOT CANDLE PLOT



UR20-56L-140-4K7-5W-PT

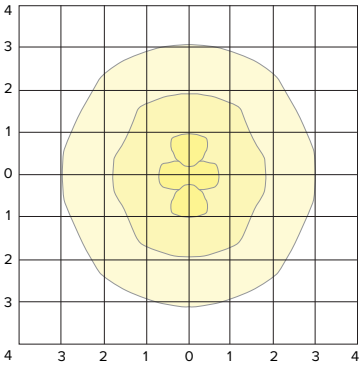
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**16925**
Watts	**140**
Efficacy	**120.9**
IES Type	**VS**
BUG Rating	**B4-U0-G3**
Mounting Height	**30 ft**
Grid Scale	**30 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	8463	50.0%
Downward House Side	8463	50.0%
Downward Total	16925	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	16925	100%

ISOFOOT CANDLE PLOT



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KIM LIGHTING®

DATE: LOCATION:

TYPE: PROJECT:

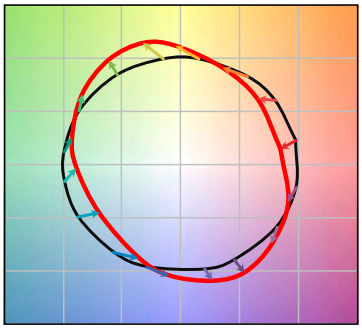
CATALOG #:

UR20 - Post Top

ARCHITECTURAL AREA/SITE

TM-30 DATA

COLOR VECTOR GRAPHIC

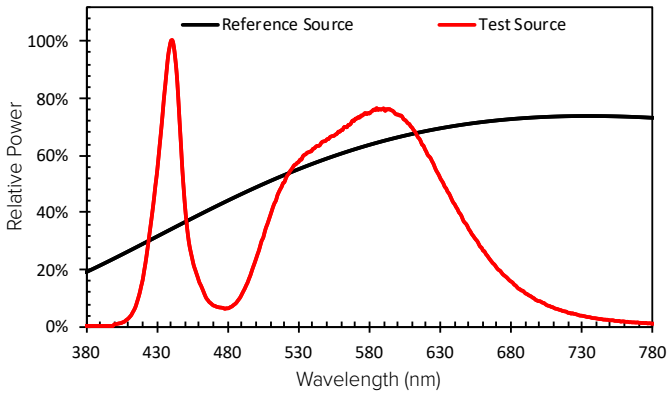


Reference Illuminant — Test Source

TEST SOURCE

R_f	68
R_g	99
CCT(K)	3947
D_{UV}	0.0004
x	0.3831
y	0.3793
CIE R_a	72

SPECTRAL POWER DISTRIBUTION COMPARISON



ELECTRICAL DATA

Drive Current	LED Count	System Watts	Line Voltage		Amps AC						Min. Power Factor	Max THD (%)	Dimming				
													Dimming Range	Source current out of 0-10V		Absolute voltage range on 0-10V (+)	
			VAC	Hz	120	208	240	277	347	480				Min	Max	Min	Max
298mA	24	25	120-480	50/60	0.21	0.12	0.10	0.09	0.07	0.05	>0.9	20	10% to 100%	0mA	1mA	0V	10V
298mA	28	30			0.25	0.14	0.13	0.11	0.09	0.06							
800mA	24	65			0.54	0.31	0.27	0.23	0.19	0.14							
700mA	28	70			0.58	0.34	0.29	0.25	0.20	0.15							
420mA	56	75			0.63	0.36	0.31	0.27	0.22	0.16							
350mA	68	80			0.67	0.38	0.33	0.29	0.23	0.17							
600mA	56	110			0.92	0.53	0.46	0.40	0.32	0.23							
500mA	68	115			0.96	0.55	0.48	0.42	0.33	0.24							
850mA	56	140			1.17	0.67	0.58	0.51	0.40	0.29							
675mA	68	150			1.25	0.72	0.63	0.54	0.43	0.31							

TM-21 Lifetime Calculation - Projected Lumen Maintenance (25°C / 77°C)						
Ambient Temp.	0	25,000	36,000	50,000	100,000	Reported L70
25°C / 77°F	100%	97%	95%	93%	87%	60khrs

CRI Lumen Multiplier				
CCT	Amber	70 CRI	80 CRI	90 CRI
Amber	0.1727s	—	—	—
2700K	—	—	0.859	—
3000K	—	1	0.9119	0.7033
3500K	—	—	0.906	
4000K	—	1	0.8941	0.734
5000K	—	1	0.879	0.7712

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Type:
BEGA Product:
Project:
Modified:

Application
This LED wall mounted luminaire has light output in one direction. Arranged individually or in groups, it is a great design element for a host of lighting applications. Downward orientation only.

Materials
Luminaire housing and constructed of die-cast marine grade, copper free (≤ 0.3% copper content) A360.0 aluminum alloy
Matte safety glass
High temperature silicone gasket
Mechanically captive stainless steel fasteners

NRTL listed to North American Standards, suitable for wet locations
Protection class IP 65
Weight: 4.2 lbs

Electrical

Operating voltage	120-277V AC
Minimum start temperature	-20° C
LED module wattage	15.4 W
System wattage	20.5 W
Controllability	0-10V, TRIAC, and ELV dimmable
Color rendering index	Ra > 80
Luminaire lumens	1024 lumens (3000K)
LED service life (L70)	60,000 hours

LED color temperature

☐ 4000K - Product number + **K4**
○ 3500K - Product number + **K35**
○ 3000K - Product number + **K3** ***(EXPRESS)***
○ 2700K - Product number + **K27**
○ Amber - Product number + **AMB**

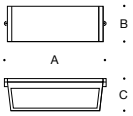
Wildlife friendly amber LED - Optional
Luminaire is optionally available with a narrow bandwidth, amber LED source (585-600nm) approved by the FWC. This light output is suggested for use within close proximity to sea turtle nesting and hatching habitats. Electrical and control information may vary from standard luminaire.

LED module wattage	12.0 W (Amber)
System wattage	15.0 W (Amber)
Luminaire lumens	243 lumens (Amber)

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish
All BEGA standard finishes are matte, textured polyester powder coat with minimum 3 mil thickness.

Available colors ☐ Black (BLK) ○ White (WHT) ○ RAL:
○ Bronze (BRZ) ○ Silver (SLV) ○ CUS:



LED wall luminaire · light output on one side

		LED	A	B	C
22 360	ADA	15.4 W	12 ½	4 ⅜	4

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Due to the dynamic nature of lighting products and the associated technologies, luminaire data on this sheet is subject to change at the discretion of BEGA North America. For the most current technical data, please refer to bega-us.com
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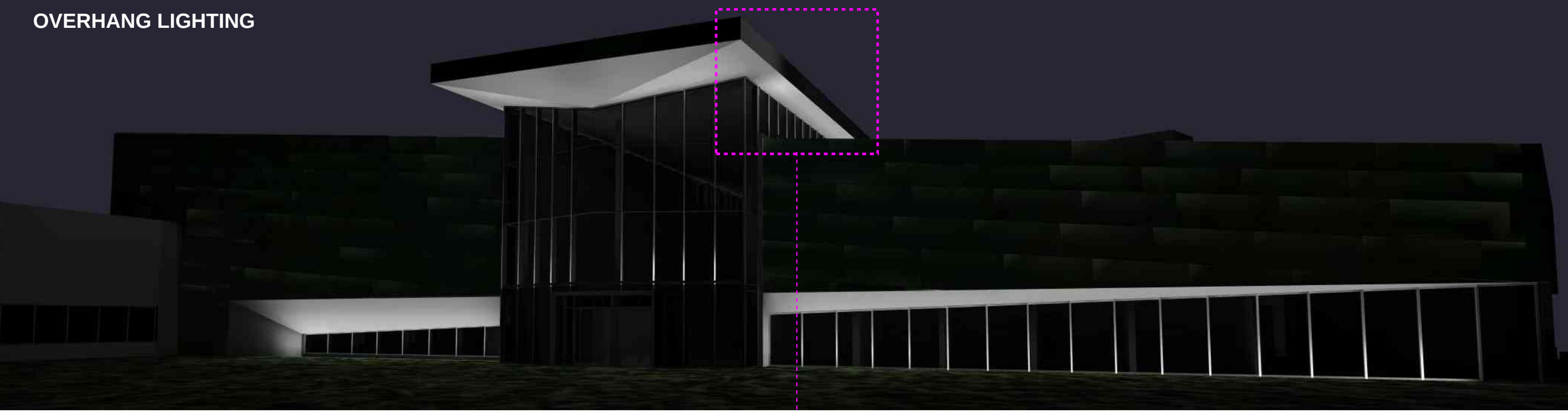
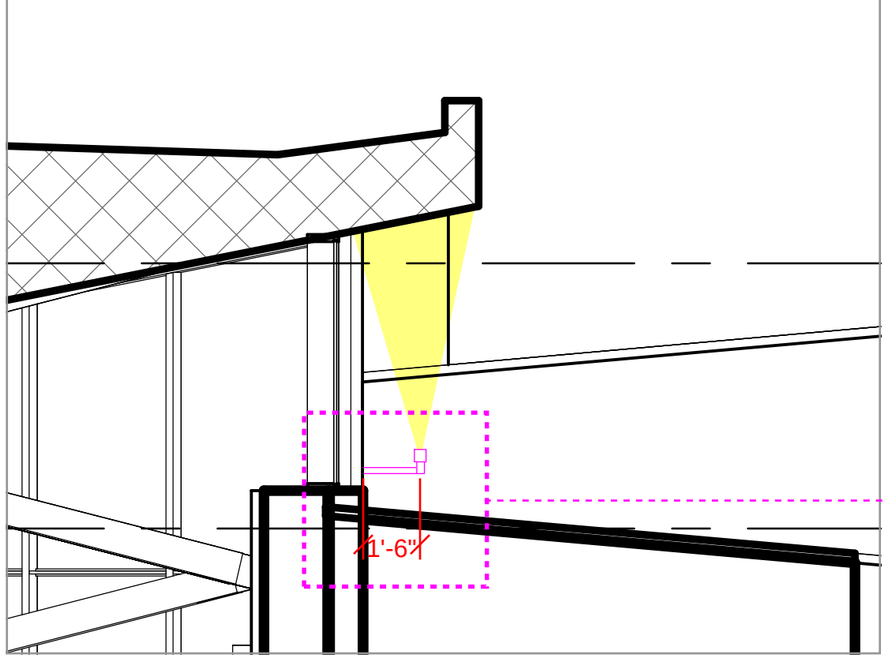
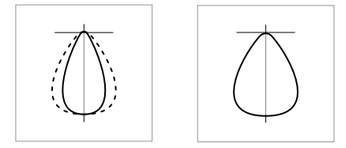
Updated 03/19/19

Appendix B – Architectural Lighting Information

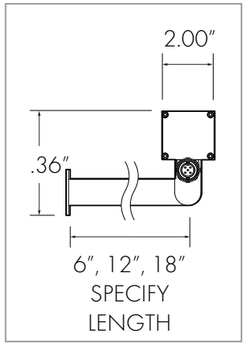
OVERHANG LIGHTING

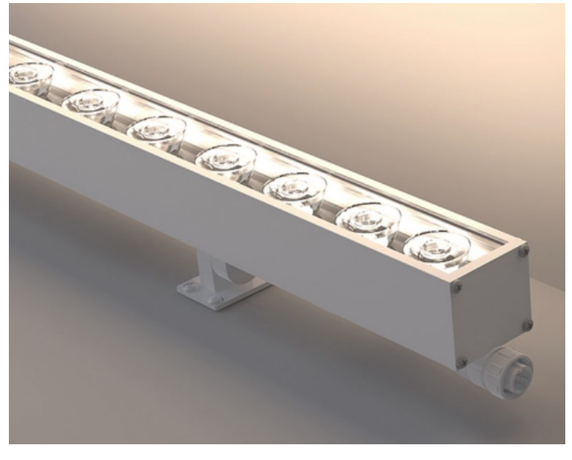




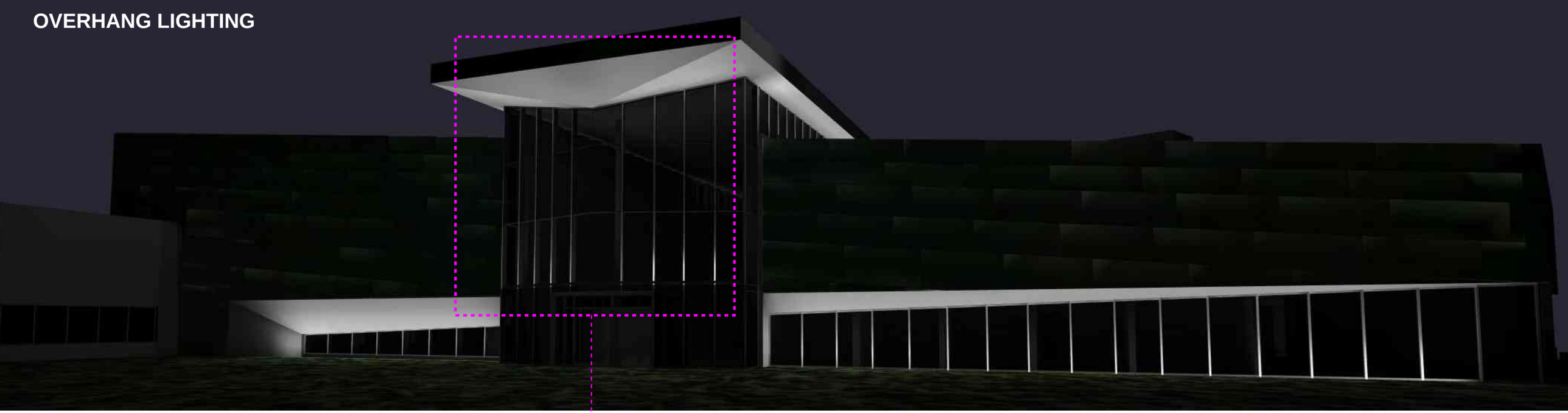


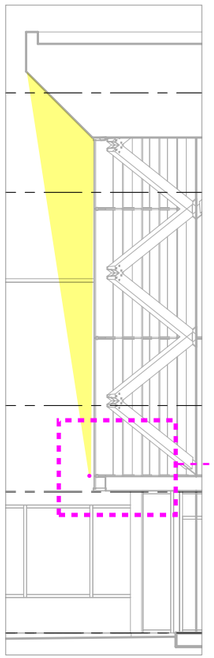
ARM BRACKET MOUNTED
LINEAR UPLIGHT
TO ILLUMINATE THE SIDE
OVERHANGS

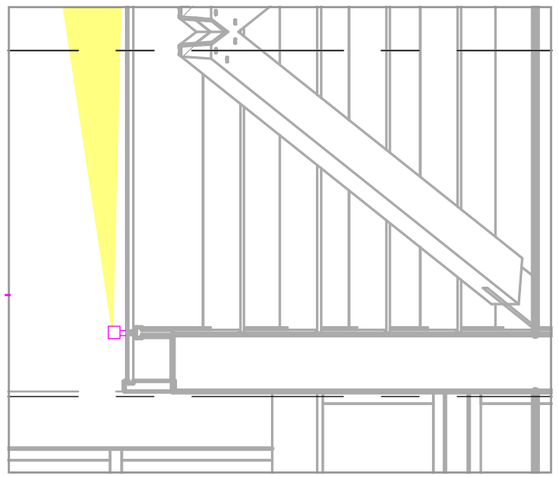


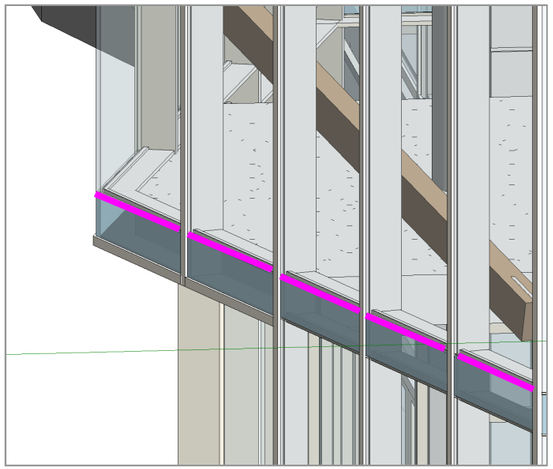


OVERHANG LIGHTING

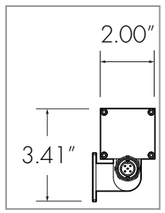


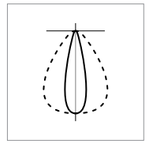




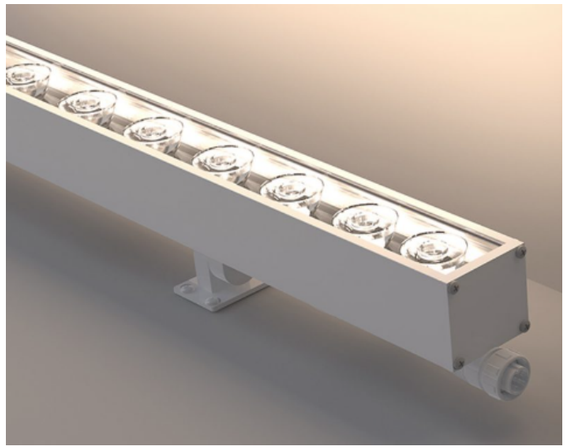


SURFACE MOUNTED
LINEAR UPLIGHT
TO ILLUMINATE THE
FRONT OVERHANG

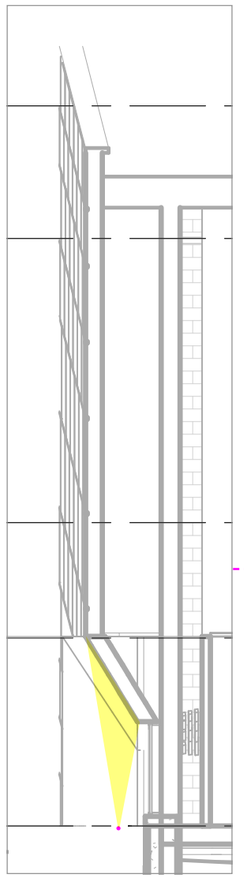


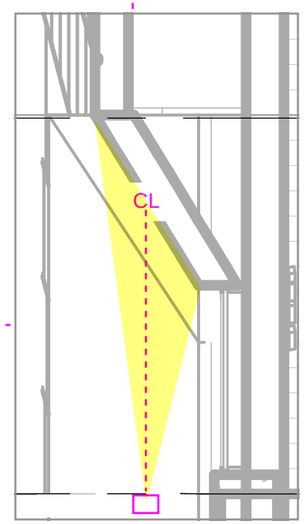


20°x 60°

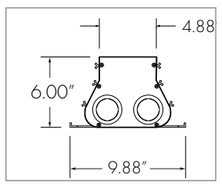


CHAMFERED SOFFIT LIGHTING

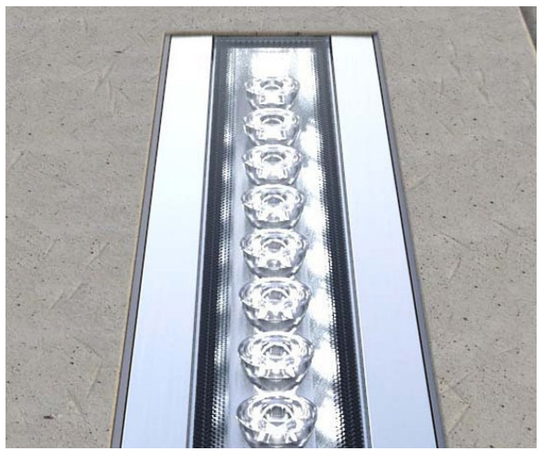




INGROUND LINEAR
UPLIGHT
TO ILLUMINATE THE
CHAMFERED EDGE



80 x 80 deg



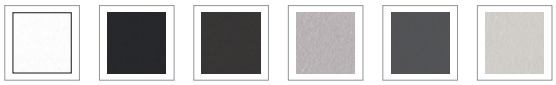
PROJECT: TYPE: CATALOG #: MER- - - - - TYPE EXAMPLE

PROFILE

LIGHT SOURCE	3.5 W/FT, 9.0 W/FT, 15.0 W/FT
OPTICS	7° X 60°, 10° X 10°, 10° X 60°, 10° X 90°, 20° X 20°, 20° X 60°, 40° X 40°, 40° X 60°, 40° X 90°, 60° X 60°, 90° X 90° 80° X 80°, ASY
CCT	27K, 30K, 35K, 40K, RED, GREEN, BLUE, AMBER
CRI	82 (OPTIONAL 90+)
PERFORMANCE	UP TO 117530 PEAK CANDELA
VOLTAGE	UNIVERSAL 120-277 V
POWER	REMOTE POWER SUPPLY
CONTROL	0-10V, DMX, LUTRON HI-LUME
DIMENSIONS	1.85" X 2.00"
HOUSING	PRECISION EXTRUDED ALUMINUM
LENS	HIGH DENSITY TEMPERED GLASS
FINISH	HIGH DURABILITY POWDER COATING
OPERATING TEMP	-20° C TO 50° C
WARRANTY	5-YEAR LIMITED
LUMEN MAINTENANCE	75,000 HOURS
CERTIFICATION	ETL AND cETL FOR IP67, IK07, 5G/3G OPTIONS

Intertek · RoHS · made in USA · IP67 · IK07 · 3G ANSI C136.3 · 5G ANSI C136.31

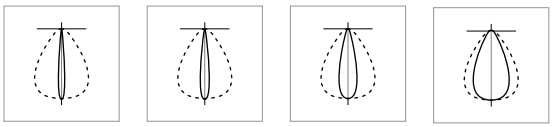
STANDARD FINISHES



TEXTURED WHITE · TEXTURED BLACK · TEXTURED BRONZE · TEXTURED L. BRONZE · TEXTURED GRAY · TEXTURED S. STONE

OPTICS

Not all available optics shown



7°x 60° · 10°x 60° · 20°x 60° · 40°x 60°

60°x 60° · 10°x 10° · 20°x 20° · 40°x 40°

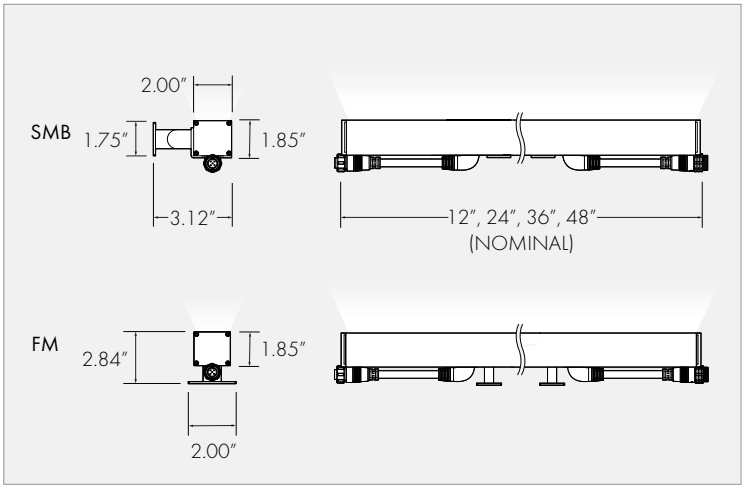
PERFORMANCE SAMPLE

Go to Performance Data >

40K, HO, 48.00"	10°X 10°	10°X 60°	20°X 20°	80°X 80°	100°
LUMENS	6316	5417	6475	6161	6459
CANDELA	117530	19943	52385	3960	2739
EFFICACY	91.2 LM/W	77.3 LM/W	93.3 LM/W	88.8 LM/W	94.4 LM/W

PROFILE

Go to Fixture Dimensions >



OPTIONS

*Shown with white diffusing lense

LOUVER · DIRECT VIEW DOME LENS · CONCEALED WIRING · VISOR

MEDLEY EXTERIOR REMOTE (MER)

PERFORMANCE LINEAR | WHITE LIGHT & STATIC COLOR SPECIFICATION

PROJECT: TYPE: CATALOG #: MER- - - - TYPE EX1 SERIES

SPECIFICATION

Separate options with dashes

MER								
1	2	3	4	5	6	7	8	9

1 FIXTURE

MEDLEY EXTERIOR REMOTE	MER

2 WATTAGE

LOW OUTPUT 3.5 W/FT	LO
MEDIUM OUTPUT 9.0 W/FT	MO
HIGH OUTPUT 15.0 W/FT	HO

3 CCT

2700K	27K
3000K	30K
3500K	35K
4000K	40K
RED	R
GREEN	G
BLUE	B
AMBER	A

4 OPTIC

7° X 60°	760
10° X 10° 10° X 10° optic is intended for a 6.00" fixture setback from the surface	1010
10° X 60°	1060
10° X 90°	1090
20° X 20°	2020
20° X 60°	2060
20° X 90°	2090
40° X 40°	4040
40° X 60°	4060
40° X 90°	4090
60° X 60°	6060
60° X 90°	6090
80° X 80°	8080
100° X 100°	100
ASYMMETRIC DIRECT Direct = down-light Asymmetric distribution is intended for a wall height of 10.0 FT to 12.0 FT with the fixture setback 18.00" from the wall	AD
ASYMMETRIC INDIRECT Indirect = up-light Asymmetric distribution is intended for a wall height of 10.0 FT to 12.0 FT with the fixture setback 18.00" from the wall	AI

5 MOUNTING

SURFACE MOUNT 5G Ansi C136.31 rated	SM
GROUND MOUNT	GM
EXTENDED ARM X = extended arm length specify 6", 12" or 18" 6.00" arm is 3G Ansi C136.3 rated	EA-X
EXTENDED ARM, BACK X = extended arm length specify 6", 12" or 18"	EAB-X
SURFACE BACK MOUNT	SMB
FIXED MOUNT Not intended for continuous run applications	FM
END MOUNT Not intended for continuous run applications	EM
STAKE MOUNT	STM

6 FIXTURE LENGTH

12"	12
24"	24
36"	36
48" Nominal lengths	48

7 CONTROL OPTIONS

NO DIMMING	NO
0-10V DIMMING (1%)	DIM
DMX DIMMING DMX controls are required and must be ordered seperately **DMX Programming Kit** required - see below	DMX
LUTRON L3D0E - Hi-lume Premier 0.1% EcoSystem 24V constant voltage LED driver with Soft-on, Fade to Black dimming technology All power supplies must be ordered - see below	L3DOE

8 FINISH

TEXTURED WHITE	TW
TEXTURED BLACK	TB
TEXTURED BRONZE	TBR
TEXTURED LIGHT BRONZE	TLB
TEXTURED GRAY	TG
TEXTURED SANDSTONE	TS
ANODIZED ALUMINUM Includes CRF finish	AA
CUSTOM COLOR Contact factory for custom color - additional charges will apply	CC

9 OPTIONS

HIGH CRI, 90+	HCRI
LOUVER Field installable snooted louver LLF of 10% - 15% depending on color	LV
VISOR Field installable visored louver LLF of 10% - 15% depending on color	VS
DIRECT VIEW DOME LENS Field installable Only available with 100° X 100°	DVD
WHITE LENS LLF OF 30% Only available with 100° X 100°	WL
CONCEALED WIRING Not available with 12" fixtures	CW
WHITE CABLING White cabling is standard with textured white finish	WC
CORROSION RES. FINISH Recommended for coastal or extreme exterior environments	CRF

POWER SUPPLY & CONTROL ORDER OPTIONS

Go to DMX Guide >

REMOTE POWER SUPPLY OPTIONS - WET LOCATION - REQUIRED

CONTRA EXTERIOR LOW POWER, 96W OUTPUT (120V-277V)	CEL
CONTRA EXTERIOR STANDARD POWER, 240W OUTPUT (120V-277V)	CES
CONTRA EXTERIOR HIGH POWER, (2)-240W OUTPUT (120V-277V)	CEH

Above wattage is based on 75% of the Power Supply's total wattage capacity

See page 3 for maximum fixture per power supply.

For specific and case by case requirements, please contact factory for assistance

DMX DISTRIBUTION & PROGRAMMING KIT - REQUIRED

DMX/RDM DISTRIBUTION KIT (4 OUTPUTS) - IP67	CDS-RDM

DMX/RDM **Distribution Kit** consists of four outputs

Each output is limited to (1) run per output - up to 32 fixtures max

Four terminators are included for end of line termination

Go to Cable Guide >

EXTERIOR LEADER CABLE - REQUIRED

5.0 FT LEADER CABLE	LC-5

A leader cable is required for each single fixture and for each fixture run for connection from the first fixture to the j-box

Black cables are standard unless White Cabling (**WC**) option or Textured White (**TW**) fixture finish is selected

EXTERIOR JUMPER CABLES

1.0 FT JUMPER CABLE	JC-1
2.0 FT JUMPER CABLE	JC-2
5.0 FT JUMPER CABLE	JC-5
10.0 FT JUMPER CABLE	JC-10
25.0 FT JUMPER CABLE	JC-25

Required if fixtures are not mounted in an end-to-end continuous manner and for line voltage only

Black cables are standard unless White Cabling (**WC**) option or Textured White (**TW**) fixture finish is selected

insight lighting
4341 Fulcrum Way NE, Rio Rancho New Mexico 87144
P.: 505.345.0888 | insightlighting.com

PROJECT: TYPE: CATALOG #: MER- - - - - TYPE EX1 SERIES

PERFORMANCE

Nominal lengths

		LOW OUTPUT (3.5 W/FT)			MEDIUM OUTPUT (9.0 W/FT)			HIGH OUTPUT (15.0 W/FT)		
CCT AND LENGTH	OPTIC	DELIVERED LUMENS	LUMINARE EFFICACY	PEAK CANDELA	DELIVERED LUMENS	LUMINARE EFFICACY	PEAK CANDELA	DELIVERED LUMENS	LUMINARE EFFICACY	PEAK CANDELA
4000K 24"	7° X 60°	998 LM	107.0 LM/W	3662	1685 LM	110.0 LM/W	6189	3366 LM	98.0 LM/W	12363
	10° X 10°	932 LM	100.5 LM/W	17011	1566 LM	103.0 LM/W	28686	3158 LM	91.2 LM/W	58765
	10° X 60°	804 LM	86.6 LM/W	2905	1348 LM	88.4 LM/W	4871	2709 LM	77.3 LM/W	9972
	20° X 20°	948 LM	102.1 LM/W	7658	1601 LM	102.4 LM/W	12983	3238 LM	93.3 LM/W	26193
	20° X 60°	862 LM	92.8 LM/W	1893	1451 LM	96.2 LM/W	3207	2914 LM	84.6 LM/W	6379
	40° X 40°	1001 LM	108.0 LM/W	1395	1688 LM	111.0 LM/W	2338	3392 LM	98.8 LM/W	4733
	40° X 60°	896 LM	96.7 LM/W	724	1497 LM	98.6 LM/W	1211	3039 LM	88.1 LM/W	2470
	60° X 60°	993 LM	107.1 LM/W	882	1666 LM	109.3 LM/W	1485	3354 LM	97.7 LM/W	2999
	80° X 80°	912 LM	98.2 LM/W	585	1525 LM	100.1 LM/W	976	3081LM	88.8 LM/W	1980
	100° X 100°	620 LM	86.8 LM/W	263	1964 LM	93.3 LM/W	829	3230 LM	94.4 LM/W	1370
	ASY	888 LM	96.3 LM/W	3134	1473 LM	97.8 LM/W	5199	2890 LM	88.2 LM/W	9369
4000K 36"	7° X 60°	1496 LM	107.0 LM/W	5492	2527 LM	110.0 LM/W	9283	5048 LM	98.0 LM/W	18544
	10° X 10°	1398 LM	100.5 LM/W	25516	2349 LM	103.0 LM/W	43029	4737 LM	91.2 LM/W	88148
	10° X 60°	1205 LM	86.6 LM/W	4357	2022 LM	88.4 LM/W	7306	4063 LM	77.3 LM/W	14957
	20° X 20°	1421 LM	102.1 LM/W	11486	2402 LM	102.4 LM/W	19474	4856 LM	93.3 LM/W	39289
	20° X 60°	1292 LM	92.8 LM/W	2840	2177 LM	96.2 LM/W	4810	4371 LM	84.6 LM/W	9569
	40° X 40°	1502 LM	108.0 LM/W	2093	2531 LM	111.0 LM/W	3506	5088 LM	98.8 LM/W	7100
	40° X 60°	1344 LM	96.7 LM/W	1086	2245 LM	98.6 LM/W	1817	4559 LM	88.1 LM/W	3704
	60° X 60°	1489 LM	107.1 LM/W	1322	2499 LM	109.3 LM/W	2228	5031LM	97.7 LM/W	4499
	80° X 80°	1368 LM	98.2 LM/W	877	2287 LM	100.1 LM/W	1464	4621 LM	88.8 LM/W	2970
	100° X 100°	929 LM	86.8 LM/W	394	2946 LM	93.3 LM/W	1244	4844 LM	94.4 LM/W	2054
	ASY	1332 LM	96.3 LM/W	4700	2209 LM	97.8 LM/W	7798	4335LM	88.2 LM/W	14053
4000K 48"	7° X 60°	1995 LM	107.0 LM/W	7323	3369 LM	110.0 LM/W	12377	6731 LM	98.0 LM/W	24725
	10° X 10°	1864 LM	100.5 LM/W	34021	3132 LM	103.0 LM/W	57372	6316 LM	91.2 LM/W	117530
	10° X 60°	1607 LM	86.6 LM/W	5809	2696 LM	88.4 LM/W	9741	5417 LM	77.3 LM/W	19943
	20° X 20°	1895 LM	102.1 LM/W	15315	3202 LM	102.4 LM/W	25965	6475 LM	93.3 LM/W	52385
	20° X 60°	1723 LM	92.8 LM/W	3786	2902 LM	96.2 LM/W	6413	5828 LM	84.6 LM/W	12758
	40° X 40°	2002 LM	108.0 LM/W	2790	3375 LM	110.7 LM/W	4675	6784 LM	98.8 LM/W	9466
	40° X 60°	1792LM	96.7 LM/W	1448	2993 LM	98.6 LM/W	2422	6078 LM	88.1 LM/W	4939
	60° X 60°	1985 LM	107.1 LM/W	1763	3332 LM	109.3 LM/W	2970	6708 LM	97.7 LM/W	5998
	80° X 80°	1824 LM	98.2 LM/W	1169	3049 LM	100.1 LM/W	1952	6161 LM	88.8 LM/W	3960
	100° X 100°	1239 LM	86.8 LM/W	525	3928 LM	93.3 LM/W	1658	6459 LM	94.4 LM/W	2739
	ASY	1776 LM	96.3 LM/W	6267	2945 LM	97.8 LM/W	10397	5780 LM	88.2 LM/W	18787

WIRING

MAXIMUM FIXTURES PER POWER SUPPLY (CIRCUITS MAY NOT BE LOADED OVER 10 AMPS)

Data provided is based on 75% of the Power Supply's total wattage capacity

	LOW OUTPUT (3.5 W/FT)			MEDIUM OUTPUT (9.0 W/FT)			HIGH OUTPUT (15.0 W/FT)		
NOMINAL FIXTURE LENGTH	CONTRA STAND. POWER 96W OUTPUT	CONTRA HIGH POWER 240W OUTPUT	CONTRA DUAL HIGH POWER (2)-240W	CONTRA STAND. POWER 96W OUTPUT	CONTRA HIGH POWER 240W OUTPUT	CONTRA DUAL HIGH POWER (2)-240W	CONTRA STAND. POWER 96W OUTPUT	CONTRA HIGH POWER 240W OUTPUT	CONTRA DUAL HIGH POWER (2)-240W
12"	27	68	136	10	26	52	5	14	28
24"	13	34	68	5	13	26	2	7	14
36"	9	23	46	3	8	16	2	4	8
48"	6	17	34	2	6	12	1	3	6

REMOTE DISTANCE LIMITS

Noncompliance with recommended remote wiring distances may void warranty

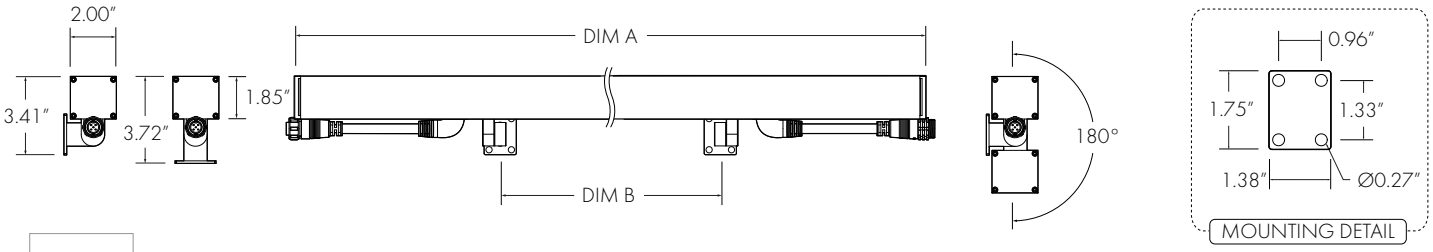
WIRE GAUGE	MAX DISTANCE
20 AWG	25.0 FT
18 AWG	30.0 FT
16 AWG	40.0 FT
14 AWG	60.0 FT
12 AWG	100.0 FT

PROJECT: TYPE: CATALOG #: MER- - - - - TYPE EA1 SERIES

DIMENSIONS

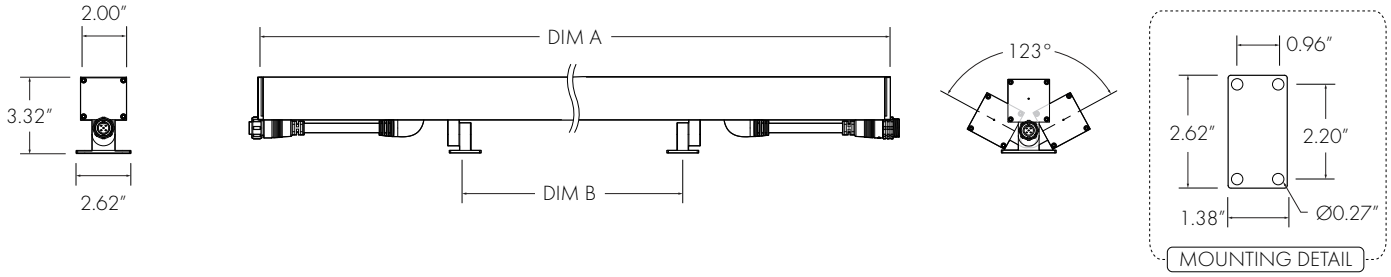
	12"	24"	36"	48"
DIM A	12.10"	23.85"	35.60"	47.35"
DIM B	9.28"	4.00" MIN | 6.00" MAX	12.00" MIN | 18.00" MAX	18.00" MIN | 30.00" MAX

SURFACE MOUNT (SM)

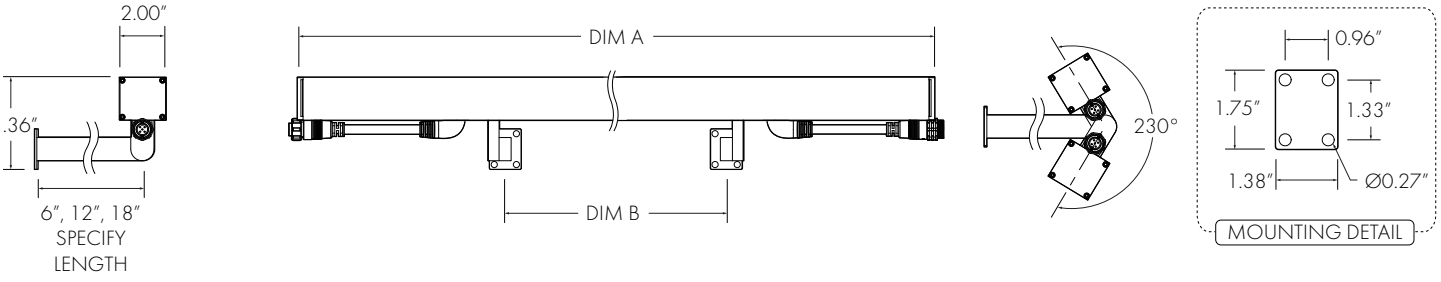


5G
ANSI C136.31

GROUND MOUNT (GM)



EXTENDED ARM (EA-X)



3G
ANSI C136.3

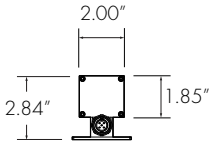
3G RATED WITH 6.00" ARM

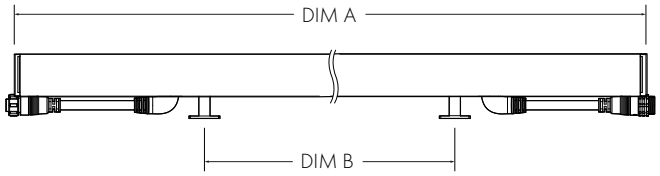
PROJECT: TYPE: CATALOG #: MER- - - - TYPE EX1 SERIES

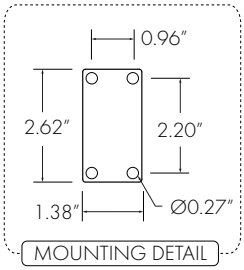
DIMENSIONS

	12"	24"	36"	48"
DIM A	12.10"	23.85"	35.60"	47.35"
DIM B	9.28"	4.00" MIN | 6.00" MAX	12.00" MIN | 18.00" MAX	18.00" MIN | 30.00" MAX

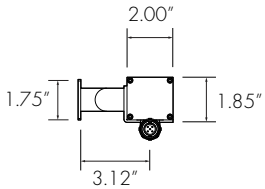
FIXED MOUNT (FM)

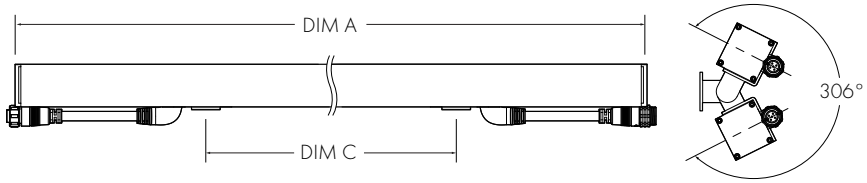


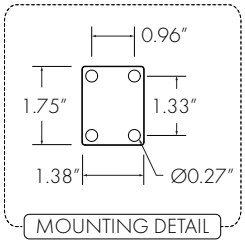




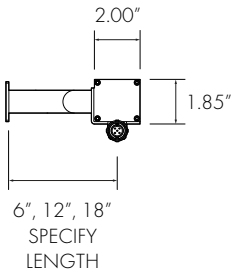
SURFACE, BACK MOUNT (SMB)

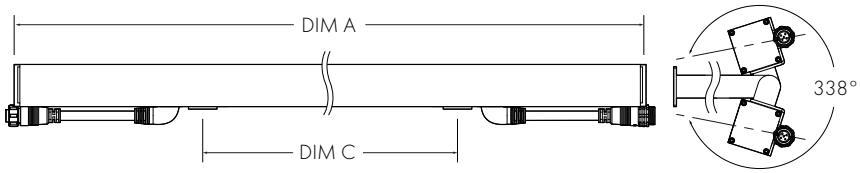


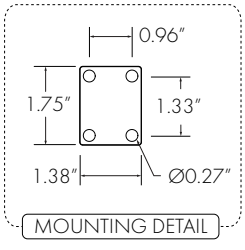




EXTENDED ARM, BACK MOUNT (EAB-X)





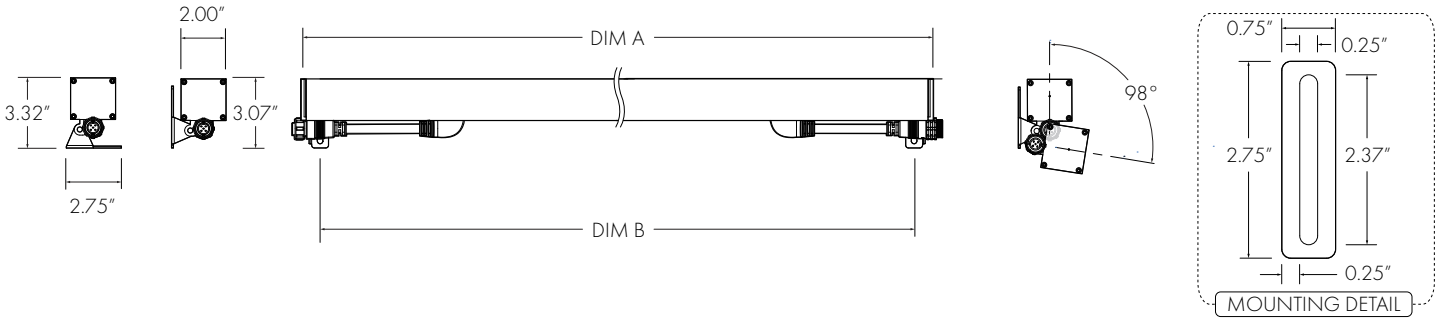


PROJECT: TYPE: CATALOG #: MER- - - - TYPE EX1 SERIES

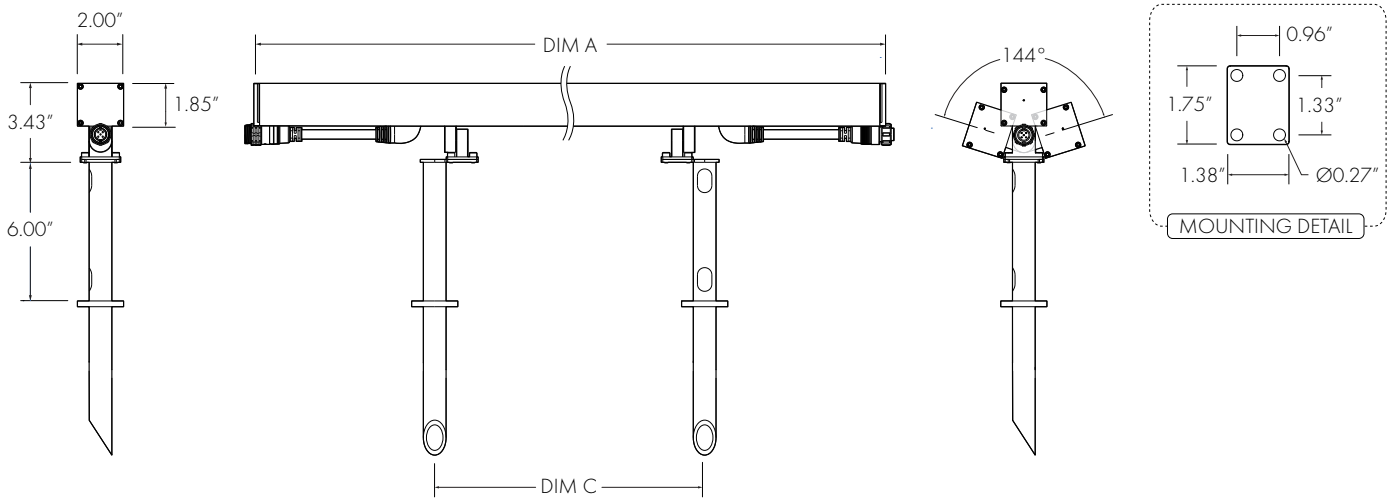
DIMENSIONS

	12.00"	24.00"	36.00"	48.00"
DIM A	12.10"	23.85"	35.60"	47.35"
DIM B	11.65	22.31"	34.06"	45.81"
DIM C	10.56"	4.00" MIN | 6.00" MAX	12.00" MIN | 18.00" MAX	18.00" MIN | 30.00" MAX

END MOUNT (EM)



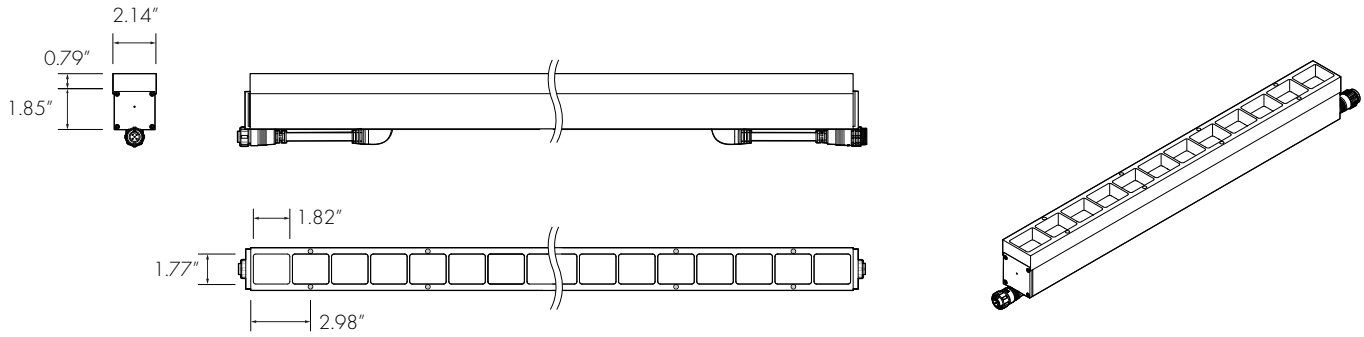
STAKE MOUNT (STM)



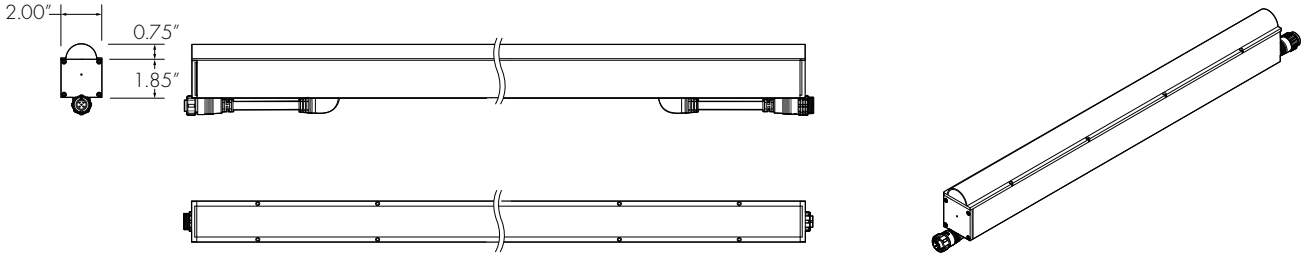
PROJECT: TYPE: CATALOG #: MER- - - - - TYPE EX1 SERIES

ACCESSORIES

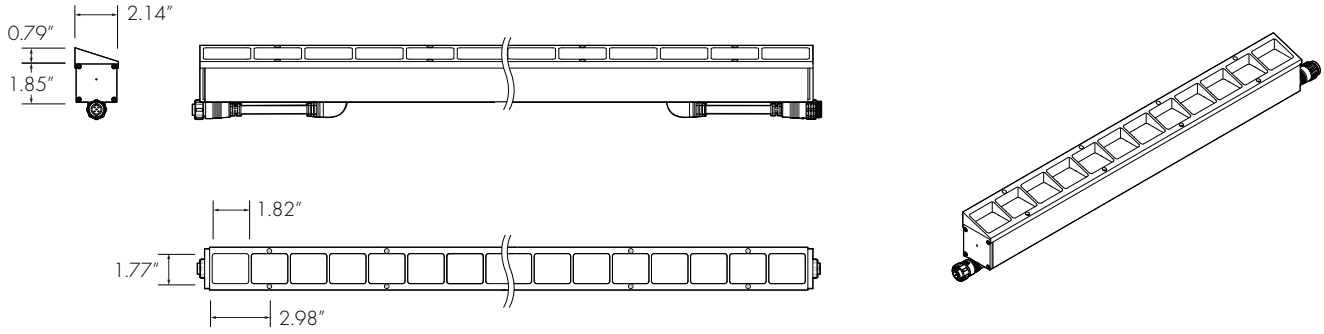
LOUVER (LV)



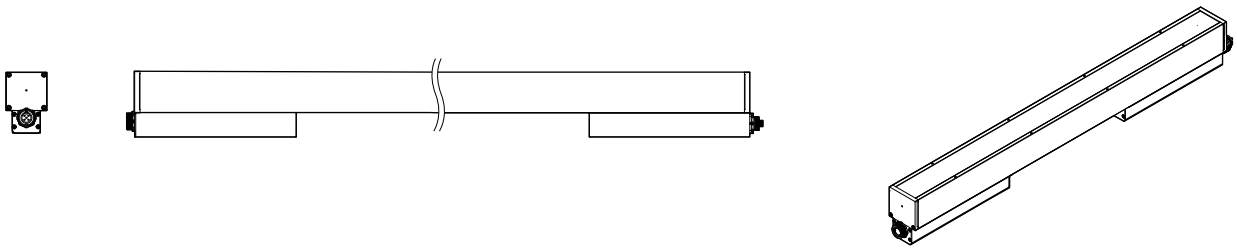
DIRECT VIEW LENS (DV)



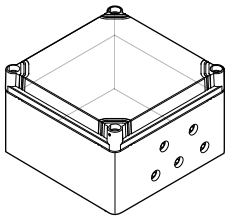
VISOR (VS)

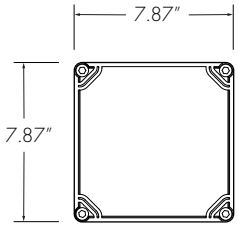


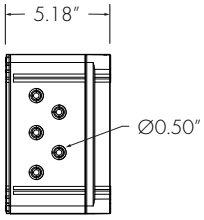
CONCEALED WIRING (CW)



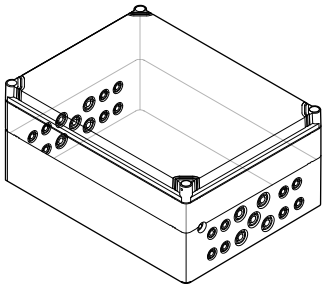
CONTRA EXTERIOR LOW POWER SUPPLY - CEL

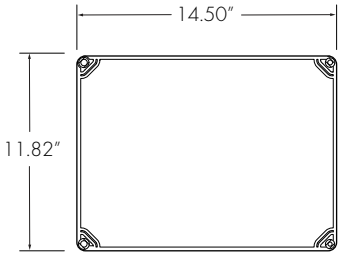


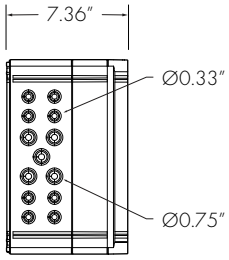




CONTRA EXTERIOR STANDARD AND HIGH POWER SUPPLY - CES / CEH







Section 12 – USM Overlay Zone Standards

The City has adopted specific additional standards for projects on the USM campus to ensure that new development is sensitive to the surrounding residential neighborhoods and commercial development. This project has been designed with these additional standards in mind.

Principle A – Campus Design

Standards A-1, Campus Edges: The building overlooks Noyes Park and is stepped back on Bedford Street to be in keeping with the setback of Luther Bonney Hall. Further, the building will be single-story construction, which softens the scale of the new building relative to the houses and smaller buildings on Bedford Street and Deering Avenue. New sidewalks on Bedford Street and connection to sidewalks in Noyes Park provides a direct pedestrian connection between the building and the neighborhood.

As an intersection building with multiple front doors, the building's massing and exterior materiality have been designed to fit contextually within USM's Portland Campus and surrounding City of Portland's community. The building utilizes durable, long-lasting, maintainable materials: predominantly an aluminum composite material (ACM) metal panel system (ACM rain screen), energy-efficient curtain wall and storefront glazing, with the highly visual central Gallery space expressed primarily by a wood-framed ceiling and vertical curtainwall.

Standard A-2, Building Orientation: The building is oriented to be parallel to the Bedford Street and Noyes Park property lines which serves to maximize the size of the campus green to the north and create a more defined courtyard-style campus green ringed by Payson Smith Hall, Luther Bonney Hall and the proposed building. Orienting the building so that the main entrances face both Noyes Park and the campus green provides a direct connection between the two green spaces through the building.

Standard A-3, Pedestrian Environment: The project includes maintaining pedestrian connections through the campus green between the Law School and adjacent parking to the south and Luther Bonney Hall to the north as well as providing pedestrian access to Falmouth Street and Payson Smith Hall. Further, the project will construct a new sidewalk on Bedford Street, providing a link between the existing sidewalk along Bedford Street to the north and Noyes Park to the south.

Standards A-4, Gateways and A-5, Views and Landmarks: The building has been sited to provide a new "front door" to the campus from Deering Avenue and the Bedford Street/Deering Avenue Intersection, enhancing the views on Bedford Street and Noyes Park.

The fundamental configuration of the CFA represents simultaneous intersections from the City to the campus with a central Gallery becoming a gateway from Noyes Park to campus. The Gallery is an exhibition space for the visual arts, open to passersby. It also serves as a threshold between the campus

and the CFA, opening out onto a newly defined campus green and bringing the arts outside and connecting to the purpose-built spaces for teaching, rehearsal, and practice.

Principle B – Access and Circulation

Standards B-1, Connectivity and B-2, Circulation: As indicated elsewhere in this Application, the project will maintain pedestrian pathways through the campus green, providing linkages between the Law School and adjacent parking lot and the proposed building, Luther Bonney Hall, and Payson Smith Hall. Entrances on the north and south sides of the buildings will provide a linkage between the proposed building and the external pedestrian pathways. The project will also construct a new sidewalk on Bedford Street to provide a link between the existing sidewalk along Bedford Street to the north and Noyes Park to the south.

Standard B-3, Multi-modality: The site will be connected to the campus' pedestrian circulation system and include bicycle racks near one of the building entrances. Compliant access will also be maintained to the existing bus stop on the north side of Deering Avenue, approximately 65' from the building.

Standard B-4, Traffic-calming: This standard is not applicable.

Standard B-5, Sidewalks: A section of sidewalk on Bedford Street is proposed to link existing sidewalks north and south of the project site. The sidewalk will be constructed from reinforced concrete to match the existing sidewalks it is being connected to as well as sidewalks on the opposite side of the street.

Standard B-6, Street Lights: Exterior pedestrian-scale lights are being provided along the sidewalk on Bedford Street within the project area, starting at the existing sidewalk across from Surrenden Street and the existing sidewalk on Noyes Park. Illumination levels and additional information on the lights being used are included in Section 11 of this application package.

Principle C – Parking, Loading and Service Areas

Standard C-1, Structures: This standard is not applicable.

Standard C-2, Active Uses: This standard is not applicable.

Standard C-3, Decks and Ramps: This standard is not applicable.

Standard C-4, Surface Lots: This standard is not applicable.

Standard C-5, Loading and Service Areas: A small loading area is proposed on the north side of the building that will be accessed from Falmouth Street via a widened sidewalk on the south side of the parking lot adjacent to Payson Smith Hall. This sidewalk has been designed to accommodate the turning movements of a 30-foot box trucks, ensuring that the truck will not have to back out into Falmouth Street. Use of the loading area will likely be limited to occasional deliveries of musical equipment and

trash collection by USM facilities staff (using pickup trucks and similarly sized vehicles). A plan showing the turning movements of trucks using the loading zone is included in Section 8 of this application package.

Standard C-6, Utility Services: A natural-gas regulator and pad-mounted transformer will be located on the northwest side of the building, neither of which produce noise. Both of these have been strategically screened and located in areas where their visual impact on the building and the surroundings will be minimal. Mechanical equipment will be placed on the building roof to minimize impact on the building's façades and the campus. The noise associated with this equipment will also be minimal.

Principle D – Architectural Design

Standard D-1, Height:
The building is a single-story, but there are four double-height spaces: the central Gallery, Performance Hall, Arts Lab and Rehearsal Hall, which reflect greater than typical volumes, based on the needs for acoustics, performance technologies and display in these spaces. These larger volume roofs have been shaped to bridge between the larger spaces and smaller teaching studio and support spaces. Parapet screening is also utilized to screen mechanical equipment and support these transitions. The highest points of the building are at the large volumes and range from 40'-0" to 44'-0" tall, and the height at the Gallery is 44'-0". At the lowest point, the building is at 22'-0" tall.

Standard D-2, Setbacks: The building has been positioned as close to the property line setback on Noyes Park as possible without causing damage to a significant Beech tree in the park. The building's setback on Bedford Street is generally similar to the setback between Luther Bonney Hall and Bedford Street while maintaining enough space on the northwest side of the building to provide adequate space for pedestrian circulation and separation from the farmhouse that will be relocated prior to the beginning of this project.

Standard D-3, Stepbacks: This standard is not applicable.

Standard D-4, Massing:
The massing and form of the Center for the Arts expresses the logic of its internal function. From the Gallery, the two major venues serving as the organization drivers are the Performance Hall, which is entered from the west side of the gallery, rises up to support the classroom and rehearsal spaces eastward; and the Arts Lab, which is entered from the east side of the Gallery, is a counterpoint to the Performance Hall, anchoring the teaching and support spaces westward. Together, these two programmatic elements intersect – and are captured by – the central Gallery volume.

Standard D-5, Entrances: The primary entrances to the building face Noyes Park and the campus green and connect to a main spine/lobby that runs through the building. Both entrances will be directly connected to the campus' internal pedestrian circulation system and the sidewalks within Noyes Park. There are also pedestrian connections to Bedford Street from each of the building entrances.

Standard D-6, Windows:
As an Arts building, natural lighting is highly desired and aids in achieving USM's goal to display arts activities and encourage campus and community engagement. The central Gallery celebrates this experience, which is framed by 20' high vertical glazing at each end. The vertical enclosure of this space is a curtainwall with structurally glazed joints on the horizontal. Along the length of the gallery, there are upper clerestory faces, with shadow-box glazing assemblies with backlight, where adjacent roofing abuts. Ten-foot high storefront glazing creates a ribbon around perimeter studio spaces, allowing visibility, with translucent ceramic frit film applied on the clear glazing, where more privacy is needed. The activities at the Performance Hall, Arts Lab and Recital Hall are also placed on display with larger punched curtainwall openings. Windows have been designed to meet increased acoustical criteria at acoustically sensitive rooms.

Standard D-7, Materials:
The exterior wall approach extends the logic of the massing and planning organization. The building utilizes the use of durable, long-lasting, and maintainable materials. The central Gallery space is expressed primarily by a wood-framed ceiling and vertical curtainwall. The outer forms of the building are predominantly a metal panel system (ACM rain screen) The campus-facing mass, including the Arts Lab, has a vertically-oriented ACM rain screen enclosure. The park-facing mass including the Performance Hall has a diagonally-biased variant of the ACM rain screen system.

Standard D-8, Signage: As indicated on the building elevations and renderings included with this application package, the building name and street number will be clearly visible on the exterior of the building. Materials used will be consistent in quality and design with the other materials used on the building façade.

Standard D-9, Historic Structures: There are no historic resources on site. The existing farmhouse within the proposed building footprint is being relocated under a separate project in a way that is acceptable to the City's Historic Preservation Department.

Standard D-10, Original Residential Structures: This standard is not applicable.

SITE LOCATION OF DEVELOPMENT – MINOR AMENDMENT

University of Southern Maine

246 Deering Avenue, Portland, Maine

Center for the Arts
111 Bedford Street, Portland, Maine

Prepared For:

University of Southern Maine
25 Bedford Street
Portland, Maine

December 15, 2022

Prepared By:

OAK POINT ASSOCIATES
architecture
engineering
planning

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Air Emission	21	
Odors	22	(N/A)
Water Vapor	23	(N/A)
Sunlight	24	(N/A)
Notices	25	
Shadow Flicker	26	(N/A)
Public Safety	27	(N/A)

Tangible Benefits 28 (N/A)
Decommissioning 29 (N/A)
General Facility - Visual Quality and Scenic Character 30 (N/A)

Department of Environmental Protection
Bureau of Land & Water Quality
17 State House Station
Augusta, Maine 04333
Telephone: 207-287-3901

FOR DEP USE
ATS # _____
L-_____
Total Fees: _____
Date: Received _____

FORM A PAGE 1

****

SITE LOCATION OF DEVELOPMENT PERMIT APPLICATION 38 M.R.S.A. §§481-490

PLEASE TYPE OR PRINT IN *INK ONLY*

This application is for: (CHECK THE ONE THAT APPLIES)	☐ 20 acre development ☐ Planning Permit ☐ Metallic Mining	☐ Marine Oil Terminal ☐ Structure ☐ Subdivision	☐ Major Amendment ☒ Minor Amendment

1. Name of Applicant:	University of Southern Maine	**6. Name of Agent (if applicable):**	Jonah DeWaters, PE (OPA)
2. Applicant's Mailing Address:	25 Bedford Street, Portland, ME	**7. Agent's Mailing Address:**	231 Main Street, Biddeford, ME
3. Applicant's Daytime Phone #:	(207) 780-4177	**8. Agent's Daytime Phone # :**	(207) 283-0193
4. Applicant's Fax # (if available):	N/A	**9. Agent's Fax # (if available):**	(207) 283-4283
5. Applicant's *e-mail address* (REQUIRED -license will be sent via: e-mail):	john.souther@maine.edu	**10. Agent's *e-mail address* (REQUIRED - license will be sent via e-mail):**	jdewaters@oakpoint.com

PROJECT INFORMATION

11. Name of Development:	Center for the Arts						
12. Map and Lot #'s:	**Map #:** 114	**Lot #:** A001	**13. Deed Reference #'s:**		**Book #:** 29219	**Page #:** 218	
14. Location of Project City/Town:	Portland	**15. County:**	Cumberland	**16. UTM Northing**	4835062	**17. UTM Easting**	397022
18. Brief Description of Project including total parcel size:	Construction of a new Center for the Arts Building and associated site amenities on the southwest side of the campus near the intersections of Bedford Street and Deering Avenue						

19. Type of Direct Watershed: (Check all that apply)

☐ Lake not most at risk ☐ River, stream or brook ☒ Coastal wetland
☐ Lake most at risk ☐ Urban impaired stream ☐ Wellhead or public water
☐ Lake most at risk, severely blooming ☐ Freshwater wetland

20. Name of Waterbody Project Site drains to:	Casco Bay		
21. Amount of Developed Area:	**Total acres:** 3.92	Existing Developed area: 3.92 acres	New Developed area: 0 acres
22. Amount of Impervious Area:	**Total acres:** 1.6	Existing Impervious areas 0.4 acres	New Impervious area: 1.6 acres (0.4 acre removed)

23. Development started prior to obtaining a license?:	☐ Yes ☒ No				
24. .Development or any portion of the site subject to enforcement action?	☐ Yes ☒ No	**If yes**, name of enforcement staff involved?			
25. Common scheme of development?:	☐ Yes ☒ No	**26. Title, Right or Interest:**	☒ own ☐ lease	☐ purchase option ☐ written agreement	
27. Natural Resources Protection Act permit required?:	☐ Yes ☒ No	**If yes:** ☐ PBR	☐ Tier 1 ☐ Tier 2	☐ Full Permit	
28. Existing DEP Permit number (if applicable):	L-20438-22-D-A				
29. Names of DEP staff person(s) present at the pre-application meeting:	N/A (reviewed and approved by the City of Portland)				
30. Does agent have an interest in project? If yes, what is the interest?	☐ Yes ☒ No				

CERTIFICATIONS AND SIGNATURES LOCATED ON PAGE 2

IMPORTANT: IF THE SIGNATURE BELOW IS NOT THE APPLICANT'S SIGNATURE, ATTACH LETTER OF AGENT AUTHORIZATION SIGNED BY THE APPLICANT.

By signing below the applicant (or authorized agent), certifies that he or she has read and understood the following :

CERTIFICATIONS / SIGNATURES

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein.

Further, I hereby authorize the DEP to send me an electronically signed decision on the license I am applying for with this application by emailing the decision to the electronic address located on the front page of this application (see #5 for the applicant and #10 for the agent)"..

Signed: _____ **Title** Cvil Engineer/Agent **Date:** 12/15/2022

Notice of Intent to Comply with Maine Construction General Permit	**With this Site Law application form and my signature, I am filing notice of my intent to carry out work which meets the requirements of the Maine Construction General Permit (MCGP). I have read and will comply with all of the MCGP standards.** **If this form is not being signed by the landowner or lessee of the property, attach documentation showing authorization to sign.** **Signed** _____ **Date:** 12/15/2022

NOTE: You must file a MCGP Notice of Termination (Form K) within 20 days of completing permanent stabilization of the project site.

CERTIFICATION

The person responsible for preparing this application and/or attaching pertinent site and design information hereto, by signing below, certifies that the application for development approval is complete and accurate to the best of his/her knowledge.

Signature: _____

Name (print): Jonah DeWaters, PE

Date: 12/15/22

Re/Cert/Lic No.: _____
Engineer 12273 (Maine)
Geologist _____
Soil Scientist _____
Land Surveyor _____
Site Evaluator _____
Active Member of the Maine Bar _____
Professional Landscape Architect _____
Other _____

DocuSign Envelope ID: 5055615B-E4C7-4826-B314-32B9DAB333C9

UNIVERSITY OF SOUTHERN MAINE

Maine's Public Universities
UNIVERSITY OF MAINE SYSTEM

November 15, 2022

To: Local, State, and Federal Review Officials

RE: AUTHORIZED REPRESENTATIVE – USM Center for the Arts

The University of Southern Maine, a member of the University of Maine System, is preparing plans for construction of a new Center for the Arts located on the University of Southern Maine, Portland Campus. The University has retained Pfeiffer, a studio of Perkins Eastman Architects DPC, as our Designer of Record and Oak Point Associates as the Engineering Consultant, to assist in the preparation of the applications associated with permitting approvals for this project. When necessary, Oak Point Associates is authorized as the agent to represent the University in addressing questions on the plans, or applicable application for this project.

Sincerely,

DocuSigned by:
John Souther
C68AD86AE7CA431...

John M. Souther,
Executive Director of Facilities Management,
University of Southern Maine for the
University of Maine System

Cc: to file.

FORM D

SUBMISSIONS CHECKLIST

If a provision is not applicable, put "NA"

Section 1. Development description

A. Narrative

X 1. Objectives and details

X 2. Existing facilities (with dates of construction)

B. Topographic map

X 1. Location of development boundaries

X 2. Quadrangle name

C. Construction plan

X 1. Outline of construction sequence (major aspects)

2. Dates

D. Drawings

X 1. Development facilities

X a. Location, function and ground area

N/A b. Length/cross-sections for roads

X 2. Site work (nature and extent)

X 3. Existing facilities (location, function ground area and floor area)

4. Topography

X a. Pre- and post-development (contours 2 ft or less)

X b. Previous construction, facilities and lot lines

X **Section 2. Title, right or interest** (copy of document)

Section 3. Financial capacity

X A. Estimated costs

B. Financing

X 1. Letter of commitment to fund

2. Self-financing

N/A a. Annual report

N/A b. Bank statement

3. Other

N/A a. Cash equity commitment

N/A b. Financial plan

X c. Letter

N/A 4. Affordable housing information

Section 4. Technical ability (description)

X A. Prior experience (statement)

X B. Personnel (documents)

Section 5. Noise

X A. Developments producing a minor noise impact (statement)

N/A 1. Residential developments

N/A 2. Certain non-residential subdivisions

X 3. Schools and hospitals

N/A 4. Other developments

N/A a. Type, source and location of noise

N/A b. Uses, zoning and plans

N/A c. Protected locations

N/A d. Minor nature of impact

N/A e. Demonstration
N/A B. Developments producing a major noise impact (full noise study)
N/A 1. Baseline
N/A a. Uses, zoning and plans
N/A b. Protected locations
N/A c. Quiet area
X 2. Noise generated by the development
X a. Type, source and location of noise
N/A b. Sound levels
N/A c. Control measures
N/A d. Comparison with regulatory limits
N/A e. Comparison with local limits

X **Section 6. Visual quality and scenic character**(narrative, description, visual impact analysis)

X **Section 7. Wildlife and fisheries** (narrative)

X **Section 8. Historic sites** (narrative)

X **Section 9. Unusual natural areas** (narrative)

Section 10. Buffers
X A. Site plan and narrative

Section 11. Soils
X A. Soil survey map and report
X 1. Soil investigation narrative
X 2. Soil survey map
X B. Soil survey intensity level by development type
N/A 1. Class A (High Intensity) Soil Survey
N/A 2. Class B (High Intensity) Soil Survey
N/A 3. Class C (Medium High-Intensity) Soil Survey
X 4. Class D (Medium Intensity) Soil Survey
X C. Geotechnical Investigation
N/A D. Hydric soils mapping

Section 12. Stormwater management
X A. Narrative
X 1. Development location
X 2. Surface water on or abutting the site
X 3. Downstream ponds and lakes
X 4. General topography
X 5. Flooding
N/A 6. Alterations to natural drainage ways
X 7. Alterations to land cover
X 8. Modeling assumptions
X 9. Basic standard
X 10. Flooding standard
X 11. General standard
X 12. Parcel size
X 13. Developed area
X 14. Disturbed area
X 15. Impervious area
X B. Maps
X 1. U.S.G.S. map with site boundaries
X 2. S.C.S. soils map with site boundaries
X C. Drainage Plans (a pre-development plan and a post-development plan)

X 1. Contours
X 2. Plan elements
X 3. Land cover types and boundaries
X 4. Soil group boundaries
X 5. Stormwater quantity subwatershed boundaries
X 6. Stormwater quality subwatershed boundaries
X 7. Watershed analysis points
X 8. Hydrologic flow lines (w/flow types and flow lengths labeled)
X 9. Runoff storage areas
X 10. Roads and drives
X 11. Buildings, parking lots, and other facilities
X 12. Drainage system layout for storm drains, catch basins, and culverts
N/A 13. Natural and man-made open drainage channels
N/A 14. Wetlands
N/A 15. Flooded areas
X 16. Benchmark
N/A 17. Stormwater detention, retention, and infiltration facilities
X 18. Stormwater treatment facilities
N/A 19. Drainage easements
X 20. Identify reaches, ponds, and subwatersheds matching stormwater model
N/A 21. Buffers

X D. Runoff analysis (pre-development and post development)
X 1. Curve number computations
X 2. Time of concentration calculations
X 3. Travel time calculations
X 4. Peak discharge calculations
N/A 5. Reservoir routing calculations

X E. Flooding Standard
N/A 1. Variance submissions (if applicable)
N/A a. Submissions for discharge to the ocean, great pond, or major river
N/A i. Map
N/A ii. Drainage plan
N/A iii. Drainage system design
N/A iv. Outfall design
N/A v. Easements
N/A b. Insignificant increase
N/A i. Downstream impacts

X c. Submissions for discharge to a public stormwater system
X i. Letter of permission
X ii. Proof of capacity
X ii. Outfall analysis and design (pictures)
X 2. Sizing of storm drains and culverts
N/A 3. Stormwater ponds and basins
N/A a. Impoundment sizing calculations
N/A b. Inlet calculations
N/A c. Outlet calculations
N/A d. Emergency spillway calculations
N/A e. Subsurface investigation report
N/A f. Embankment specifications
N/A g. Embankment seepage controls
N/A h. Outlet seepage controls
N/A i. Detail sheet
N/A j. Basin cross sections
N/A k. Basin plan sheet
N/A 4. Infiltration systems
N/A a. Well locations map
N/A b. Sand and gravel aquifer map
N/A c. Subsurface investigation report with test pit or boring logs

N/A d. Permeability analysis
N/A e. Infiltration structure design
N/A f. Pollutant generation and transport analysis
N/A g. Monitoring and operations plan
N/A i. Locations of storage points of potential contaminants
N/A ii. Locations of observation wells and infiltration monitoring plan
N/A iii. Groundwater quality monitoring plan
N/A 5. Drainage easement declarations.
X F. Stormwater quality treatment plan peak discharge calculations
X 1. Basic stabilization plan
X a. Ditches, swales, and other open channel stabilization
X b. Culvert and storm-drain outfall stabilization
X c. Earthen slope and embankment stabilization
X d. Disturbed area stabilization
N/A e. Gravel roads and drives stabilization

X 2. General Standard
X a. Calculations for sizing BMP
X b. Impervious area calculation
X c. Developed area calculation
X d. Summary spreadsheet of calculations

N/A 3. Phosphorus control plan
N/A a. Calculations for the site's allowable phosphorus export
N/A b. Calculations for determining the developed site's phosphorus export
N/A c. Calculations for determining any phosphorus compensation fees
N/A 4. Offset Credits
N/A a. Urban impaired stream
N/A Offset credit calculation
N/A b. Phosphorus credit determination
N/A i. Location map
N/A ii. Scaled plan
N/A iii. Title and right
N/A iv. Demolition plan
N/A v. Vegetation plan
N/A vi. Offset credit calculation
N/A vii. Calculation for the new allowable export
X 5. Runoff treatment measures
X a. structural measures
X i. Design drawings and specifications
X ii. Design calculations
X iii. Maintenance plan
N/A iv. TSS removal or phosphorus treatment factor determinations
X v. Stabilization plan
N/A b. Vegetated buffers
N/A i. Soil survey
N/A ii. Buffer plan
N/A iii. Turnout and level spreader designs
N/A iv. Deed restrictions
N/A 6. Control plan for thermal impacts to coldwater fisheries
N/A 7. Control plan for other pollutants
X 8. Engineering inspection of stormwater management facilities

X G. Maintenance of common facilities or property
X 1. Components of the maintenance plan
X A. Maintenance of facilities by owner or operator
X 1. Site owner or operator (name legally responsible party)
X 2. Contact person responsible for maintenance
N/A 3. Transfer mechanism

X 4. List of facilities to be maintained
X 5. List of inspection and maintenance tasks for each facility
X 6. Identifications of any deed covenants, easements, or restrictions
X 7. Sample maintenance log
N/A 8. Copies of any third-party maintenance contracts
N/A B. Maintenance of facilities by homeowner's association
N/A 1. Incorporation documents for the association
N/A 2. Membership criteria
N/A 3. Association officer responsible for maintenance
N/A 4. Establishment of fee assessment for maintenance work
N/A 5. Establishment of lien system
N/A 6. Reference to department order(s) in association charter
N/A 7. Transfer mechanism from developer to association
N/A 8. List of facilities to be maintained
N/A 9. Identification of any deed covenants, easements, or restrictions
N/A 10. Renewal of covenants and leases
N/A 11. List of inspection and maintenance tasks for each facility
N/A 12. Sample maintenance log
N/A 13. Copies of any third-party maintenance contracts
N/A C. Maintenance of facilities by municipality or municipal district
N/A 1. Identification of the municipal department or utility district
N/A 2. Contact person responsible for maintenance
N/A 3. Evidence of acceptance of maintenance responsibility
N/A 4. Transfer mechanism from developer
N/A 5. List of facilities to be maintained
N/A 6. List of inspection and maintenance tasks for each facility
N/A 7. Identifications of any deed covenants, easements, or restrictions
N/A 8. Sample maintenance log
X 2. General inspection and maintenance requirements
X a. Drainage easements
X b. Ditches, culverts, and catch-basin systems
X c. Roadways and parking surfaces
N/A d. Stormwater detention and retention facilities
N/A 1. Embankment inspection and maintenance
N/A 2. Outlet inspection and clean-out
N/A 3. Spillway maintenance
N/A 4. Sediment removal and disposal
N/A e. Stormwater infiltration facilities
N/A 1. Sediment protection plan
N/A 2. Infiltration rehabilitation plan
N/A 3. Sediment removal and disposal
N/A 4. Groundwater monitoring plan
N/A f. Proprietary treatment devices
N/A g. Buffers
X h. Other practices and measures

Section 13. Urban Impaired Stream Submissions

N/A 1. Off-site credits
N/A 2. Compensation fees (Urban Impaired Stream/Phosphorus)
N/A 3. Development impacts

Section 14. Basic Standards

X A. Narrative
X 1. Soil types
N/A 2. Existing erosion problems
N/A 3. Critical areas
N/A 4. Protected natural resources
X 5. Erosion control measures

X 6. Site stabilization
X B. Implementation schedule
X C. Erosion and sediment control plan
X 1. Pre-development and post-development contours
X 2. Plan scale and elements
X 3. Land cover types and boundaries
X 4. Existing erosion problems
X 5. Critical areas
X 6. Protected natural resources
X 7. Locations (general)
X 8. Locations of controls
X 9. Disturbed areas
10. Stabilized construction entrance
X D. Details and specifications (for both temporary and permanent measures)
X E. Design calculations
X F. Stabilization plan
X 1. Temporary seeding
X 2. Permanent seeding
X 3. Sodding
X 4. Temporary mulching
X 5. Permanent mulching
X G. Winter construction plan
X 1. Dormant seeding
X 2. Winter mulching
X H. Third-party inspections
X 1. Inspector's name, address, and telephone number
X 2. Inspector's qualifications
X 3. Inspection schedule
X 4. Contractor contact
X 5. Reporting protocol

Section 15. Groundwater

X A. Narrative
N/A 1. Location and maps
N/A 2. Quantity
N/A 3. Sources
N/A 4. Measures to prevent degradation
N/A B. Groundwater protection plan
N/A C. Monitoring plan
N/A 1. Monitoring points
N/A 2. Monitoring frequency
N/A 3. Background conditions
N/A 4. Monitoring parameters
N/A 5. Personnel qualifications
N/A 6. Proof of training
N/A 7. Equipment and methods
N/A 8. Quality assurance/quality control
N/A 9. Reporting requirements
N/A 10. Remedial action plan
N/A D. Monitoring well installation report
N/A 1. Well location map
N/A 2. Elevation data
N/A 3. Well installation data
N/A 4. Well construction details
N/A 5. Borehole logs
N/A 6. Summary of depth measurements
N/A 7. Characteristics of subsurface strata
N/A 8. Well installation contract

N/A 9. Schematic cross-sections
N/A 10. Monitoring point summary table
N/A 11. Protective casing
N/A 12. On-site well identification

Section 16. Water supply

X A. Water supply method
N/A 1. Individual wells (evidence of sufficient/healthful supply)
N/A a. Support of findings by well drillers
N/A b. Support of findings by geologist
N/A 2. Common well(s) (reports)
N/A a. Hydrogeology report
N/A b. Engineering report
N/A c. Well installation report
N/A d. Long-term safe yield and zone of influence determination
N/A e. Public water supply
N/A i. Proposed well or wells
N/A ii. Existing well or wells
N/A iii. Water quality analysis
N/A 3. Well construction in shallow-to-bedrock areas
N/A 4. Additional information
X 5. Off-site utility company or public agency
N/A 6. Other sources
N/A B. Subsurface wastewater disposal systems (locations of systems and wells)
X C. Total usage (statement re: total anticipated water usage)

Section 17. Wastewater disposal

N/A A. On-site subsurface wastewater disposal systems (investigation results)
N/A 1. Site plan
2. Soil conditions summary table
N/A 3. Logs of subsurface explorations
4. Additional test pits, borings or probes
N/A a. Soil conditions A
N/A b. Soils with Profiles 8 and 9 parent material
N/A c. Soil conditions D
N/A d. Disposal field length 60 feet or greater
N/A 5. 3-bedroom design
N/A 6. Larger disposal systems
a. System design details
N/A b. Plan view
N/A c. Cross sections
N/A d. Test pit data
N/A e. Mounding analysis
N/A B. Nitrate-nitrogen impact assessment
N/A 1. When required
N/A a. Exempted____
i. Conventional systems meeting certain setbacks
N/A ii. Denitrification systems
N/A b. Special conditions and other exemptions
N/A 2. Assumptions
N/A a. Initial concentration
N/A b. Background concentration
N/A c. Contribution from development
N/A d. Mixing and dilution
N/A e. Severe-drought scenario
N/A f. Wastewater flow to subsurface wastewater disposal fields

N/A 3. Assessment report minimum requirements
N/A a. Narrative and calculations
N/A b. Site plan
N/A i. Well locations
N/A ii. 10 mg/l and 8 mg/l isocons
N/A iii. Groundwater contours and groundwater flow divides
N/A c. References
N/A 4. Denitrification systems
N/A a. Design plans and specifications
N/A b. Installation information
N/A c. Monitoring plan
N/A d. Maintenance
N/A e. Backup system
X D. Municipal facility or utility company letter
N/A E. Storage or treatment lagoons

X **Section 18. Solid waste** (list: type, quantity, method of collection and location)
X A. Commercial solid waste facility (final disposal location)
X B. Off-site disposal of construction/demolition debris (final disposal location)
C. On-site disposal of woodwaste/land clearing debris
X 1. Applicability of rules (evidence re: applicability of rules)
2. Burning of wood wastes
N/A a. Delineation on site plan
N/A b. Plans for handling unburned woodwaste and woodash
N/A c. Evidence of capacity to accept waste (approved facility)
N/A d. Usage of materials
N/A e. Data on mixing ratios and application rates
X D. Special or Hazardous Waste

Section 19. Flooding
N/A A. Explanation of flooding impact
N/A B. Site plan showing 100-year flood elevation
N/A C. Hydrology analysis
N/A D. FEMA flood zone map with site boundaries

Section 20. Blasting
N/A A. Site Plan or map
N/A B. Report
1. Assessment
2. Blasting plan

Section 21. Air emissions (narrative and summary)
X A. Point and non-point sources identified
N/A B. Emission components (point sources)

Section 22. Odors
N/A A. Identification of nature/source
N/A B. Estimate of areas affected
N/A C. Methods of control)

N/A **Section 23. Water vapor** (narrative)

N/A **Section 24. Sunlight** (statement and drawing, if required)

Section 25. Notices
N/A A. Evidence that notice sent
N/A B. List of abutters for purposes of notice

Supplemental requirements for Wind Energy Developments only:

Section 26. Shadow flicker

N/A A. A copy of the Windpro Analysis and associated narrative

Section 27. Public Safety

N/A A. Design safety certifications or other documents attesting to the safety of the wind turbine equipment.
N/A B. Evidence pertaining to overspeed controls
N/A C. Site plan documenting safety setbacks zones for each wind turbine
N/A D. Other documents as necessary to demonstrate safety considerations

Section 28. Tangible Benefits

N/A A. Narrative demonstration of tangible benefits

Section 29. Decommissioning

N/A A. Description of implementation trigger for decommissioning
N/A B. Description of extent of decommissioning
N/A C. Itemization of total cost to complete decommissioning
N/A D. Demonstration of financial assurance for completeness of decommissioning plan

Section 30. Generating Facility-visual Quality and Scenic Character

N/A A. (narrative, description, visual impact analysis)

Development Description

Project Objective

This amendment package is for work associated with the construction of a new Center for the Arts (CFA) building and the relocation/addition of a small building, referred to as the "Deering Farmhouse" on the University of Southern Maine (USM) campus in Portland, Maine.

The project site is located in the greenspace on the southwest side of USM's Portland campus, bounded by Falmouth Street to the northwest, Deering Avenue and Noyes Park to the west, and Bedford Street to the south. A portion of the site occupies the former Brighton Avenue right-of-way, which is in the process of being formally transferred to USM following the completion of the Deering's Corner Roundabout project in late 2021/early 2022. Once completed, the CFA will have a street address of 111 Bedford Street and the Deering Farmhouse will have an address of 104 Falmouth Street.

The project will result in a total disturbance of approximately 3.7 acres, including the removal of approximately 0.4 acre of impervious area and the creation of approximately 1.6 acres of impervious area (a net increase of approximately 1.2 acres). All construction will take place in previously developed areas.

Existing Facilities

The existing conditions on the site consist of a large lawn (or turfgrass) area, the farmhouse (a small two-story building with a 1,332 ft^2 footprint that was constructed in the 1800's), and several sidewalks, which appear to have been constructed prior to 1970.

Proposed Facilities

The proposed site generally consists of the single-story relocated farmhouse and addition (1,894 ft^2) and the CFA building, which will be a single-story building with a +/-40,000 ft^2 footprint. The site will also consist of re-routed pedestrian pathways that will provide access to the new buildings and connections through the site between the parking lot and USM Law School building to the southwest (across Deering Avenue) and the rest of the campus to the northeast. A widened section of Bedford Street is proposed along the south side of the building that will function as a drop-off area and fire department access. Parking areas are not proposed as part of the project.

Existing/Proposed Utility Connections

The existing Deering Farmhouse was previously connected to the water main under Deering Avenue, and the electrical service was via an overhead line on Brighton Avenue. Both of these services were disconnected in 2021. The building's sewer line is connected to the existing 24" sewer line under Falmouth Street, and the building is connected to USM's on-campus communications infrastructure. It is heated by an oil-fired boiler, with a small oil storage tank in the crawlspace beneath the building.

Once the Deering Farmhouse is relocated/added on to, the sewer service will remain connected to the existing sewer main in Falmouth Street. Water and natural gas service will be via underground 6" water and gas mains in Falmouth Street, and the electrical and communications service will be connected to USM's existing on-campus electrical and communications infrastructure. Additionally, a portion of the building's roof runoff will be connected to USM's existing on-campus storm drain system.

Similar to the Deering Farmhouse, water and natural gas service to the CFA will be via the 6" water and gas mains under Falmouth Street, and electrical and communications service will be connected to USM's existing on-campus electrical and communications infrastructure. Storm drainage for both the Deering Farmhouse and the area north of the CFA will be connected to USM's on-campus storm drainage system, while roof runoff from the CFA will be routed through a subsurface sand filter then into the existing 24" storm drain line in Bedford Street. The CFA's sewer system will be connected to the 8" sewer main in Bedford Street.

Topographic Map

Attached is a copy of a portion of the USGS Quadrangle Map entitled "Portland West, Maine", with the approximate project location indicated.

Phasing/Construction Plan

The work in this amendment package is generally split into two parts:

Part I (Spring 2023 – Summer/Fall 2024): Consists of relocating a portion of the Deering Farmhouse and constructing an addition on to it. The permitting/design process is anticipated to be completed in Fall/Winter 2022, and construction is slated to begin in Spring 2023 so that the building can be relocated prior to the start of construction for the CFA project. The general construction timeline is as follows:

Part I (Farmhouse Relocation) Construction Timeline	Spring 2023 – Summer/Fall 2024
• Contract award	Spring 2023
• Install erosion control, strip existing turf, and general site demolition	Spring 2023
• Relocate portion of existing building	Spring 2023

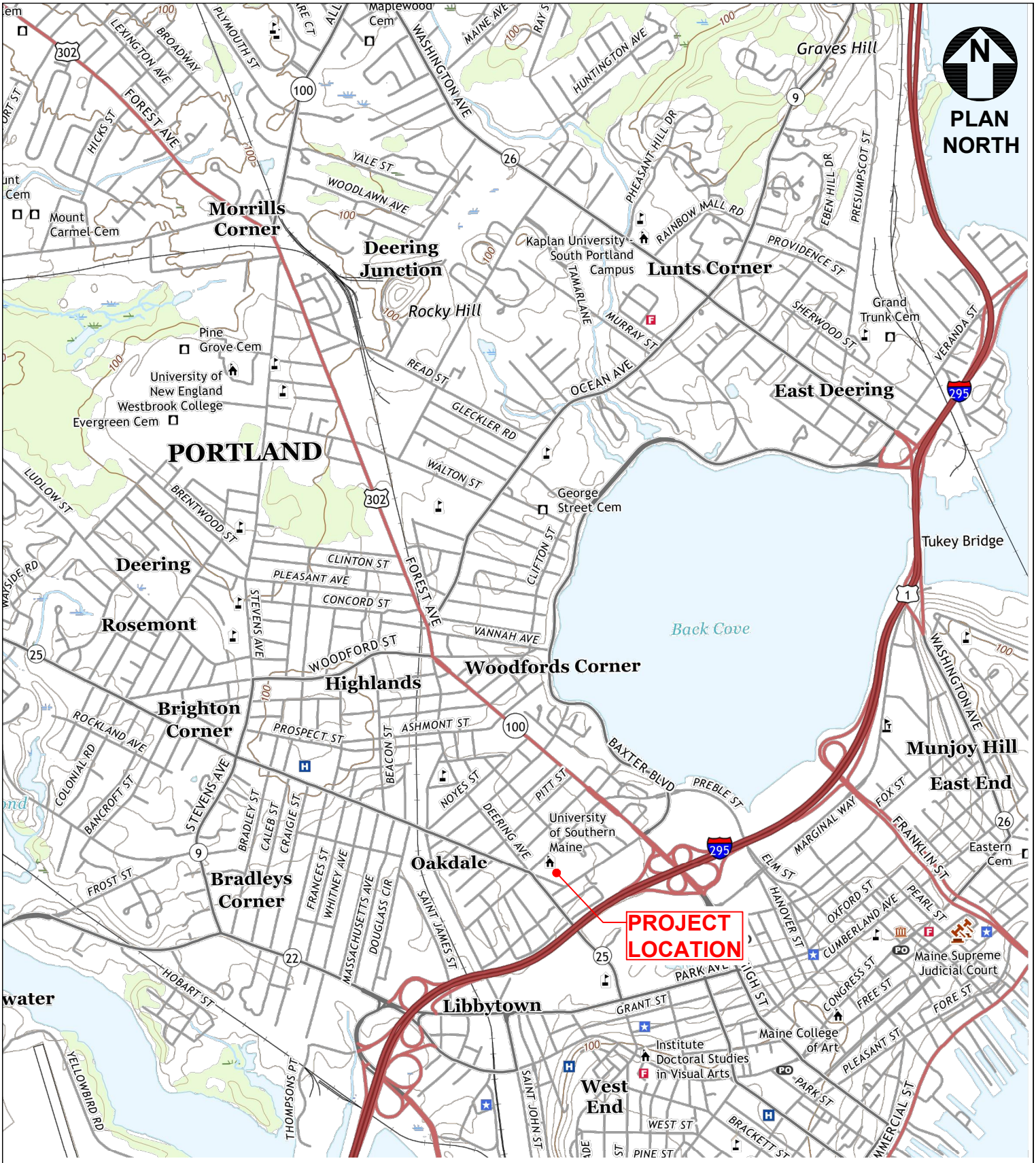
- Construct footings and building addition — Summer 2023 – Fall 2023
- Stabilize Site (winter) — Winter 2023
- Sitework and utility connections — Summer 2023 – Summer 2024
- Stabilize site (final) — Summer/Fall 2024

Part II (Spring/Summer 2023 – Summer 2025): consists of construction of the CFA and associated site amenities. The permitting/design process is anticipated to be completed in Spring 2023, and construction is slated to begin immediately following obtaining the permits. The general construction timeline is as follows:

Part II (CFA Construction) Construction Timeline	Spring/Summer 2023 – Summer 2025
• Install erosion control, strip existing turf, and general site demolition	Summer 2023
• Building Footings/envelope and Utilities	Summer 2023 - Summer 2024
• Stabilize Site (winter)	Winter 2023, Winter 2024
• Utility Work in Bedford Street	Spring 2024
• Stormwater Treatment Area	Spring/Summer 2024
• Sitework	Fall 2023 – Summer 2025
• Stabilize site (final)	Summer 2025

Drawings

Full-size drawings are included with this application package that depict the existing and proposed site features.



NOTE: USGS TOPOGRAPHIC QUADRANGLE OBTAINED ON OCTOBER 3, 2022

SCALE: 1"=2,000'
DATE: 11-01-2022

Q1

USGS LOCUS MAP

CENTER FOR THE ARTS

UNIVERSITY OF SOUTHERN MAINE PORTLAND CAMPUS

104 Falmouth Street, Portland Maine 04103

DESIGNED BY: JSD
DRAWN BY: JSD
CHECKED BY: JSD

PROJECT: 21904.10

OAK POINT ASSOCIATES
ARCHITECTURE ■ ENGINEERING ■ PLANNING
231 Main Street, Biddeford, Maine 04005 (T) 207.283.0193 (F) 207.283.4283
www.oakpoint.com

Section 2 – Right, Title and Interest

The Center for the Arts will be constructed on USM property at the corner of Bedford Street and Brighton Avenue. A portion of the property is yet to be conveyed to the University, and it is the subject of a 2018 Land Exchange Agreement between the City and the University System related to the Deering's Corner Roundabout Project. The actions that still need to occur under the agreement are the discontinuance of the former Brighton Avenue extension and a conveyance by the City of its portion of the former road to the University. The City's Corporation Counsel has been made aware of these outstanding items and is working to begin the discontinuance process with the Council. Once the conveyances from the Roundabout Project are fully executed, the total area of the USM campus will have grown by approximately 0.5 acres to approximately 29.33 acres. The plans included with this application show property lines in a post-conveyance condition.

A small amount of grading will occur within Noyes Park, which is owned by the City of Portland. The University has requested a temporary construction and grading easement from the City, which is in process and will be obtained prior to the start of construction.

Copies of the deed for the campus and a copy of the Land Exchange Agreement as well as a boundary survey conducted in 2019 are included in this section.

(90) 135

Know all Men by these Presents,

That Portland Junior College ~~Company~~,

a corporation organized and existing under the laws of the State of Maine and located at Portland in the County of Cumberland and State of Maine in consideration of one dollar and other valuable considerations

paid by University of Maine, a corporation organized and existing under the laws of the State of Maine and located at Orono in the County of Penobscot and State of Maine

the receipt whereof it does hereby acknowledge, does hereby give, grant, bargain, sell and convey, unto the said University of Maine its successors ~~heirs~~ and assigns forever,

a certain lot or parcel of land with the buildings thereon situated in Portland aforesaid bounded and described as follows:

Beginning at a pipe set in the ground at the corner formed by the intersection of the easterly side of Brighton Avenue and the southerly side of Falmouth Street; thence by said southerly side of Falmouth Street in an easterly direction nine hundred eighty-two and sixty-seven hundredths (982.67) feet to a pipe set in the ground on said southerly side of Falmouth Street; thence southerly with an included angle of ninety-four degrees thirty-eight minutes (94° 38') three hundred fifty-two and eighty-nine hundredths (352.89) feet to a pipe; thence westerly on a line parallel with Falmouth Street and at an included angle of eighty-five degrees twenty-two minutes (85° 22') one hundred sixty-four and sixty-five hundredths (164.65) feet to a point, said point being on the line of a row of trees running approximately north and south; thence southwardly along the line of said row of trees two hundred forty-five (245) feet more or less to the northerly side of Bedford Street; thence westerly along the northerly side of said Bedford Street six hundred (600) feet more or less to the easterly side of Brighton Avenue; thence along the easterly side of Brighton Avenue four hundred eighty-seven and thirty-eight hundredths (487.38) feet more or less to the point of beginning.

Reference is made to three deeds to Portland University Extension Courses, Inc., the name of which, subsequently, by act of the Legislature has been changed to Portland Junior College, and a fourth deed to Portland Junior College, all from Edward Deering Noyes dated and recorded as follows: December 28, 1946, Book 1854 Page 424, June 30, 1947, Book 1875 Page 227, July 1, 1948, Book 1916 Page 364, and December 31, 1956, Book 2332 Page 151.

Portland Junior College to University of Maine -- War

136 **To have and to hold,** the aforegranted and bargained premises with all the privileges and appurtenances thereof to the said

University of Maine, its successors

~~heirs~~ and assigns, to its and their use and behoof forever.

And the said Grantor Corporation does hereby COVENANT with the said Grantee , its successors ~~heirs~~ and assigns, that it is lawfully seized in fee of the premises, that they are free of all incumbrances;
that it has good right to sell and convey the same to the said Grantee to hold as aforesaid; and that if and its successors, shall and will WARRANT AND DEFEND the same to the said Grantee , its successors ~~heirs~~ and assigns forever, against the lawful claims and demands of all persons.

In Witness Whereof, the said Portland Junior College ~~Company~~ has caused this instrument to be sealed with its corporate seal and signed in its corporate name by Philip I. Milliken , its Treasurer, thereunto duly authorized, this 28th day of August in the year one thousand nine hundred and fifty-seven.

Signed, Sealed and Delivered
in presence of

Jane C. Magnusson

~~Company~~.
PORTLAND JUNIOR COLLEGE
By Philip I. Milliken
Treasurer.

Countersigned
Raymond S. Hastings
President

(CORPORATE SEAL)

State of Maine

County of Cumberland ss. August 28, 1957

Then personally appeared the above named Philip I. Milliken Treasurer of said Grantor Corporation as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity, and the free act and deed of said corporation.

Before me,

Jane C. Magnusson Justice of the Peace.
~~Notary Public~~

AUG 28 1957
REGISTRY OF DEEDS, CUMBERLAND COUNTY, MAINE
Received at 12 H 27 M P.M., and recorded in
BOOK 2370 PAGE 135 Register

QUITCLAIM DEED WITH COVENANT

DLN# _____

UNIVERSITY OF MAINE SYSTEM (f/k/a University of Maine, reference being made to a notice of name change dated June 13, 1988 and recorded in the Cumberland County Registry of Deeds in Book 8331, Page 89), a body politic and corporate and an instrumentality and agency of the State of Maine, with a mailing address of 5703 Alumni Hall, Orono, Maine 04469 (hereinafter "Grantor") for good and valuable consideration paid, grants to the **CITY OF PORTLAND**, a body corporate and politic and Maine municipal corporation having a mailing address of 389 Congress Street, Portland, Maine 04101 (hereinafter "Grantee"), with quitclaim covenant, certain real property located in the City of Portland, County of Cumberland and State of Maine and more particularly described on **Exhibit A** attached hereto and made a part hereof.

IN WITNESS WHEREOF, Grantor has caused this instrument to be executed by its duly authorized representative as of this 22 day of March, 2019.

WITNESS:

UNIVERSITY OF MAINE SYSTEM

By: _____
Name: M.F. Chip Gavin
Its: Chief Facilities Management and General Services Officer

STATE OF MAINE
COUNTY OF CUMBERLAND, ss. MARCH 22, 2019

PERSONALLY APPEARED the above-named M.F. Chip Gavin, Chief Facilities Management and General Services Officer of the University of Maine System, as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of the University of Maine System.

Before me,

_____
Notary Public/Attorney at Law
Commission Expires:
Print Name: ME BAR # 5646
SARA MURNARCHEK

EXHIBIT A

UNIVERSITY OF MAINE SYSTEM
TO
CITY OF PORTLAND

PARCEL ONE:

A certain lot or parcel of land located on the southeasterly side of Falmouth Street, the southwesterly side of Brighton Avenue and the southwesterly side of Deering Avenue in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning at a point on the southeasterly sideline of Falmouth Street, said point of beginning located N 48°34'53" E a distance of sixty-nine and 93/100 (69.93) feet from the intersection of the northeasterly sideline of Exeter Street with the southeasterly sideline of said Falmouth Street. Thence:

1. N 48°34'53" E by said Falmouth Street a distance of two hundred forty-three and 79/100 (243.79) feet to a point on the southerly sideline of Brighton Avenue;

2. S 67°27'04" E by said Brighton Avenue a distance of eleven and 80/100 (11.80) feet to a point on the southwesterly sideline of Deering Avenue;

3. S 38°46'34" E by said Deering Avenue a distance of one hundred eleven and 32/100 (111.32) feet to a point;

4. N 47°34'40" W through land of the Grantor a distance of sixty-five and 82/100 (65.82) feet to a point;

5. N 88°45'17" W through said land of the Grantor a distance of seventy-one and 00/100 (71.00) feet to a point;

6. S 40°44'35" W through said land of the Grantor a distance of forty-nine and 84/100 (49.84) feet to a point;

7. S 48°14'39" W through said land of the Grantor a distance of thirty-seven and 10/100 (37.10) feet to a point;

8. S 57°25'25" W through said land of the Grantor a distance of ninety-nine and 27/100 (99.27) feet to the point of beginning.

Bearings are referenced to grid north, Maine State Plane Coordinate System, NAD83, West Zone.

The above described parcel contains 4,513 square feet, more or less, and being a portion of the premises as described in deeds to the University of Maine recorded in the Cumberland County Registry of Deeds in Book 3047, Page 354, Book 3053, Page 326, Book 3056, Page 504 and Book 3079, Page 537.

PARCEL TWO:

A certain lot or parcel of land located on the southeasterly side of Falmouth Street and the northeasterly side of Brighton Avenue in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning at the intersection of the southeasterly sideline of Falmouth Street with the northeasterly sideline of Brighton Avenue. Thence:

1. N 45°03'56" E by said Falmouth Street a distance of sixty-seven and 91/100 (67.91) feet to a point;

2. S 25°30'06" W through land of the Grantor a distance of twenty-one and 27/100 (21.27) feet to a point;

3. S 05°00'58" W through said land of the Grantor a distance of thirty-seven and 10/100 (37.10) feet to a point;

4. S 53°19'05" E through said land of the Grantor a distance of twenty-five and 06/100 (25.06) feet to the northeasterly sideline of said Brighton Avenue;

5. N 67°27'04" W by said Brighton Avenue a distance of sixty and 39/100 (60.39) feet to the point of beginning.

Bearings are referenced to grid north, Maine State Plane Coordinate System, NAD83, West Zone.

The above described parcel contains 1,099 square feet, more or less, and being a portion of the premises as described in a deed to the University of Maine recorded in the Cumberland County Registry of Deeds in Book 2370, Page 135.

Received
Recorded Register of Deeds
Mar 28,2019 01:01:34P
Cumberland County
Nancy A. Lane

NOTICE OF LAYOUT AND TAKING

The State of Maine by its Department of Transportation does hereby give notice to all whom it may concern:

That the Department of Transportation in accordance with the authority of Title 23 M.R.S. Section 651, has determined that public exigency requires the altering, widening, changing the grade, changing the drainage, laying out and establishing of a portion of State Highway "12" (Brighton Avenue), State Highway "76" (Deering Avenue) and Falmouth Street in the City of Portland, County of Cumberland.

That the Department of Transportation, in accordance with Title 23 M.R.S. Sections 701 and 651, hereby lays out the location of a portion of State Highway "12" (Brighton Avenue), State Highway "76" (Deering Avenue) and Falmouth Street in the City of Portland.

That the Department of Transportation, in accordance with Title 23 M.R.S. Sections 651 and 151 to 159, has determined that public exigency requires the taking in fee simple all lands as hereinafter described, and all rights in land as specified and as shown on a Right-of-Way Map, State Highway "12" (Brighton Avenue), State Highway "76" (Deering Avenue) and Falmouth Street, City of Portland, Federal Aid Project No. 1862400, (W.I.N. 018624.00), dated October 2019, on file in the Office of the Department of Transportation, (D.O.T. File No. 3-641) and to be recorded in the Registry of Deeds of Cumberland County, a print of which is on file in the office of the County Commissioners of Cumberland County.

The Base Line of location of the portions of State Highway "12" (Brighton Avenue), State Highway "76" (Deering Avenue) and Falmouth Street hereby laid out being described as follows:

Base Line Descriptions

State Highway "12" (Brighton Avenue)/State Highway "76" (Deering Avenue) Base Line

Beginning at a point in the present traveled way of State Highway "12" (Brighton Avenue) and designated as P.T. Sta.1+05.88;

Thence S. 64°47'30" E. one hundred fifty-eight and no hundredths (158.00) feet to P.C. Sta. 2+63.88;

Thence southeasterly by a 28°38'52" curve to the left, seven and thirty-two hundredths (7.32) feet to P.T. Sta. 2+71.20;

Thence S. 66°53'17" E. thirty-seven and twenty-two hundredths (37.22) feet to P.C. Sta. 3+08.42;

Thence southeasterly by a 28°38'52" curve to the left, twenty-one and sixty-eight hundredths (21.68) feet to P.T. Sta. 3+30.10;

Thence S. 73°05'57" E. eighty and four hundredths (80.04) feet to P.C. Sta. 4+10.14;

Thence southeasterly by a 57°17'45" curve to the right, forty-one and sixty-three hundredths (41.63) feet to P.T. Sta. 4+51.77 at the point of intersection with State Highway "76" (Deering Avenue);

Thence S. 49°14'49" E. ninety-two and ninety-four hundredths (92.94) feet to P.C. Sta. 5+44.71;

Thence southeasterly by a 14°19'26" curve to the right, seventy-three and sixty-seven hundredths (73.67) feet to P.T. Sta. 6+18.38;

Thence S. 38°41'41" E. two hundred sixty-six and forty hundredths (266.40) feet to P.C. Sta. 8+84.78;

Thence southeasterly by a 28°38'52" curve to the right, three and ten hundredths (3.10) feet to P.T. Sta. 8+87.88;

Thence S. 37°48'26" E. one hundred ninety-six and twenty-four hundredths (196.24) feet to P.C. Sta. 10+84.12 at a point in the present traveled way of State Highway "76" (Deering Avenue).

State Highway "76" (Deering Avenue) Segment II Base Line

Beginning at a point in the intersection of State Highway "76" (Deering Avenue) and Fessenden Street and designated as Sta. 0+00.00;

Thence S. 38°16'29" E. one hundred one and forty-seven hundredths (101.47) feet to P.C. Sta. 1+01.47;

Thence southeasterly by a 28°38'52" curve to the left, nine and fifty hundredths (9.50) feet to P.T. Sta. 1+10.97;

Thence S. 40°59'49" E. seventy-six and seventy hundredths (76.70) feet to P.C. Sta. 1+87.67;

Thence southeasterly by a 38°11'50" curve to the right, fifty-seven and fifty-one hundredths (57.51) feet to P.T. Sta. 2+45.18;

Thence S. 19°01'49" E. fifty and thirty-three hundredths (50.33) feet to Sta. 2+95.51 which point equals Sta. 4+19.27 on the State Highway "12" (Brighton Avenue)/State Highway "76" (Deering Avenue) Base Line.

Falmouth Street Base Line

Beginning at a point in the present traveled way of Falmouth Street, said point being about three hundred twenty-five (325) feet southwesterly of its intersection with State Highway "12" (Brighton Avenue) and State Highway "76" (Deering Avenue) and designated as Sta. 0+50.00;

Thence N. 48°26'52" E. fifty-seven and ninety-four hundredths (57.94) feet to P.C. Sta. 1+07.94;

Thence northeasterly by a 57°17'45" curve to the right, seventeen and twenty-four hundredths (17.24) feet to P.T. Sta. 1+25.18;

Thence N. 58°19'22" E. forty-seven and seven hundredths (47.07) feet to P.C. Sta. 1+72.25;

Thence northeasterly by a 20°27'46" curve to the left, ninety-six and seventy-three hundredths (96.73) feet to P.T. Sta. 2+68.98;

Thence N. 38°31'40" E. and passing through Sta. 3+67.34 which point equals Sta. 4+35.95 on the State Highway "12" (Brighton Avenue) Base Line, one hundred and seventy-one hundredths (100.71) feet to P.C. Sta. 3+69.69;

Thence northeasterly by a 57°17'45" curve to the right, nineteen and twenty-eight hundredths (19.28) feet to P.T. Sta. 3+88.97;

Thence N. 49°34'30" E. sixty-two and twenty-one hundredths (62.21) feet to P.C. Sta. 4+51.18;

Thence northeasterly by a 28°38'52" curve to the left, fourteen and sixty-seven hundredths (14.67) feet to P.T. Sta. 4+65.85;

Thence N. 45°22'19" E. one hundred thirty-four and fifteen hundredths (134.15) feet to Sta. 6+00.00 at a point in the present traveled way of Falmouth Street.

Bedford Street Base Line

Beginning on the State Highway "76" (Deering Avenue) Base Line at Sta. 9+38.26 which point equals Sta. 40+50.00 on the Bedford Street Base Line;

Thence N. 56°14'54" E. three hundred thirty and no hundredths (330.00) feet to Sta. 43+80.00 at a point in the present traveled way of Bedford Street.

DESCRIPTION OF FEE TAKING

All land, buildings, and rights in land within the following described boundaries, are hereby taken in fee simple:

Area 1

Beginning at a point in the present northwesterly line of Falmouth Street, said point being about thirty-four (34) feet northwesterly from and as measured along a line at right angles to the Falmouth Street Base line at Sta. 2+88;

Thence northerly by a direct course about twenty-six (26) feet to a point forty and seventy-five hundredths (40.75) feet southwesterly from and as measured along a line at right angles to the State Highway "12" (Brighton Avenue) Base Line at Sta. 3+66;

Thence northwesterly by a direct course twenty-two and seventy-five hundredths (22.75) feet to a point thirty-two (32) feet southwesterly from and as measured along a line at right angles to the State Highway "12" (Brighton Avenue) Base Line at Sta. 3+45;

Thence northwesterly by a direct course, about one hundred seven (107) feet to a point in the present northwesterly line of land now or formerly of Mark E. High, et al, and the present southeasterly line of land now or formerly of Francis Schwanauer, et al, said point being twenty-nine (29) feet southwesterly from and as measured along a line at right angles to the State Highway "12" (Brighton Avenue) Base Line at about Sta. 2+42;

Thence northeasterly along the present northwesterly line of land of said High, et al, and along the present southeasterly line of land of said Schwanauer, et al, about three (3) feet to a point in the present southwesterly line of State Highway "12" (Brighton Avenue), said point being about twenty-six (26) feet southwesterly from and as measured along a line at right angles to said Base Line at about Sta. 2+42;

Thence southeasterly along the present southwesterly line of State Highway "12" (Brighton Avenue), about one hundred fifty-seven (157) feet to the point of intersection with the present northwesterly line of Falmouth Street, said point being about twenty-seven (27) feet northwesterly from and as measured along a line at right angles to the Falmouth Street Base Line at about Sta. 3+25;

Thence southwesterly along the present northwesterly line of Falmouth Street, about thirty-nine (39) feet to the point of beginning. Being shown on the beforementioned right-of-way map as Parcel Nos. (3) and (4).

Area 2

Beginning at a point in the present northwesterly line of Falmouth Street, said point being about thirty-one (31) feet northwesterly from and as measured along a line at right angles to the Falmouth Street Base Line at Sta. 4+70;

Thence southwesterly along the present northwesterly line of Falmouth Street, about sixty (60) feet to the point of intersection with the present northeasterly line of State Highway "76" (Deering Avenue), said point being about twenty-seven (27) feet northwesterly from and as measured along a line at right angles to the Falmouth Street Base Line at about Sta. 4+08;

Thence northwesterly along the present northeasterly line of State Highway "76" (Deering Avenue), about one hundred forty-seven (147) feet to a point about twenty-four (24) feet northeasterly from and as measured along a line at right angles to the State Highway "76" (Deering Avenue) Base Line at Sta. 1+30;

Thence southeasterly by a direct course, about forty-three (43) feet to a point twenty-six (26) feet northwesterly from and as measured along a line at right angles to the State Highway "76" (Deering Avenue) Base Line at Sta. 1+75;

Thence S. 49°40'39" E. sixty and forty-one hundredths (60.41) feet to a point forty-one (41) feet northeasterly from and as measured along a line normal to the State Highway "76" (Deering Avenue) Base Line at Sta. 2+25;

Thence S. 75°12'58" E. forty-three and nineteen hundredths (43.19) feet to a point thirty-four (34) feet northwesterly from and as measured along a line at right angles to the Falmouth Street Base Line at Sta. 4+50;

Thence northeasterly by a direct course, about eighteen (18) feet to the point of beginning. Being shown on the beforementioned right-of-way map as Parcel Nos. (5) and (6).

Area 3

Beginning at a point, forty (40) feet northeasterly from and as measured along a line at right angles to the State Highway "76" (Deering Avenue) Base Line at Sta. 6+67;

Thence S. 29°25'19" E. forty-nine and sixty-five hundredths (49.65) feet to a point thirty-two (32) feet northeasterly from and as measured along a line at right angles to the State Highway "76" (Deering Avenue) Base Line at Sta. 7+16;

Thence S. 38°41'41" E. one hundred twenty-one and no hundredths (121.00) feet to a point thirty-two (32) feet northeasterly from and as measured along a line at right angles to the State Highway "76" (Deering Avenue) Base Line at Sta. 8+37;

Thence S. 50°40'15" E. thirty-three and seventy-three hundredths (33.73) feet to a point thirty-nine (39) feet northeasterly from and as measured along a line at right angles to the State Highway "76" (Deering Avenue) Base Line at Sta. 8+70;

Thence S. 77°38'06" E. forty-three and sixty hundredths (43.60) feet to a point forty (40) feet northwesterly from and as measured along a line at right angles to Bedford Street Base Line at Sta. 41+14;

Thence southeasterly along said right angle line, about ten (10) feet to a point in the present northwesterly line of Bedford Street;

Thence southwesterly along the present northwesterly line of Bedford Street, about thirty-six (36) feet to the point of intersection with the present northeasterly line of State Highway "76"

(Deering Avenue), said point being about thirty (30) feet northeasterly from and as measured along a line at right angles to the State Highway "76" (Deering Avenue) Base Line at about Sta. 9+10;

Thence northwesterly along the present northeasterly line of State Highway "76" (Deering Avenue), about three hundred (300) feet to the point of intersection with the present southwesterly line of State Highway "3" (Brighton Avenue), said point being about twenty-nine (29) feet northeasterly from and as measured along a line normal to the State Highway "76" (Deering Avenue) Base line at about Sta. 6+11;

Thence southeasterly along the present southwesterly line of State Highway "3" (Brighton Avenue), about twenty-four (24) feet to a point about forty-one (41) feet northeasterly from and as measured along a line at right angles to the State Highway "76" (Deering Avenue) Base Line at about Sta. 6+32;

Thence S. 37°55'44" E. about thirty-five (35) feet to the point of beginning. Being shown on the beforementioned right-of-way map as Parcel No. (9).

Area 4

"Beginning at a point on the southeasterly sideline of Falmouth Street, said point of beginning located N 48°34'53" E a distance of sixty-nine and 93/100 (69.93) feet from the intersection of the northeasterly sideline of Exeter Street with the southeasterly sideline of said Falmouth Street. Thence:

1. N 48°34'53" E by said Falmouth Street a distance of two hundred forty-three and 79/100 (243.79) feet to a point on the southerly sideline of Brighton Avenue;

2. S 67°27'04" E by said Brighton Avenue a distance of eleven and 80/100 (11.80) feet to a point on the southwesterly sideline of Deering Avenue;

3. S 38°46'34" E by said Deering Avenue a distance of one hundred eleven and 32/100 (111.32) feet to a point;

4. N 47°34'40" W through land of the Grantor a distance of sixty-five and 82/100 (65.82) feet to a point;

5. N 88°45'17" W through said land of the Grantor a distance of seventy-one and 00/100 (71.00) feet to a point;

6. S 40°44'35" W through said land of the Grantor a distance of forty-nine and 84/100 (49.84) feet to a point;

7. S 48°14'39" W through said land of the Grantor a distance of thirty-seven and 10/100 (37.10) feet to a point;

8. S 57°25'25" W through said land of the Grantor a distance of ninety-nine and 27/100 (99.27) feet to the point of beginning."

Being the same as the first parcel of land described and conveyed from University of Maine System to City of Portland by Quitclaim Deed with Covenant dated March 22, 2019 and recorded at the Cumberland County Registry of Deeds in Book 35543, Page 338 and being shown on the beforementioned right-of-way map as Parcel No. (13).

Area 5

"Beginning at the intersection of the southeasterly sideline of Falmouth Street with the northeasterly sideline of Brighton Avenue. Thence:

1. N 45°03'56" E by said Falmouth Street a distance of sixty-seven and 91/100 (67.91) feet to a point;

2. S 25°30'06" W through land of the Grantor a distance of twenty-one and 27/100 (21.27) feet to a point;

3. S 05°00'58" W through said land of the Grantor a distance of thirty-seven and 10/100 (37.10) feet to a point;

4. S 53°19'05" E through said land of the Grantor a distance of twenty-five and 06/100 (25.06) feet to the northeasterly sideline of said Brighton Avenue;

5. N 67°27'04" W by said Brighton Avenue a distance of sixty and 39/100 (60.39) feet to the point of beginning."

Being the same as the second parcel of land described and conveyed from University of Maine System to City of Portland by Quitclaim Deed with Covenant dated March 22, 2019 and recorded at the Cumberland County Registry of Deeds in Book 35543, Page 338 and being shown on the beforementioned right-of-way map as Parcel No. (14).

EXCEPTIONS AND RESERVATIONS

There is excepted and reserved from the before described taking in fee simple:

All existing utility company rights-of-way and/or easements, however acquired, and located within the aforedescribed boundaries, EXCEPTING any that may be specifically set forth in the hereinafter Informative Summary.

DESCRIPTIONS OF EASEMENT AND/OR RIGHTS TAKING

The following described easement and/or rights in land are taken at the locations, in the manner, to the extent specified and as shown on the right-of-way map hereinbefore mentioned:

TEMPORARY CONSTRUCTION RIGHTS

The right, for the duration of the period of the Project construction as determined by the date of completion of construction according to the records of the Department of Transportation, to enter upon land outside of and adjoining the boundary lines of the above-referenced highway to perform the work as set forth below within the limits defined as "Temporary Construction Limits" as shown on the above-referenced Right-of-Way map.

Said right may include, but is not limited to, necessary excavating, placing of fill material, curbing, loaming, seeding, paving, installation of structures, removal of trees, shrubs, bushes and other growth, selective cutting, trimming, and other necessary incidental work in grading said adjoining land, in addition to the temporary placement of utility poles including all related fixtures, overhead wires, guys, etc. in order to allow for project construction in accordance with all governing regulations and other requirements of law.

Parcel/ Item	**Apparent Owner**	**Location: Lt./Rt.**
2	Francis Schwanauer Johanna M. Schwanauer	Sta. 1+76 to Sta. 2+42 Rt. (S.H."12"/Brighton Avenue)
3	Mark E. High Mary Elizabeth Woodbury	Sta. 2+42 to Sta. 3+15 Rt. (S.H."12"/Brighton Avenue)
4	Donnabeth Davis	Sta. 3+14 to Sta. 3+53 Rt. (S.H."12"/Brighton Avenue) Sta. 2+23 Lt. (Falmouth Street) to Sta. 3+63 Rt. (S.H."12"/Brighton Avenue)
5	Richard T. Boles	Sta. 1+25 to Sta. 1+75 Lt. (S.H."76"/Deering Avenue)
6	257 Deering LLC	Sta. 1+75 Lt. (S.H."76"/Deering Avenue) to Sta. 4+70 Lt. (Falmouth Street)

Parcel/ Item	Apparent Owner	Location: Lt./Rt.
7	University of Maine System	Sta. 1+04 to Sta. 2+05 Rt. (Falmouth Street) Sta. 2+13 to Sta. 2+52 Rt. (Falmouth Street) Sta. 2+61 to Sta. 2+93 Rt. (Falmouth Street) Sta. 5+16 to Sta. 8+18 Rt. (S.H."76"/Deering Avenue)
8	University of Maine System	Sta. 5+12 Rt. (Falmouth Street) to Sta. 5+43 Lt. (S.H."76"/Deering Avenue) Sta. 6+84 to Sta. 7+08 Lt. (S.H."76"/Deering Avenue)
9	City of Portland	Sta. 6+32 to Sta. 8+03 Lt. (S.H."76"/Deering Avenue) Sta. 8+12 Lt. (S.H."76"/Deering Avenue) to Sta. 41+00 Lt. (Bedford Street)
10	University of Maine System	Sta. 8+18 to Sta. 8+94 Rt. (S.H."76"/Deering Avenue)
11	University of Maine System	Sta. 8+94 to Sta. 9+13 Rt. (S.H."76"/Deering Avenue)
12	Vincent A. Ciampi, Jr.	Sta. 40+94 Rt. (Bedford Street) to Sta. 9+84 Lt. (S.H."76"/Deering Avenue)

INFORMATIVE SUMMARY

The following is a list summarizing the parcel or item numbers, names of apparent owners of record of land and rights involved, estimated areas, and rights affected, within and adjacent to the before-referenced highway boundaries, as shown on the beforementioned right-of-way map:

Parcel/ Item No.	Apparent Owner	Area	Slopes	Drainage	Temp. Const. Rights	Other Rights & Bldgs.
2	Francis Schwanauer Johanna M. Schwanauer	None	None	None	Yes	None
3	Mark E. High Mary Elizabeth Woodbury	240 ± Sq. Ft.	None	None	Yes	None

Parcel/ Item No.	Apparent Owner	Area	Slopes	Drainage	Temp. Const. Rights	Other Rights & Bldgs.
4	Donnabeth Davis	854 ± Sq. Ft.	None	None	Yes	None
5	Richard T. Boles	93 ± Sq. Ft.	None	None	Yes	None
6	257 Deering LLC	1868 ± Sq. Ft.	None	None	Yes	None
7	University of Maine System	None	None	None	Yes	None
8	University of Maine System	None	None	None	Yes	None
9	City of Portland	2433 ± Sq. Ft.	None	None	Yes	None
10	University of Maine System	None	None	None	Yes	None
11	University of Maine System	None	None	None	Yes	None
12	Vincent A. Ciampi, Jr.	None	None	None	Yes	None
13	City of Portland	4513 ± Sq. Ft. (Entire Lot)	None	None	None	None
14	City of Portland	1099 ± Sq. Ft. (Entire Lot)	None	None	None	None

Pursuant to Title 23 M.R.S. Section 651, that portion of State Highway "3"/Brighton Avenue, which lies southeasterly of the beforedescribed and redefined right of way limits of State Highway "76" (Deering Avenue) from about Sta. 5+43 Lt. of the State Highway "76"/Deering Avenue Base Line southeasterly to its intersection with Bedford Street, as shown on the before referenced Right of Way Map (D.O.T. File No. 3-641), upon completion of the project, shall hereafter be the responsibility of the City of Portland.

DOC :4635 BK:36372 PG:11
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
01/27/2020, 09:49:26A
Register of Deeds Nancy A. Lane E-RECORDED

PORTLAND
1862400
WIN: 018624.00

The Department of Transportation directs that this Notice of Layout and Taking be recorded in the Registry of Deeds of Cumberland County and filed with the City Clerk of the City of Portland and with the County Commissioners of Cumberland County and published in "The Portland Press Herald" a newspaper of general circulation in the County where said highway is located, and also directs that a copy of the Right-of-Way Map be filed with the County Commissioners of said County and also that Notice be sent by Certified Mail to any Owners and Mortgagees of Record.

Dated at Augusta, Maine

12/10/19
Date

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

Bruce A. Van Note, Commissioner

STATE OF MAINE
COUNTY OF KENNEBEC

Date December 18, 2019

Personally appeared the above named Bruce A. Van Note, Commissioner, Department of Transportation, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of the State of Maine.

Before me, Shelly Wood
Notary Public
Print Name:
My Commission Expires:

SHELLY WOOD
NOTARY PUBLIC
KENNEBEC COUNTY
MAINE
MY COMMISSION EXPIRES DECEMBER 26, 2025

APPROVED BY
AWARDED BY
CONCURRED
NOTED
COMMISSIONER OF TRANSPORTATION
12/18/19
DATE

SHELLY WOOD
NOTARY PUBLIC
KENNEBEC COUNTY
MAINE
MY COMMISSION EXPIRES DECEMBER 26, 2025

LAND EXCHANGE AGREEMENT
BETWEEN
CITY OF PORTLAND AND
THE UNIVERSITY OF MAINE SYSTEM

THIS AGREEMENT is made this 12th day of March, 2018 between the City of Portland, a body politic and corporate with a mailing address of 389 Congress Street, Portland, Maine 04101("City"), and the University of Maine System, acting through the University of Southern Maine, with a mailing address of, 5703 Alumni Hall, Orono, Maine 04469 ("University").

RECITALS

Whereas, by Order 26-13/14 dated August 5, 2013, the City approved the Brighton-Deering-Falmouth Intersection Study as a Master Plan in substantially the form included in a certain August 2013 Final Report prepared by Vanasse Hangen Brustlin, Inc. (the "Report"); and

Whereas, the City, through a separate agreement with the Maine Department of Transportation, desires to construct, operate, and maintain a proposed roundabout at the intersection of Brighton Avenue/Deering Avenue/Falmouth Street (the "Project") as generally depicted sheet 1 of the plan entitled State of Maine Department of Transportation Right Of Way Map, Project No._____, dated July 2017, a copy of which is attached hereto as Exhibit A and made a part hereof (the "Plan"); and

Whereas, portions of the Project are to be constructed on land owned by the University, which land is depicted on the Plan as Parcel No. (7) and Parcel No. (8) and more particularly described in Exhibits B and C attached hereto and made a part hereof, and which the University shall convey to the City pursuant to the terms of this Agreement; and

Whereas, in exchange for such conveyances, the City shall pursue the discontinuance of the green shaded portion of Brighton Avenue between Falmouth Street and Bedford Street on sheet 2 of the Plan, which portion is more particularly described in D attached hereto and made a part hereof (the "Brighton Avenue Land"), and convey the City's interest in the Brighton Avenue Land to the University.

NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, City and University hereby agree as follows:

1. Conveyance of University Property to City. For the sum of one dollar and other valuable consideration,

    a. The University will convey to City the parcel of land depicted on Exhibit A as Parcel No. (7), which parcel contains approximately 4,513 square feet and is a portion of property conveyed to the University of Maine by deeds recorded in

the Cumberland County Registry of Deeds in Book 3047, Page 354; Book 3053, Page 326; Book 3056, Page 504; and Book 3079, Page 537.

b. The University will convey to City the parcel of land depicted on Exhibit A as Parcel No. (8), which parcel contains approximately 1,099 square feet and is a portion of property conveyed to the University of Maine by deed recorded in the Cumberland County Registry of Deeds in Book 2370, Page 135. Parcels No. (7) and (8) are referred to herein as the "University Property."

c. In the event that updates to the plan require adjustments to the descriptions of the University Property described in Exhibits B & C, the parties shall agree on revised on descriptions to be included in the deed conveying the University Property to the City.

2. Discontinuance of Brighton Avenue Land; Conveyance of City Property to University.

a. Upon completion of the Project, and subject to the State lifting its state highway designation and the reversion of jurisdiction to the City, and subject to the City obtaining all other necessary approvals, the City will discontinue the "Brighton Avenue Land" subject to any utility easements of record and a utility easement and public easement to be retained by the City. Provided that the City discontinues the Brighton Avenue Land, the University shall waive its right to any damages resulting from the discontinuance.

b. Within 180 days after completion of the Project, and provided that the City Council has discontinued the Brighton Avenue Land and any applicable appeal periods have passed, the City shall convey to the University, by municipal quitclaim deed, its interest in the Brighton Avenue Land (the "City Property").

c. Subject to the provisions of section 9 below, in the event that the City does not discontinue the Brighton Avenue Land and convey its interest in the Brighton Avenue Land land to the University: (1) the City will hire a licensed appraiser, to be agreed upon by the parties, to prepare an appraisal report for the University Property at the City's expense; and (2) within 30 days of receipt of the appraiser's final report, the City will pay the University the appraised value of the University Property.

3. Title And Due Diligence.

a. Each party will have from the date first set forth above (the "Effective Date") until 4:00 PM Eastern Daylight Savings Time on the day that is ninety (90) days after the Effective Date (the "Due Diligence Period") to complete any survey, environmental review and title examinations, and to undertake such other investigations, testing or inspections as it shall deem appropriate.

b. During the Due Diligence Period, the University agrees to provide the City with open access, during normal business hours, to any and all of the University's files containing information about the University Property, including, without limitation, reports on soil conditions or other kinds of technical reports regarding the University Property, any information related to infrastructure on the University Property or infrastructure agreements and any information regarding restrictions, covenants or conditions affecting the University Property or the City's intended use of the University Property for roundabout purposes.

c. Each party will have until the end of the Due Diligence Period to deliver to the other any written objections to title, environmental, or survey matters that the party determines materially affects the use or the cost of development of or construction on the property. Objections not made prior to the end of the Due Diligence Period will be deemed waived; provided, however, that objections pertaining to matters of record first appearing after the end of the Due Diligence Period may be made at any time prior to the closing.

d. Option to Cure. In the event of a title, survey or environmental objection by a party, the conveying party will have the option, but not the obligation, to cure the objection and will notify other of its election within ten (10) business days after receipt of the objection. In the event that the conveying party elects to cure the objection, it will have sixty (60) days from the date of the notice of election, or such other reasonable time as the parties may agree, to cure the objection. In the event that the conveying party does not elect to cure the objection, or, having elected to cure the objection fails to timely do so to the other's reasonable satisfaction, the objecting party will have the option to (1) terminate this Agreement, after which neither party will have any further obligation or liability to the other under this Agreement, (2) waive the objection and close, or (3) undertake the cure of such objection at its own expense (in which case it shall have 60 days to do so).

4. Conditions Precedent to Closing.

a. The City shall have no obligation to close on the transactions contemplated by this Agreement if the City decides, in its sole discretion, not to proceed with the construction of the Project. In the event the City decides not to proceed with the Project, this Agreement shall terminate and the parties shall have no further obligations to each other. Provided, however, that in the event that the City terminates this Agreement after the University has conveyed the University Property to the City, the City shall reconvey the University Property to the City as set forth in section 9(e).

5. University's Representations. The University represents to City that the following are true as of the date of this Agreement and will be true as of the dates of the City Property Closing and University Property Closing:

   a. It has full power and authority to enter into this Agreement and to carry out its obligations under this Agreement.

   b. This Agreement has been duly authorized, executed, and delivered and is a legal, valid, and binding agreement of University, enforceable in accordance with its terms, subject to the University of Maine System Board of Trustees approval. The execution, delivery, and performance of this Agreement by University will not violate any judgment or order applicable to University or University's instruments of organization, governance or operation, and will not result in any material breach of, or constitute a material default under, or result in the creation of any material lien, charge, security interest, or other encumbrance upon the University Property or any note, bond, indenture, mortgage, deed of trust, bank loan, or credit agreement to which University is a party or by which the University Property is bound.

   c. University has not received any written notice of any pending condemnation, violation of law, or other legal action of any kind materially and adversely affecting the University Property.

   d. University has no knowledge of any pending or threatened litigation, administrative action, or governmental investigation or examination (including, but not limited to, environmental investigations, examinations, claims, and demands) concerning the University Property.

   e. No third party has any right to acquire all or any part of the University Property.

6. City's Representations. City represents to the University that the following are true as of the date of this Agreement and will be true as of the dates of the City Property Closing and the University Property Closing:

   a. It has full power and authority to enter into this Agreement and to carry out its obligations under this Agreement.

   b. This Agreement has been duly authorized, executed, and delivered and is a legal, valid, and binding agreement of City, enforceable in accordance with its terms. The execution, delivery, and performance of this Agreement by City will not violate any judgment or order applicable to City or City's instruments of organization, governance or operation, and will not result in any material breach of, or constitute a material default under, or result in the creation of any material lien, charge, security interest, or other encumbrance upon the City Property or any note, bond, indenture, mortgage, deed of trust, bank loan,

or credit agreement to which City is a party or by which the City Property is bound.

c. City has not received any written notice of any pending condemnation, violation of law, or other legal action of any kind materially and adversely affecting the City Property.

d. University has no knowledge of any pending or threatened litigation, administrative action, or governmental investigation or examination (including, but not limited to, environmental investigations, examinations, claims, and demands) concerning the City Property.

7. Property Conveyed As Is, Where Is. Each party acknowledges that it will have an opportunity to inspect the property being conveyed to it, and to hire professionals to do so, and that the properties will be conveyed "as is, where is" and "with all faults." Neither party makes any representations or warranties with respect to the accuracy of any statement as to boundaries or acreage, or as to any other matters contained in any description of the property, or as to the fitness of the property for a particular purpose, or as to development rights, merchantability, habitability, or as to any other matter, including without limitation, land use, zoning and subdivision issues, or the environmental, mechanical, or structural condition of the property. Acceptance by the parties of the respective deeds at the closings shall be deemed to be full performance and discharge by the conveying party of every agreement and obligation contained herein except as expressly set forth herein.

8. Closing For The University Property. Time is of the essence in the performance of this Agreement. The closing for the University Property shall be held at City Hall, 389 Congress Street, Portland, Maine at a time agreeable to the parties on or before the day that is 30 days after the end of the Due Diligence Period (the "University Property Closing Date"). At the Closing:

a. The University shall convey the University Property to City by quitclaim deed with covenant. Title shall be good and insurable title, free and clear of all liens and encumbrances except (i) easements described herein; (ii) easements for utilities servicing the property, and (iii) City ordinances.

b. Each party shall deliver to the other such other documents, certificates and the like as may be required herein or as may be necessary to carry out the obligations under this Agreement, and for the City to obtain owners title insurance in form reasonably acceptable to the City.

c. Each party shall deliver to the other evidence, reasonably satisfactory to other's counsel, that the transaction has been approved by the parties' respective governing bodies, and that the individuals acting with respect to the Closing and executing documents on behalf the parties are authorized to do so.

d. The recording fee for the deed of conveyance shall be paid for by the City.

9. Closing For The City Property. Subject to the provisions of section 2 above, the closing for the City Property shall be held at City Hall, 389 Congress Street, Portland, Maine at a time agreeable to the parties on or before the day that is 180 days after completion of the Project, provided that the City Council has discontinued the Brighton Avenue Land and any applicable appeal periods have passed. At the closing:

   a. The City shall convey the City Property to the University by municipal quitclaim deed. Title shall be good and insurable title, free and clear of all liens and encumbrances except (i) the public and utility easements retained by the City; (ii) easements for utilities servicing the property, and (iii) City ordinances.

   b. Each party shall deliver to the other such other documents, certificates and the like as may be required herein or as may be necessary to carry out the obligations under this Agreement, and for the University to obtain owners title insurance in form reasonably acceptable to the University.

   c. Each party shall deliver to the other evidence, reasonably satisfactory to other's counsel, that the transaction has been approved by the parties' respective governing bodies, and that the individuals acting with respect to the Closing and executing documents on behalf the parties are authorized to do so.

   d. The recording fee for the deed of conveyance shall be paid for by the University.

   e. Notwithstanding anything to the contrary herein, in the event that the City or the Maine Department of Transportation decide not to fund or otherwise proceed with the Project, the City shall have the right to reconvey the University Property to the University in lieu of making the payment described in section 2(c). The University will cooperate with the City in obtaining any regulatory approvals required for the reconveyance, which shall be obtained at the City's expense.

10. Post-Closing Matters:

   a. During construction of the Project, the University will cede its use of a 9,500 square foot parking lot adjacent to the Brighton Avenue Land (the "Brighton Avenue Parking Lot Property"), resulting in the elimination of 26 parking spaces. The Brighton Avenue Parking Lot Property will be graded, loamed, and seeded as part of the Project by the City and at no cost to the University. Title to this Brighton Avenue Parking Lot Property will remain in the

University. The parties shall enter into a separate license agreement to allow the City or its contractors to enter the University's land to perform such grading, loaming, and seeding and other work associated with the Project.

b. Subject to applicable zoning and land use regulations and any other applicable laws, rules and regulations, the University and the City will work cooperatively to create signage and landscaping for the Project.

c. While the streets are open during construction of the Project, the City will allow the University, at the University's sole expense, to update and replace various utility lines connecting the University's Law School with the core of the University Campus, provided that such work does not delay the Project schedule.

d. The University and the City will work cooperatively on the Project's construction schedule in order to minimize scheduling conflicts during major University and City events.

e. Subject to applicable zoning and land use regulations and any other applicable laws, rules, and regulations, the City will support the University in its efforts to locate parking spaces to replace the Brighton Avenue Parking Lot on other parcels within the University campus should the University choose to do so. All costs associated with replacing the Brighton Avenue Parking Lot will be borne by the University.

11. Miscellaneous.

a. This Agreement constitutes the entire agreement between the parties relating to the subject hereof, and any prior agreements pertaining thereto, whether oral or written, have been merged and integrated into this Agreement. No subsequent modification of any of the terms of this Agreement shall be valid, binding upon the parties or enforceable unless made in writing and signed by the parties.

b. Any obligations in this Agreement that by its terms are intended to be performed after termination or Closing shall survive the same.

c. All notices, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given on the date of service if served personally on the party to whom notice is to be given, or on the first business day after mailing if mailed to the party to whom notice is to be given by first class mail, postage prepaid, certified, return receipt requested, addressed to the recipient at the addresses set forth below. Either party may change addresses for purposes of this paragraph by giving the other party notice of the new address in the manner described herein.

For The City:	City of Portland ATTN: City Manager 389 Congress Street Portland, ME 04101
With a copy to:	The Office of the Corporation Counsel at the same address.
For The University:	M. F. Chip Gavin Chief Facilities Management and General Services Officer 25 Bedford Street Portland, ME 04101
With a copy to:	General Counsel Office 46 University Dr. Augusta ME, 04330

d. As an alternative to physical delivery, any signed document and written notice may be delivered in electronic form by facsimile or email. Documents with original signatures shall be provided upon request of any party.

e. This Agreement shall be construed in all respects in accordance with, and governed by, the laws of the State of Maine. All parties hereto hereby consent to the exclusive jurisdiction of the Superior Court for the County of Cumberland in the State of Maine, for all actions, proceedings and litigation arising from or relating directly or indirectly to this Agreement or any of the obligations hereunder, and any dispute not otherwise resolved as provided herein shall be litigated solely in said Court. If any provision of this Agreement is determined to be invalid or unenforceable, it shall not affect the validity or enforcement of the remaining provisions hereof.

f. This contract shall be binding upon and inure to the benefit of the successors and assigns of the parties.

g. No waiver of any breach of any one or more of the conditions of this Agreement by either party shall be deemed to imply or constitute a waiver of any succeeding or other breach hereunder.

h. The headings and captions appearing herein are for the convenience of reference only and shall not in any way affect the substantive provisions hereof.

i. The City and Buyer each confirm and agree that each of the time periods set forth herein are essential provisions of the terms of this Agreement.

j. This Agreement may be executed in any number of counterparts and by different parties in separate counterparts. Each counterpart when so executed shall be deemed to be an original and all of which together shall constitute one and the same agreement.

IN WITNESS WHEREOF, the said CITY OF PORTLAND has caused this Agreement to be signed and sealed by Jon P. Jennings, its City Manager, thereunto duly authorized, and UNIVERSITY OF MAINE SYSTEM has caused this Agreement to be signed and sealed by M.F. Chip Gavin, its Chief Facilities Management and General Services Officer, thereunto duly authorized, as of the day and date first above written.

CITY OF PORTLAND

Witness: _____ By: _____
Jon P. Jennings
Its City Manager

UNIVERSITY OF MAINE SYSTEM

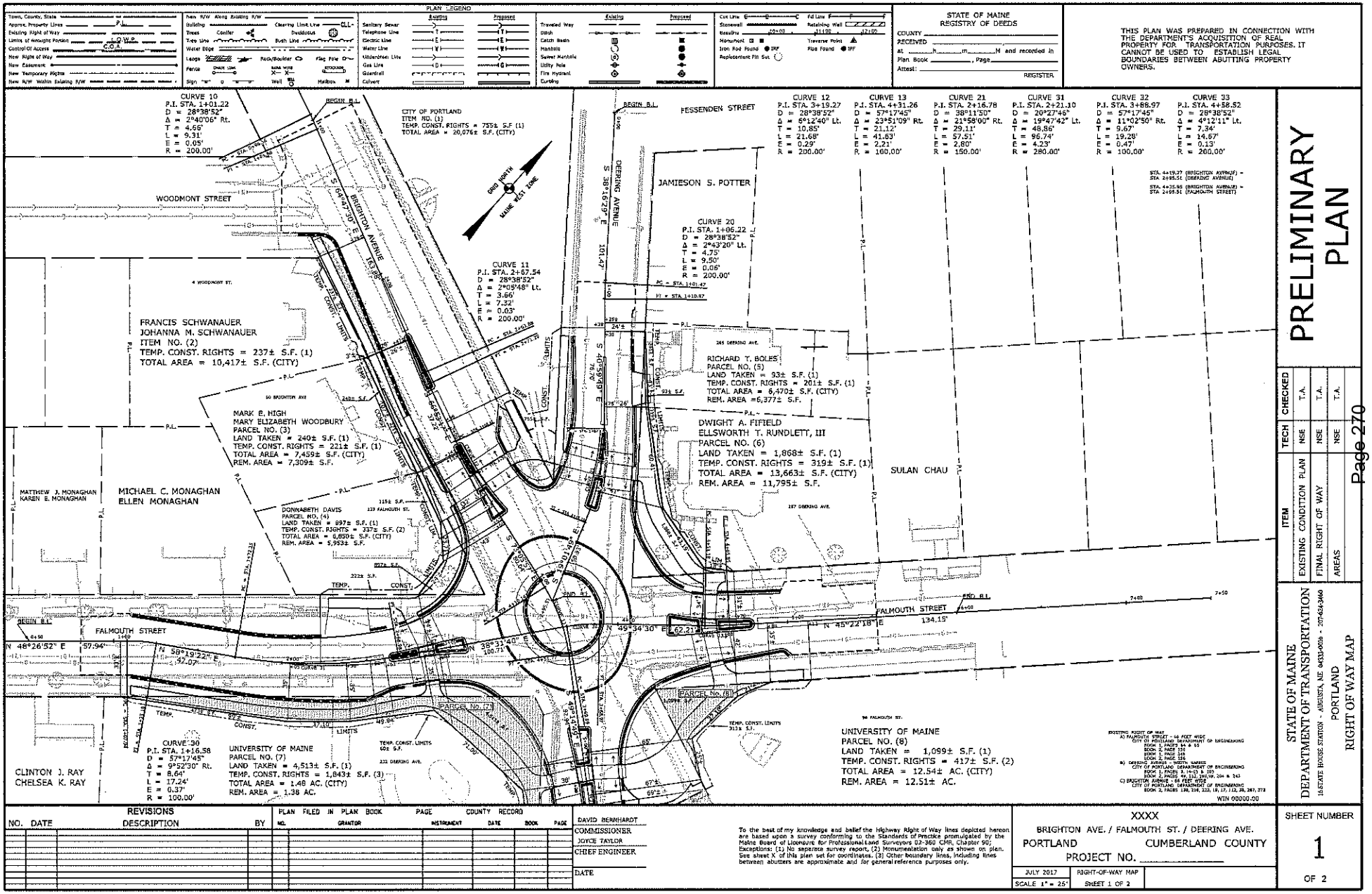
Witness: _____ By: _____
M.F. Chip Gavin
Its Chief Facilities Management and General Services Officer

Approved as to form:

_____
City Corporation Counsel's Office

EXHIBIT A

(Copy of State of Maine Department of Transportation Right Of Way Map, Project No._____, dated July 2017)


PLAN LEGEND
CURVE 10
P.I. STA. 1+01.22
D = 28°38'52"
Δ = 2°40'06" Rt.
T = 4.66'
L = 9.31'
E = 0.05'
R = 200.00'
CITY OF PORTLAND
ITEM NO. (1)
TEMP. CONST. RIGHTS = 755± S.F (1)
TOTAL AREA = 20,076± S.F. (CITY)
BEGIN P.I.
FESSENDEN STREET
CURVE 12
P.I. STA. 3+19.27
D = 28°38'52"
Δ = 6°12'40" Lt.
T = 10.85'
L = 21.68'
E = 0.29'
R = 200.00'
CURVE 13
P.I. STA. 4+31.26
D = 57°17'45"
Δ = 23°51'09" Rt.
T = 21.12'
L = 41.63'
E = 2.21'
R = 100.00'
CURVE 21
P.I. STA. 2+16.78
D = 38°11'50"
Δ = 21°58'00" Rt.
T = 29.11'
L = 57.51'
E = 2.80'
R = 150.00'
CURVE 31
P.I. STA. 2+21.10
D = 20°27'46"
Δ = 19°47'42" Lt.
T = 48.86'
L = 96.74'
E = 4.23'
R = 280.00'
CURVE 32
P.I. STA. 3+88.97
D = 57°17'45"
Δ = 11°02'50" Rt.
T = 9.67'
L = 19.28'
E = 0.47'
R = 100.00'
CURVE 33
P.I. STA. 4+58.52
D = 28°38'52"
Δ = 4°12'11" Lt.
T = 7.34'
L = 14.67'
E = 0.13'
R = 200.00'
STA. 4+19.27 (BRIGHTON AVENUE) = STA 2+85.51 (DEERING AVENUE)
STA. 4+35.95 (BRIGHTON AVENUE) = STA 2+98.51 (FALMOUTH STREET)
WOODMONT STREET
BRIGHTON AVENUE
DEERING AVENUE
GRID NORTH
MAINE WEST ZONE
JAMIESON S. POTTER
CURVE 20
P.I. STA. 1+06.22
D = 28°38'52"
Δ = 2°43'20" Lt.
T = 4.75'
L = 9.50'
E = 0.06'
R = 200.00'
CURVE 11
P.I. STA. 2+67.54
D = 28°38'52"
Δ = 2°05'48" Lt.
T = 3.66'
L = 7.32'
E = 0.03'
R = 200.00'
FRANCIS SCHWANAUER
JOHANNA M. SCHWANAUER
ITEM NO. (2)
TEMP. CONST. RIGHTS = 237± S.F. (1)
TOTAL AREA = 10,417± S.F. (CITY)
MARK E. HIGH
MARY ELIZABETH WOODBURY
PARCEL NO. (3)
LAND TAKEN = 240± S.F. (1)
TEMP. CONST. RIGHTS = 221± S.F. (1)
TOTAL AREA = 7,459± S.F. (CITY)
REM. AREA = 7,309± S.F.
RICHARD T. BOLES
PARCEL NO. (5)
LAND TAKEN = 93± S.F. (1)
TEMP. CONST. RIGHTS = 201± S.F. (1)
TOTAL AREA = 6,470± S.F. (CITY)
REM. AREA =6,377± S.F.
DWIGHT A. FIFIELD
ELLSWORTH T. RUNDLETT, III
PARCEL NO. (6)
LAND TAKEN = 1,868± S.F. (1)
TEMP. CONST. RIGHTS = 319± S.F. (1)
TOTAL AREA = 13,663± S.F. (CITY)
REM. AREA = 11,795± S.F.
SULAN CHAU
MATTHEW J. MONAGHAN
KAREN E. MONAGHAN
MICHAEL C. MONAGHAN
ELLEN MONAGHAN
DONNABETH DAVIS
PARCEL NO. (4)
LAND TAKEN = 897± S.F. (1)
TEMP. CONST. RIGHTS = 337± S.F. (2)
TOTAL AREA = 6,850± S.F. (CITY)
REM. AREA = 5,953± S.F.
FALMOUTH STREET
N 48°26'52" E 57.94'
N 58°19'22" E 42.07'
N 38°31'40" E 100.71'
S 39°34'30" E 62.21'
N 45°22'18" E 134.15'
CURVE 30
P.I. STA. 1+16.58
D = 57°17'45"
Δ = 9°52'30" Rt.
T = 8.64'
L = 17.24'
E = 0.37'
R = 100.00'
CLINTON J. RAY
CHELSEA K. RAY
UNIVERSITY OF MAINE
PARCEL NO. (7)
LAND TAKEN = 4,513± S.F. (1)
TEMP. CONST. RIGHTS = 1,843± S.F. (3)
TOTAL AREA = 1.48 AC. (CITY)
REM. AREA = 1.38 AC.
PARCEL No. (8)
UNIVERSITY OF MAINE
PARCEL NO. (8)
LAND TAKEN = 1,099± S.F. (1)
TEMP. CONST. RIGHTS = 417± S.F. (2)
TOTAL AREA = 12.54± AC. (CITY)
REM. AREA = 12.51± AC.
STATE OF MAINE
REGISTRY OF DEEDS
COUNTY
RECEIVED
at h m M and recorded in
Plan Book , Page
Attest:
REGISTER
THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.
PRELIMINARY PLAN
ITEM | TECH | CHECKED
EXISTING CONDITION PLAN | NSE | T.A.
FINAL RIGHT OF WAY | NSE | T.A.
AREAS | NSE | T.A.
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460
PORTLAND
RIGHT OF WAY MAP
REVISIONS
NO. DATE DESCRIPTION BY
PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD
NO. GRANTOR INSTRUMENT DATE BOOK PAGE
DAVID BERNHARDT
COMMISSIONER
JOYCE TAYLOR
CHIEF ENGINEER
DATE
To the best of my knowledge and belief the Highway Right of Way lines depicted hereon are based upon a survey conforming to the Standards of Practice promulgated by the Maine Board of Licensure for Professional Land Surveyors (32-360 CMR, Chapter 90; Exceptions: (1) No separate survey report, (2) Monumentation only as shown on plan. See sheet X of this plan set for coordinates. (3) Other boundary lines, including lines between abutters are approximate and for general reference purposes only.
XXXX
BRIGHTON AVE. / FALMOUTH ST. / DEERING AVE.
PORTLAND CUMBERLAND COUNTY
PROJECT NO.
JULY 2017 RIGHT-OF-WAY MAP
SCALE 1" = 25' SHEET 1 OF 2
WIN 00000.00
SHEET NUMBER
1
OF 2
EXHIBIT A
Date:9/15/2017
Username: common
Division: HIGHWAY
Filename: ...\Microstation\001_RWPlan1.dgn
Page 270

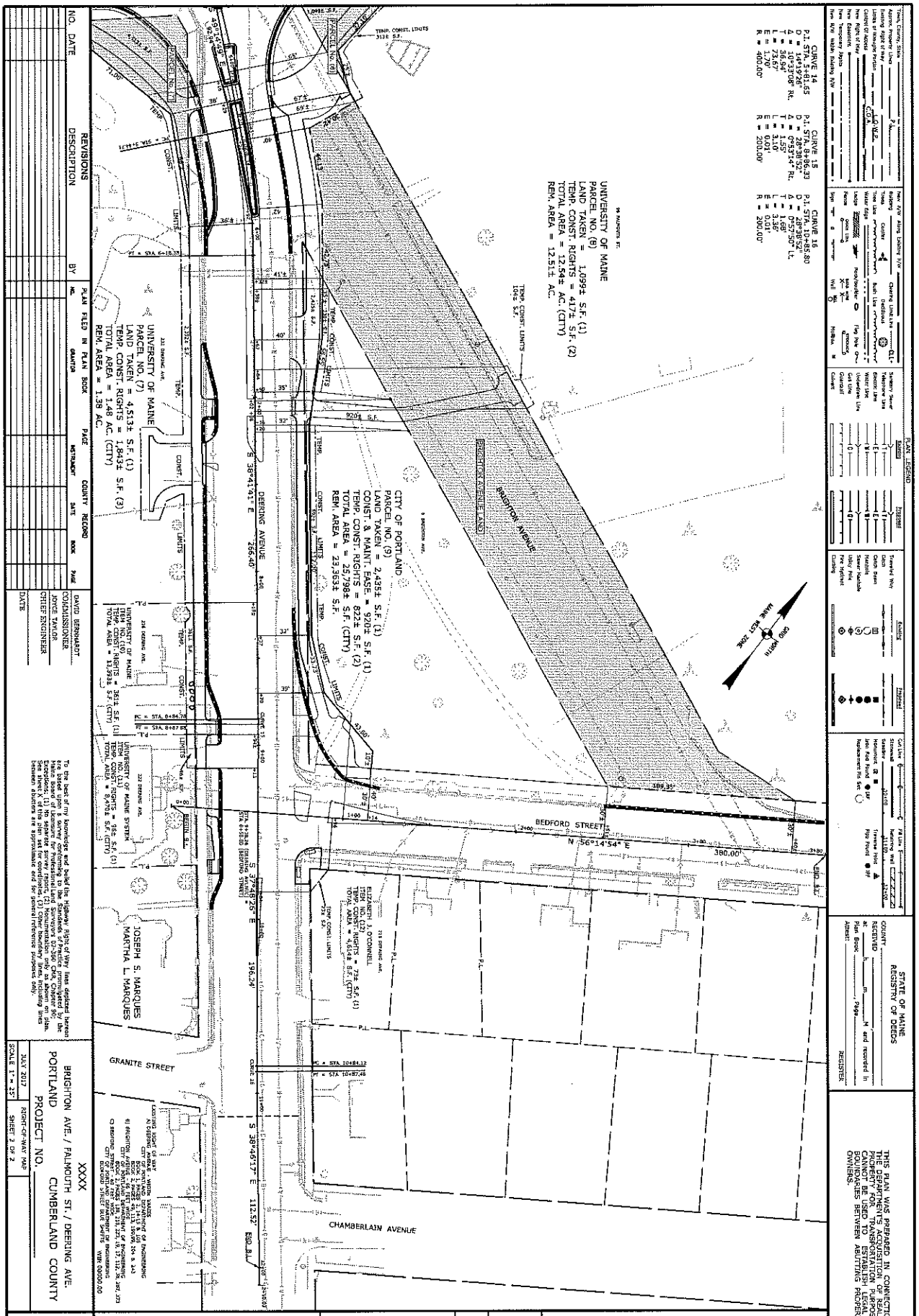

CURVE 14
P.I. STA. 5+81.55
D = 14°19'28"
T = 35.94'
L = 70.57'
R = 400.00'
CURVE 15
P.I. STA. 8+86.33
D = 28°38'52"
T = 102.04'
L = 199.99'
R = 400.00'
CURVE 16
P.I. STA. 10+85.80
D = 28°38'52"
T = 102.04'
L = 199.99'
R = 400.00'
99 HANCOCK ST.
UNIVERSITY OF MAINE
PARCEL NO. (6)
LAND TAKEN = 1,099± S.F. (1)
TEMP. CONST. RIGHTS = 417± S.F. (2)
TOTAL AREA = 12.54± AC. (CITY)
REM. AREA = 12.51± AC.
TEMP. CONST. LIMITS
104± S.F.
BRIGHTON AVENUE LAND
BRIGHTON AVENUE
9 BRIGHTON AVE.
CITY OF PORTLAND
PARCEL NO. (9)
LAND TAKEN = 2,435± S.F. (1)
CONST. & MAINT. EASE. = 920± S.F. (2)
TEMP. CONST. RIGHTS = 822± S.F. (2)
TOTAL AREA = 25,798± S.F. (CITY)
REM. AREA = 23,363± S.F.
UNIVERSITY OF MAINE
PARCEL NO. (7)
LAND TAKEN = 4,513± S.F. (1)
TEMP. CONST. RIGHTS = 1,843± S.F. (3)
TOTAL AREA = 1.48 AC. (CITY)
REM. AREA = 1.38 AC.
223 DEERING AVE.
DEERING AVENUE
S 38°41'41" E
266.40'
BEDFORD STREET
N 56°14'54" E
380.00'
S 37°48'26" E
196.24'
S 38°45'17" E
112.52'
ELIZABETH J. O'CONNELL
ITEM NO. (12)
TEMP. CONST. RIGHTS = 758± S.F. (1)
TOTAL AREA = 6,470± S.F. (CITY)
JOSEPH S. MARQUES
MARTHA L. MARQUES
GRANITE STREET
CHAMBERLAIN AVENUE
P.I.
P.C. = STA. 6+94.78
P.T. = STA. 8+87.89
P.C. = STA. 10+81.12
P.T. = STA. 10+87.46
ESD. P.I.
TEMP. CONST. LIMITS
PLAN LEGEND
Boundary
Property
Existing
Proposed
Traveled Way
Ditch
Catch Basin
Manhole
Sewer Manhole
Utility Pole
Pipe Culvert
Curbing
Gas Line
Telephone Line
Electric Line
Water Line
Underdrain Line
Gas Line
Guardrail
Culvert
Stockade Fence
Tree Line
Bush Line
Water Edge
Fence
Stone Wall
Hedge
Sign
Flag Pole
Buildings
Multiple Homes
Trees
Deciduous
Coniferous
Shrub
Mailbox
Utility Pole
Guy Pole
Light
Hydrant
Gate Valve
Monument Found
Monument Set
Iron Rod Found
Iron Rod Set
Pipe Found
Pipe Set
Transit Point
Nail Found
Nail Set
Plan Line
Taking Line
Limited Access
Right of Way
Easement
Temporary Rights
New R/W Along Existing R/W
Change Limited Access
New R/W Along Existing R/W
Change Limited Access
Right of Way
Easement
Temporary Rights
Limited Access
Change Limited Access
Right of Way
Easement
Temporary Rights

EXHIBIT B

Description of Parcel No. (7)

A certain lot or parcel of land located on the southeasterly side of Falmouth Street, southwesterly side of Brighton Avenue and the southwesterly side of Deering Avenue in the City of Portland, County of Cumberland, State of Maine, bounded and described as follows:

Beginning at point on the southeasterly sideline of Falmouth Street, said point of beginning being located N 48°34'53" E a distance of Sixty-Nine and 93/100 (69.93) feet from the intersection of the northeasterly sideline of Exeter Street with the southeasterly sideline of said Falmouth Street. Thence:

1. N 48°34'53" E by said Falmouth Street a distance of Two Hundred Forty-Three and 79/100 (243.79) feet to a point on the southerly sideline of Brighton Avenue;

2. S 67°27'04" E by said Brighton Avenue a distance of Eleven and 80/100 (11.80) feet to a point on the southwesterly sideline of Deering Avenue;

3. S 38°46'34" E by said Deering Avenue a distance of One Hundred Eleven and 32/100 (111.32) feet to a point;

4. N 47°34'40" W through land of the Grantor a distance of Sixty-Five and 82/100 (65.82) feet to a point;

5. N 88°45'17" W though said land of the Grantor a distance of Seventy-One and 00/100 (71.00) feet to a point;

6. S 40°44'35" W through said land of the Grantor a distance of Forty-Nine and 84/100 (49.84) feet to a point;

7. S 48°14'39" W through said land of the Grantor a distance of Thirty-Seven and 10/100 (37.10) feet to a point;

8. S 57°25'25" W through said land of the Grantor a distance of Ninety-Nine and 27/100 (99.27) feet to the point of beginning.

Bearings are referenced to grid north, Maine State Plane Coordinate System, NAD83, West Zone.

The above described parcel contains 4,513 square feet, more or less, and being a portion of property as described in deeds to the University of Maine recorded in the Cumberland County Registry of Deeds in Book 3047, Page 354, Book 3053, Page 326, Book 3056, Page 504 and Book 3079, Page 537.

EXHIBIT C

Description of Parcel No. (8)

A certain lot or parcel of land located on the southeasterly side of Falmouth Street and the northeasterly side of Brighton Avenue in the City of Portland, County of Cumberland, State of Maine, bounded and described as follows:

Beginning at the intersection of the southeasterly sideline of Falmouth Street with the northeasterly sideline of Brighton Avenue. Thence:

1. N 45°03'56" E by said Falmouth Street a distance of Sixty-Seven and 91/100 (67.91) feet to a point;

2. S 25°30'06" W through land of the Grantor a distance of Twenty-One and 27/100 (21.27) feet to a point;

3. S 05°00'58" W through said land of the Grantor a distance of Thirty-Seven and 10/100 (37.10) feet to a point;

4. S 53°19'05" E through said land of the Grantor a distance of Twenty-Five and 06/100 (25.06) feet to the northeasterly sideline of said Brighton Avenue;

5. N 67°27'04" W by said Brighton Avenue a distance of Sixty and 39/100 (60.39) feet to the point of beginning.

Bearings are referenced to grid north, Maine State Plane Coordinate System, NAD83, West Zone.

The above described parcel contains 1,099 square feet, more or less, and being a portion of property as described in a deed to the University of Maine recorded in the Cumberland County Registry of Deeds in Book 2370, Page 135.

EXHIBIT D

Description of the Brighton Avenue Land

A certain portion of a right of way known as Brighton Avenue located in the City of Portland, County of Cumberland, State of Maine, bounded and described as follows:

Beginning at the intersection of the northeasterly side of Brighton Avenue with the northwesterly sideline of Bedford Street. Thence:

1. S 56°16'26" W by the northwesterly side of said Bedford Street a distance of One Hundred Nine and 35/100 (109.35) feet to a point at land now or formerly of the City of Portland as described in a deed recorded in the Cumberland County Registry of Deeds in Book 1290, Page 35;

2. N 67°27'04" W by said land of the City of Portland a distance of Three Hundred Thirty-Four and 98/100 (334.98) feet to a point;

3. N 38°17'00" W through said Brighton Avenue a distance of Forty-Two and 75/100 (42.75) feet to a point;

4. N 47°55'58" W through said Brighton Avenue a distance of Forty-Four and 13/100 (44.13) feet to a point;

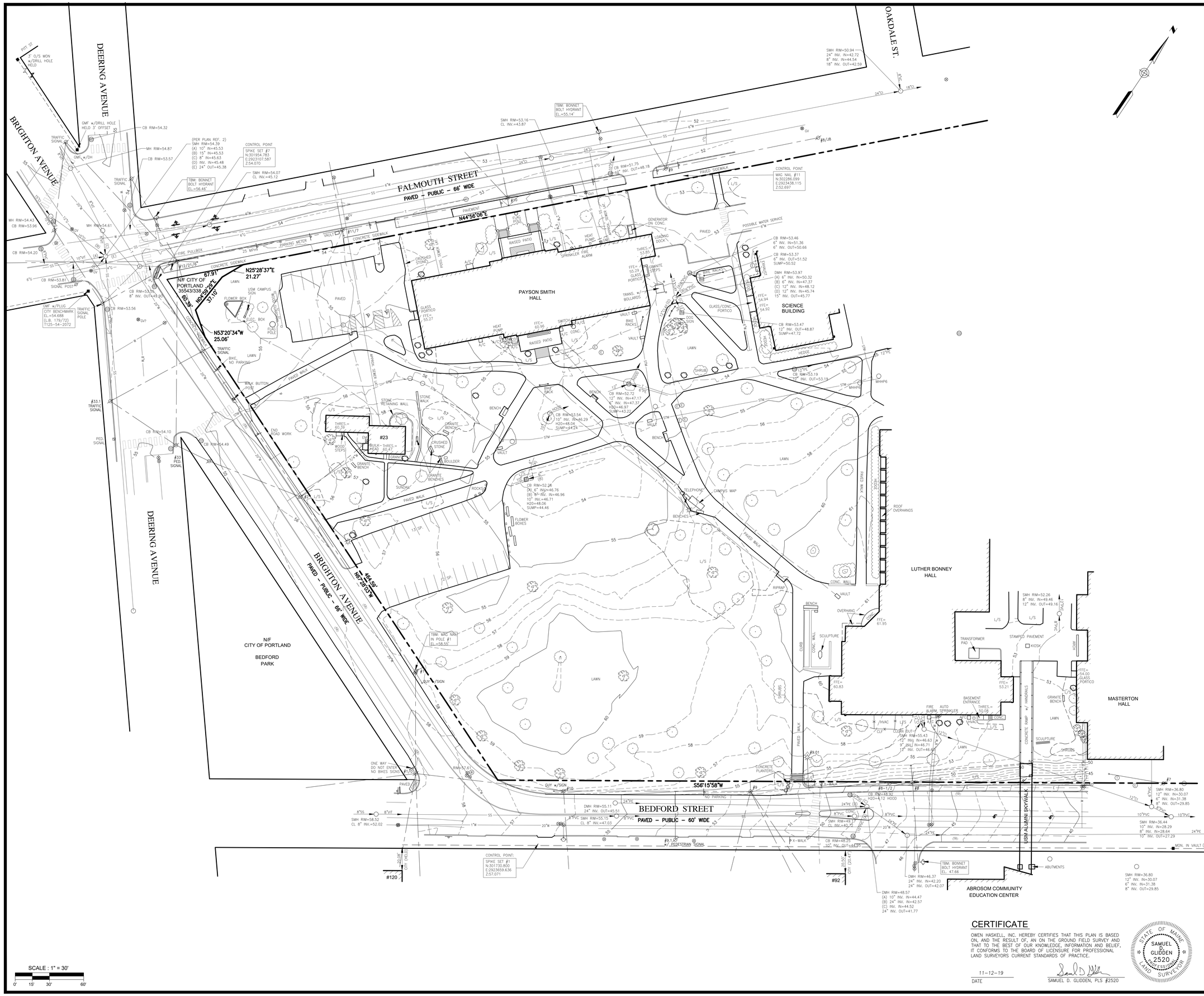
5. N 22°06'16" E through said Brighton Avenue a distance of Thirty and 42/100 (30.42) feet to a point on the northeasterly sideline of said Brighton Avenue and land now or formerly of the University of Maine as described in a deed recorded in said Registry in Book 2370, Page 135;

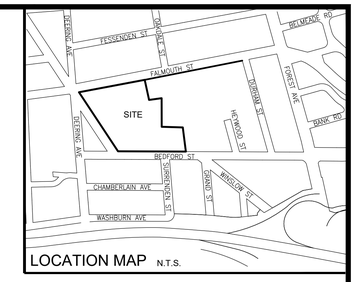
6. S 67°27'04" E by said land of the University of Maine a distance of Four Hundred Twenty-Eight and 19/100 (428.19) feet to a point;

7. N 84°24'41" E by said land of the University of Maine a distance of Fifty-Two and 91/100 (52.91) feet to the point of beginning.

Bearings are referenced to grid north, Maine State Plane Coordinate System, NAD83, West Zone.

The above described parcel contains 27,587 square feet, more or less, and being a portion of Brighton Avenue.





LEGEND

- IRON PIPE OR ROD FOUND
- MONUMENT FOUND
- UTILITY POLE
- MANHOLE
- EM/GM ELECTRIC/GAS METER
- SIGN
- CATCH BASIN
- HYDRANT
- WATER VALVE OR SHUTOFF
- GV GAS VALVE
- LIGHT POLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- SHRUB / BUSH
- FENCE
- CURB
- OVERHEAD WIRES
- E UNDERGROUND POWER
- C COMMUNICATION
- W WATER LINE
- G GAS LINE
- T TELEPHONE
- SD STORM DRAIN
- SS SANITARY SEWER
- STM STEAM/CONDENSATION LINES
- 50 1' CONTOUR
- IPF/IRF IRON PIPE OR ROD FOUND
- L/S LANDSCAPED AREA
- CONC. CONCRETE
- FFE FINISHED FLOOR ELEVATION
- THRES. THRESHOLD
- N/F NOW OR FORMERLY
- 000/000 DEED BOOK / PAGE

PLAN REFERENCES

1. "BOUNDARY & TOPOGRAPHIC PLAN ON BEDFORD STREET, USM CAMPUS, PORTLAND, MAINE MADE FOR WOODARD & CURRAN, INC." SEPTEMBER 08, 2005 REV. 5 11-02-06 BY OWEN HASKELL, INC. JOB# 05-211.

2. "BRIGHTON-DEERING-FALMOUTH & BEDFORD-DEERING ROUNDABOUTS PRELIMINARY DESIGN PLANS, PREPARED FOR THE CITY OF PORTLAND" BY RANSOM CONSULTING, INC. DATED 2017-07-12 AND REVISED THROUGH 5-10-19. PROJECT NUMBER 141.06013

GENERAL NOTES

1. OWNER OF RECORD: UNIVERSITY OF MAINE SYSTEM
   P/O TAX MAP 114 BLOCK A LOT 1
   C.C.R.D. BOOK 2370 PAGE 135

2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD 83 PER COORDINATE DATA PROVIDED BY THE CITY OF PORTLAND DEPARTMENT OF PUBLIC WORKS.

3. ELEVATIONS ARE BASED ON CITY OF PORTLAND DATUM, NGVD 29. BENCHMARK UTILIZED IS A COPPER BOLT IN 3 FOOT OFFSET MONUMENT LOCATED AT THE SOUTHWEST CORNER OF THE BRIGHTON AVENUE AND FALMOUTH STREET INTERSECTION, SHOWN HEREON.

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 SURVEY HAS NOT PHYSICALLY LOCATION THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

11-12-19
DATE

SAMUEL D. GLIDDEN, PLS #2520

STATE OF MAINE SAMUEL D GLIDDEN 2520 PROFESSIONAL LAND SURVEYOR

Boundary and Topograpic Survey
USM Portland Campus
96 Falmouth Street, Portland, Maine
Made for
Oak Point Associates
231 Main Street, Biddeford, 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: NOV. 12, 2019	JOB NO. 2019-244 P	
CHECKED BY: SDG	SCALE: 1" = 30'	DRWG. NO. 1	

Section 3 – Financial Capacity

The estimated cost of this project is between $56 million and $59 million. Attached is a copy of the University's commitment to fund the project.

DocuSign Envelope ID: 2C6615B3-B325-4C58-9B79-A762DFF25B3C

UNIVERSITY OF
SOUTHERN MAINE
Finance and Administration

October 31, 2022

Mr. Jonah DeWaters
Oak Point Associates
231 Main Street
Biddeford, ME 04005

Dear Mr. DeWaters:

The University of Southern Maine expects the Center for the Arts project to cost approximately $56 million to $59 million.

To fund the project, the University would utilize philanthropy and other University resources pursuant to approval by the University of Maine System Board of Trustees.

Thank you for your consideration.

Sincerely,

DocuSigned by:
Alexander E Porteous
73AFFEE3455845F...

Alexander E. Porteous
Chief Operation Officer & Chief Business Officer

Section 4 – Technical Ability

The University of Southern Maine (USM) is a public university with over 8,000 undergraduate and graduate students taking courses online and at campuses in Portland, Gorham, and Lewiston. Known for its academic excellence, student focus, and engagement with the community, USM provides students with hands-on experience that complements classroom learning and leads to employment opportunities in one of the nation's most desirable places to live. USM is a member of the University of Maine System, the State's largest educational enterprise that includes seven universities and an annual enrollment of nearly 30,000 students.

Oak Point Associates is a 75-employee, full-service interdisciplinary design and consulting organization providing a wide range of architectural, engineering, and planning services and an advantageous integrated design approach. These services include civil engineering, stormwater management design, municipal and state environmental permitting, and construction administration/management. With offices in Biddeford, Maine, and Portsmouth, New Hampshire, Oak Point Associates and has been serving the public and private sector for over 40 years. Our capabilities have been demonstrated through successful and award-winning projects for clients that include municipalities, universities and other educational institutions, state agencies, and private entities, as well as federal agencies such as the U.S. Navy, U.S. Fish and Wildlife Service, and U.S. General Services Administration.

Pfeiffer is a specialty design studio of Perkins Eastman providing architectural, interior design, programming, and master planning from locations in Los Angeles and New York City, supporting the firm's 24 offices. Our work is focused on new and existing educational and cultural buildings for non-profit, private and public clients. Fundamental to our design philosophy is our abiding sense of design as a collaborative undertaking. From this perspective, we approach each project without preconceived notions about style and aesthetics, responding uniquely to our client's ideas, site conditions, historic considerations and functional requirements.

Pfeiffer has planned and designed facilities for fine and performing arts for over 50 years. This work has spanned theaters of every shape and size for communities and academic institutions across the country and encompasses over five million square feet of space in projects ranging from feasibility studies to the renovation and reuse of existing facilities to design of new buildings for civic and academic use. Our architects, planners and interior designers have a particular passion for the arts and thrive on creating unique yet functional spaces for teaching, learning, production and design, practice, and performance.

Section 5 – Noise

The building will be constructed to minimize the amount of interior noise that can be heard outside through the use of thick glazing and acoustical door assemblies. Further, exterior noise-producing mechanical equipment will be minimal, and it will be mounted on the roof. The building will not have a standby generator.

Exceptions to this may include outdoor concerts and after-hours events, which will be in accordance with the City's written requirements. Further, USM has a strong relationship with the neighboring properties, which gives the neighbors the ability to communicate directly with University officials in the event they are dissatisfied with the noise levels.

The farmhouse is also not anticipated to create a noticeable increase in noise. Mechanical equipment consisting of a condensing unit for a heat pump will be building-mounted above the roof of the connector between the existing building and the addition.

Prior to occupancy, noise generated during construction activities for both parts of the project will be in accordance with the City's noise requirements.

Section 6 – Visual Quality and Scenic Character

The proposed buildings have been sited and designed to be consistent with other buildings on the campus and to meet the City's requirements for the USM Overlay Zone. It is not anticipated that the buildings and site amenities will result in negative or inconsistent visual impacts to the campus.

Section 7 – Wildlife and Fisheries

The project area has been previously developed, and it does not contain wetlands or other significant natural features. Like the previously approved parking garage project, this project site is within the zone for the Northern Long-Eared Bat. This project involves very little tree clearing, and it is not anticipated to have an impact on the Northern Long-Eared Bat species. Correspondence from the US Fish and Wildlife Service and the Maine Department of Inland Fisheries and Wildlife is included in this section.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
Phone: (207) 469-7300 Fax: (207) 902-1588

In Reply Refer To:
Project Code: 2023-0015382
Project Name: USM CFA and Farmhouse

November 14, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

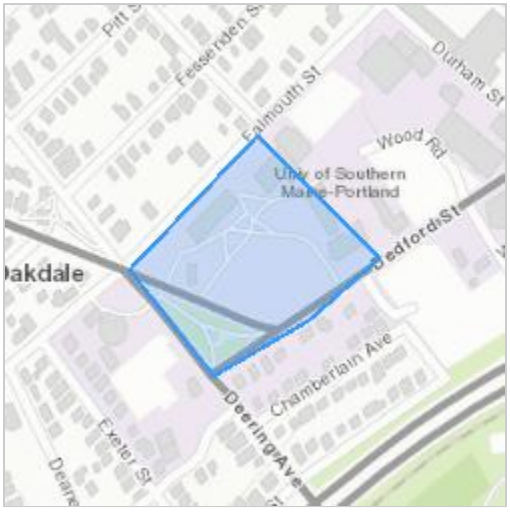
This species list is provided by:

Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
(207) 469-7300

Project Summary

Project Code: 2023-0015382
Project Name: USM CFA and Farmhouse
Project Type: Commercial Development
Project Description: Construction of Center for the Arts Building and Relocation of existing farmhouse
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.66184115,-70.27700297721564,14z



Counties: Cumberland County, Maine

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: Oak Point Associates
Name: Jonah DeWaters
Address: 231 Main Street
City: Biddeford
State: ME
Zip: 04005
Email jdewaters@oakpoint.com
Phone: 2078314728

JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

JUDITH CAMUSO
COMMISSIONER

November 14, 2022

Allison Dimatteo
Oak Point Associates
231 Main Street
Biddeford, ME 04005

RE: Information Request – USM Center for Performing Arts Project, Portland

Dear Allison:

Per your request received on November 10, 2022, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns within the vicinity of the *USM Center for Performing Arts* project in Portland.

Our information indicates no locations of Endangered, Threatened, or Special Concern species within the project area that would be affected by your project. Additionally, our Department has not mapped any Essential or Significant Wildlife Habitats or inland fisheries habitats that would be directly affected by your project.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program, Maine Department of Marine Resources, and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

Becca Settele
Wildlife Biologist

Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: USM Center for Performing Arts, Portland (Version 1)

Miles

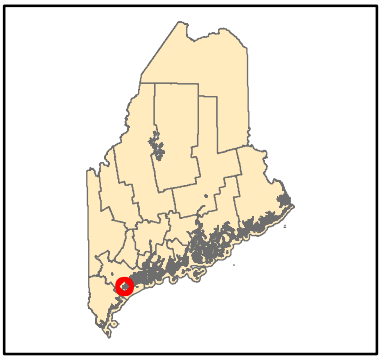
0 0.1250.25 0.5 0.75 1

Projection: UTM, NAD83, Zone 19N

Date: 11/15/2022

Maine Department of Inland Fisheries and Wildlife

- ProjectSearchAreas - All Versions
- Maine Cliff and Talus Areas
- Deer Winter Area
- LUPC p-fw
- Cooperative DWAs
- Seabird Nesting Islands
- Shorebird Areas
- Inland Waterfowl and Wading Bird
- 2008 Iwwh - Shoreland Zoning
- Tidal Waterfowl and Wading Bird
- Significant Vernal Pools
- Environmental Review Polygons
- Roseate Tern
- Piping Plover and Least Tern
- Aquatic ETSc - 2.5 mi review
- Rare Mussels - 5 mi review
- Maine Heritage Fish Waters
- Arctic Charr Habitat
- Redfin Pickerel and Swamp Darter Habitats - buffer100ft
- Special Concern occupied habitats - 100ft buffer
- Wild Lake Trout Habitats



Section 8 – Historic Sites

The existing Deering Farmhouse was identified as potentially endangered by Greater Portland Landmarks in its 2019 annual list of “Places in Peril.” However, the City of Portland’s Historic Preservation Department has determined that special review of the project by the State Historic Preservation Office is not required. Instead, the project team has worked closely with Evan Schueckler in the City’s Historic Preservation Department to make sure that the building is relocated, renovated, and added on to in a way that remains sensitive to the historic nature of the original farmhouse building. A copy of the Historic Structures Report prepared by Kleinfelder has been provided to the City’s Historic Preservation Department.

Section 9 – Unusual Natural Areas

The site is previously developed, and there are no known unusual natural areas within the project area. The Maine Natural Areas Program was contacted about the project and did not identify any unusual natural areas on the site. A copy of their correspondence is included in this section.

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

November 16, 2022

Jonah DeWaters
Oak Point Associates
231 Main Street
Biddeford, ME 04005

Via email: jdewaters@gmail.com

Re: Rare and exemplary botanical features in proximity to: University of Southern Maine, Center for Performing Arts, Portland, Maine

Dear Mr. DeWaters:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received November 15, 2022 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Portland, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. Based on the information in our files and the landscape context of this project, there is a low probability that rare or significant botanical features occur at this project location.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
90 BLOSSOM LANE, DEERING BUILDING

PHONE: (207) 287-8044
WWW.MAINE.GOV/DACF/MNAP

The Maine Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

Section 10 – Buffers

The site is previously developed, and the project will result in very minimal tree removal. There are no existing or proposed buffers.

Section 11 – Soils

Soil Survey Report

A Class D Medium Intensity Soil Survey for the site was performed in fall 2022. A copy of the soil survey is attached in Appendix A of this section. As indicated in the survey, the soils in the vicinity of where the project will occur consist of the following:

- Hinckley loamy sand (3%-8% slopes, Hydrologic Soil Group A), abbreviated HIB
- Lyman-Tunbridge complex, rocky (0%-8% slopes, Hydrologic Soil Group D), abbreviated HrB

Geotechnical Investigation

Geotechnical evaluations were performed in December 2020 and November 2022. The investigations revealed that the soils on the site generally consist of topsoil overlying granular fill, which overlies sands and silts and probable bedrock. The bedrock surface encountered is generally at depths greater than 6', though there are some places within the building footprint where it was encountered at shallower depths. A copy of the report is attached in Appendix B of this section.

Hydric Soils

No hydric soils were identified on the site.

Appendix A – Class D Medium Intensity Soil Survey

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Cumberland County and Part of Oxford County, Maine

USM CFA

November 7, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

70° 16' 47" W
70° 16' 28" W
43° 39' 46" N
43° 39' 37" N
396820
396860
396900
396940
396980
397020
397060
397100
397140
397180
397220
4835240
4835200
4835160
4835120
4835080
4835040
4835000
4834960
Deering
Falmouth St
25
Falmouth
Brighton
Bedford
Surrenden St
Cu
HrC
HrB
HrC
HIB
WmC
Soil Map may not be valid at this scale.
Map Scale: 1:2,000 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 25 50 100 150
Feet
0 50 100 200 300
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 19, Aug 30, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cu	Cut and fill land	0.0	0.0%
HlB	Hinckley loamy sand, 3 to 8 percent slopes	4.8	59.2%
HrB	Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky	3.0	37.0%
HrC	Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky	0.2	2.6%
WmC	Windsor loamy sand, 8 to 15 percent slopes	0.1	1.2%
Totals for Area of Interest		**8.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Cumberland County and Part of Oxford County, Maine

Cu—Cut and fill land

Map Unit Composition

Cut and fill land: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cut And Fill Land

Typical profile

H1 - 0 to 65 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 35 percent
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 20.00 in/hr)
Depth to water table: About 24 to 42 inches
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

HIB—Hinckley loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2svm8
Elevation: 0 to 1,430 feet
Mean annual precipitation: 36 to 53 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash plains, eskers, moraines, kame terraces, kames, outwash terraces, outwash deltas
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand

Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

HrB—Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2x1cx
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lyman and similar soils: 50 percent
Tunbridge and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: F144BY702ME - Shallow and Moderately-deep Till
Hydric soil rating: No

Description of Tunbridge

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam
Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: F144BY702ME - Shallow and Moderately-deep Till
Hydric soil rating: No

HrC—Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2x1cy
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Lyman and similar soils: 45 percent
Tunbridge and similar soils: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent

Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: F144BY702ME - Shallow and Moderately-deep Till
Hydric soil rating: No

Description of Tunbridge

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam
Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: F144BY702ME - Shallow and Moderately-deep Till
Hydric soil rating: No

WmC—Windsor loamy sand, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2svkq
Elevation: 0 to 1,260 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Windsor and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Windsor

Setting

Landform: — error in exists on —
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, riser
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Loose sandy glaciofluvial deposits derived from granite and/or loose sandy glaciofluvial deposits derived from schist and/or loose sandy glaciofluvial deposits derived from gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
Ap - 1 to 11 inches: loamy sand
Bw - 11 to 31 inches: loamy sand
C - 31 to 65 inches: sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash

Hydric soil rating: No

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Physical Properties

This folder contains a collection of tabular reports that present soil physical properties. The reports (tables) include all selected map units and components for each map unit. Soil physical properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Engineering Properties (USM CFA)

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission

rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group

index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Percentage of rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
Cu—Cut and fill land														
Cut and fill land	90		0-65	Very gravelly sandy loam	GM, GP, ML, SM	A-4, A-3, A-2, A-1	—	0-15- 30	25-63-100	20-60-100	10-50-90	2-41- 80	15-25 -35	NP-5 -10

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
HlB—Hinckley loamy sand, 3 to 8 percent slopes														
Hinckley	85	A	0-1	Highly decomposed plant material, slightly decomposed plant material, moderately decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			1-8	Very gravelly sandy loam, loamy fine sand, very fine sandy loam, sandy loam, coarse sandy loam, loamy sand, loamy coarse sand, fine sandy loam, gravelly loamy sand	GM, GW-GM, SM, SW-SM, SP-SM, GP-GM	A-3, A-1-a, A-2-4, A-1-b	0- 0- 3	0- 0- 37	50-86-100	37-78-92	25-61-78	7-20- 32	0-0 -59	NP-0 -2
			8-11	Cobbly loamy coarse sand, loamy sand, gravelly loamy sand, sand, very gravelly sandy loam, coarse sandy loam, loamy coarse sand, loamy fine sand, sandy loam, fine sandy loam	SM, GW-GM, GP-GM, GM, SW-SM, SP-SM	A-2-4, A-1-a, A-1-b, A-3	0- 0- 3	0- 0- 37	51-78-100	38-71-92	25-55-78	7-18- 32	0-0 -21	NP-0 -2

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
			11-16	Cobbly loamy coarse sand, loamy fine sand, extremely gravelly coarse sand, loamy sand, sand, gravelly loamy sand, loamy coarse sand	GP-GM, GM, SW-SM, SP-SM, SM, GW-GM	A-2-4, A-1-a, A-1-b, A-3	0- 0- 3	0- 0- 34	45-73-100	31-66-92	20-51-77	5-17- 31	0-0 -18	NP-0 -2
			16-19	Cobbly loamy coarse sand, loamy fine sand, extremely gravelly coarse sand, loamy sand, sand, loamy coarse sand, extremely cobbly loamy coarse sand, very gravelly sand, very gravelly loamy sand	SP-SM, GW-GM, GP-GM, GM, SW-SM, SM, GW, GP, SW, SP	A-2-4, A-1-b, A-3, A-1-a	0- 0- 3	0- 0- 34	45-62-100	31-49-92	18-36-75	4- 9- 24	0-0 -14	NP
			19-65	Extremely gravelly coarse sand, extremely cobbly loamy coarse sand, very gravelly loamy coarse sand, extremely gravelly sand, very gravelly sand, stratified gravel to very gravelly sand	GW-GM, GP-GM, SW-SM, GW, SP-SM, SP, GP	A-1-a, A-1-b	0- 0- 5	7-12- 33	39-52-70	25-38-59	13-25-44	1- 3- 11	0-0 -14	NP

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
HrB—Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky														
Lyman	50	D	0-1	Moderately decomposed plant material, highly decomposed plant material, slightly decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			1-3	Loam, fine sandy loam, very fine sandy loam, gravelly sandy loam	ML	A-4	0- 0- 28	0- 0- 18	55-100-100	53-100-100	38-82-90	22-55-62	0-35 -65	NP-3 -5
			3-5	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SC-SM	A-4	0- 0- 22	0- 0- 14	64-84-98	63-84-98	46-69-89	23-41-57	0-23 -34	NP-4 -6
			5-7	Gravelly sandy loam, loam, very fine sandy loam, fine sandy loam	SM	A-4	0- 0- 28	0- 0- 18	77-89-99	53-77-97	38-64-88	22-42-60	0-40 -76	NP-3 -5
			7-11	Loam, fine sandy loam, very fine sandy loam, gravelly sandy loam	SM	A-4	0- 0- 27	0- 0- 18	77-89-99	53-77-97	38-64-88	22-42-60	0-34 -61	NP-3 -5
			11-18	Channery loam, fine sandy loam, sandy loam, very fine sandy loam	SM	A-4	0- 0- 25	0-14- 30	52-84-99	50-83-99	36-69-89	21-46-61	0-26 -36	NP-4 -6

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
			18-79	Bedrock	—	—	—	—	—	—	—	—	—	—
Tunbridge	30	C	0-3	Moderately decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			3-5	Highly decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			5-8	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SC-SM	A-4	0- 0- 0	0- 8- 24	53-91-96	51-91-96	37-75-87	19-45-55	0-23 -34	NP-4 -6
			8-11	Loam, very fine sandy loam, fine sandy loam, gravelly sandy loam	SM	A-4	0- 0- 0	0- 4- 30	43-78-90	41-77-90	30-64-81	15-38-52	0-40 -76	NP-3 -5
			11-26	Very fine sandy loam, fine sandy loam, loam, gravelly sandy loam	SM	A-4	0- 0- 0	0- 6- 30	43-78-91	41-77-90	30-64-82	15-38-52	0-31 -60	NP-3 -5
			26-28	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SC-SM	A-4	0- 0- 0	0- 0- 25	52-91-91	50-91-91	36-75-83	19-45-53	0-21 -30	NP-4 -6
			28-79	Bedrock	—	—	—	—	—	—	—	—	—	—

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
HrC—Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky														
Lyman	45	D	0-1	Moderately decomposed plant material, highly decomposed plant material, slightly decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			1-3	Loam, fine sandy loam, very fine sandy loam, gravelly sandy loam	ML	A-4	0- 0- 28	0- 0- 18	55-100-100	53-100-100	38-82-90	22-55-62	0-35 -65	NP-3 -5
			3-5	Very fine sandy loam, loam, fine sandy loam, gravelly sandy loam	SC-SM	A-4	0- 0- 22	0- 0- 14	64-84-98	63-84-98	46-69-89	23-41-57	0-23 -34	NP-4 -6
			5-7	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SM	A-4	0- 0- 28	0- 0- 18	77-89-99	53-77-97	38-64-88	22-42-60	0-40 -76	NP-3 -5
			7-11	Loam, fine sandy loam, very fine sandy loam, gravelly sandy loam	SM	A-4	0- 0- 27	0- 0- 18	77-89-99	53-77-97	38-64-88	22-42-60	0-34 -61	NP-3 -5
			11-18	Fine sandy loam, channery loam, very fine sandy loam, sandy loam	SM	A-4	0- 0- 25	0-14- 30	52-84-99	50-83-99	36-69-89	21-46-61	0-26 -36	NP-4 -6

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
			18-79	Bedrock	—	—	—	—	—	—	—	—	—	—
Tunbridge	40	C	0-3	Moderately decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			3-5	Highly decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			5-8	Loam, fine sandy loam, very fine sandy loam, gravelly sandy loam	SC-SM	A-4	0- 0- 0	0- 8- 24	53-91-96	51-91-96	37-75-87	19-45-55	0-23 -34	NP-4 -6
			8-11	Gravelly sandy loam, fine sandy loam, loam, very fine sandy loam	SM	A-4	0- 0- 0	0- 4- 30	43-78-90	41-77-90	30-64-81	15-38-52	0-40 -76	NP-3 -5
			11-26	Very fine sandy loam, fine sandy loam, loam, gravelly sandy loam	SM	A-4	0- 0- 0	0- 6- 30	43-78-91	41-77-90	30-64-82	15-38-52	0-31 -60	NP-3 -5
			26-28	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SC-SM	A-4	0- 0- 0	0- 0- 25	52-91-91	50-91-91	36-75-83	19-45-53	0-21 -30	NP-4 -6
			28-79	Bedrock	—	—	—	—	—	—	—	—	—	—

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
WmC—Windsor loamy sand, 8 to 15 percent slopes														
Windsor	85	A	0-1	Moderately decomposed plant material, highly decomposed plant material, slightly decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			1-11	Loamy sand, loamy fine sand, fine sand, sand	SP-SM, SM, SW-SM	A-1, A-4, A-2-4, A-2	0- 0- 0	0- 0- 0	85-100-100	70-100-100	50-83-100	12-25-37	0-0 -30	NP-0 -2
			11-31	Loamy sand, loamy fine sand, coarse sand, loamy coarse sand, fine sand, sand	SP-SM, SM, SW-SM, SC-SM	A-2, A-2-4, A-4, A-1, A-3	0- 0- 0	0- 0- 0	86-100-100	72-100-100	45-75-98	10-22-36	0-0 -23	NP-0 -4
			31-65	Coarse sand, gravelly coarse sand, loamy fine sand, loamy sand, fine sand, sand	SC-SM, SW, SW-SM, SP-SM, SP, SM	A-3, A-1, A-2-4, A-2	0- 0- 0	0- 0- 0	81-100-100	63-100-100	40-78-100	4-12- 33	0-0 -20	NP-0 -4

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Appendix B – Geotechnical Information

Section 12 – Stormwater

Refer to the Stormwater Report included with the City of Portland Site Plan Review Application package for stormwater analysis and documentation of conformance with applicable MDEP requirements for stormwater discharge.

Section 13 – Urban Impaired Streams

The project is not located within an urban impaired stream watershed.

Section 14 – Basic Standards

Narrative

The proposed project will be conducted such that erosion and sedimentation is avoided. A site-specific Erosion and Sedimentation Control Plan, including notes, details and a schedule, has been prepared for this project and is shown on the drawings included with this application. It is anticipated that the project will begin in Spring 2023 and be completed in Summer 2025.

During construction and prior to the completion of permanent stabilization, the contractor will inspect disturbed and impervious areas, erosion and stormwater control measures, areas used for storage that are exposed to precipitation, and locations where vehicles enter or exit the parcel. These inspections must be performed at least once a week and before and after each storm event greater than 0.5 inch.

The erosion and sedimentation control measures for this project have been designed in accordance with the "Maine Erosion and Sediment Control Field Guide for Contractors". All work performed will be in general conformance with the practices presented in this reference. Drawings CD101 and CG101 include specific measures that will be implemented. In general, erosion and sedimentation control will consist of detaining and filtering runoff from disturbed areas prior to discharge to existing storm drain systems.

The following basic principles will be met by the erosion and sedimentation control plan for this project:

1. The extent of area exposed and its duration in this condition will be minimized to the extent practicable.
2. Erosion control practices and measures will be applied to prevent erosion and transport of any such sediment off site.
3. Perimeter control practices will be applied to protect disturbed areas from off-site runoff and to prevent sedimentation damage to downstream areas.
4. Runoff velocities will be kept low to minimize the potential for erosive activity.
5. During construction, maintenance, inspection, and follow-up efforts will be implemented and documented.

Soil Types

The project site is situated in a previously developed area. A Class D soil survey indicates that the area has the following soil classifications:

- Hinckley loamy sand (3%-8% slopes)
- Lyman-Tunbridge complex, rocky (0%-8% slopes)

Existing Erosion Problems

There are no existing on-site erosion problems.

Critical Areas

There are no critical areas on the site.

Protected Natural Resources

There are no wetlands or vernal pools within the project area.

Erosion and Sedimentation Control Measures

A site-specific Erosion and Sedimentation Control Plan, including plan, notes and details has been prepared for this project and is indicated on Drawings CD101, CG101, C-501 and C-502. Erosion and sediment control methods will meet current MEDEP standards.

Erosion control measures must be maintained for the life of the project and until permanent stabilization of the entire site is established. Permanent stabilization must consist of at least 90-percent vegetation or pavement.

Site Stabilization

All temporary erosion control measures will be maintained for the life of the project and until permanent stabilization of the entire site is established. Permanent stabilization must consist of at least 90-percent vegetation, pavement, gravel base or rip-rap.

Implementation Schedule

In general, the erosion control measures schedule is as follows:

Initial & Temporary Erosion Control Measures	Spring 2023
Stabilize Site for Winter	Fall (October) 2023 and 2024
Install Permanent Erosion Control Measures	Spring/Summer 2025

To minimize areas of exposed soil, continuation of earthwork operations on additional areas will not begin until the exposed surface on the area being worked has been stabilized. Final stabilization of the site is expected to be complete by summer 2025.

Following is a summary of the implementation schedule for the temporary and permanent erosion controls.

Item	Implementation Schedule
Silt Fence/Sediment Control Wattles	Install as first order of work and as necessary to control erosion from the work area.
Construction Entrance	Construct after installing silt fence and prior to earthwork operations.
Catch Basin Inlet Protection	Install same day that backfill is placed around structure.
Stabilization of Inactive Areas	Mulch areas that remain un-worked for more than 14 days and will be stabilized within 30 days.
Swales, Steep Slopes	Install riprap or erosion control blanket/netting (as indicated on drawings) the same day final grade is established.
Turf Establishment	Seed and mulch disturbed areas within 7 days of being brought to final grade.

The implementation schedule for all erosion control measures is identified on the Erosion Control Notes and Details Plans along with temporary, permanent, and winter stabilization measures. The contractor must install any additional measures which may be necessary to control erosion/sedimentation from the site dependent upon the actual site and weather conditions.

Maintenance measures will be applied as needed during the entire construction period. Before and after each rainfall, and at least once per week the site contractor will perform a visual inspection of all installed erosion control measures. The contractor will perform repairs as needed to allow continued proper functioning of the erosion control measures. As indicated on drawing C-501, the contractor will provide written documentation describing dates of inspection and necessary follow-up work to maintain erosion and sediment control measures meeting the requirements of this plan. See Maintenance of Common Facilities or Property in the Stormwater Report for maintenance and inspection requirements and sample inspection logs.

Erosion and Sediment Control Plan

Best Management Practices (BMP's) have been incorporated into the drainage design to provide for temporary erosion control during construction and permanent erosion control after construction is complete. All measures must be in accordance with "Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices (E&S-BMP Manual)." Erosion control measures are detailed on Drawings CD101, CG101, C-501 and C-502. Temporary measures to be used include the following:

- Silt fence/sediment control wattles downgrade of exposed soils
- Stabilized construction exit
- Temporary mulch or rip-rap on disturbed slopes

- Catch basin inlet protection
- Stabilization of inactive areas
- Construction phasing
- Erosion control blankets/netting or riprap in erosion-prone areas (e.g. steep slopes and vegetated ditches)

The Contractor is required to submit a dewatering plan for handling of dewatering water prior to discharge from the site and ensuring suspended clay and silt particles are not exported from the site. This plan is particularly important because some of the excavations will extend into the soft clay layer. Concrete wash water will not be released to the storm drain system, sewer systems, roadways, or other uncontained impervious surfaces.

Details and Specifications

Refer to Drawings CD101, CG101, C-501 and C-502 for Erosion and Sedimentation Plan and Details.

Stabilization Plan

Permanent stabilization measures to be used include the following:

- Erosion control blanket/netting or riprap on slopes 3:1 (horizontal:vertical) or steeper and where indicated
- Establishment of turf or mulch in all disturbed areas not otherwise stabilized

See drawing C-501 for requirements for temporary seeding, permanent seeding, sodding, temporary mulching, and permanent mulching.

Winter Construction Plan

See Drawing C-501 for winter construction period and required winter stabilization.

Third Party Inspections

If third party inspections are required, they must comply with the conditions of the "Special Condition for Third Party Inspection Program" as set forth by the DEP. The DEP will also be provided with the inspector's name, contact information and qualifications as well as an inspection schedule, reporting protocol, and contact information for the contractor responsible for erosion and sedimentation control.

Section 15 – Groundwater

The project is not anticipated to impact groundwater. It is not located within a significant sand and gravel aquifer; it will not use, discharge or otherwise extract any groundwater; and hazardous materials will not be stored within the project area.

Section 16 – Water Supply

Fire protection and domestic water will be connected to the existing 6-inch water main under Falmouth Street. The Portland Water District has reviewed and approved the proposed connection.

Section 17 – Wastewater Disposal

Wastewater disposal for the project will connected to the existing 8-inch sanitary sewer main under Bedford Street. A copy of the capacity application filed with the City is attached.

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: 12/2/2022

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

Site Address: 111 Bedford Street, Portland

Chart Block Lot Number: 114A A001001

Proposed Use: Center for the Arts/Classroom Bldg
Previous Use: Vacant
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.
8" Sewer main beneath Bedford Street

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

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

2. Please, Submit Contact Information.

City Planner's Name: Kevin Kraft Phone: 207-874-8430
Owner/Developer Name: University of Southern Maine, C/O Alexander Porteous
Owner/Developer Address: 246 Deering Avenue, Portland, ME 04102
Phone: (207) 780-4497 Fax: E-mail: alexander.porteous@maine.edu
Engineering Consultant Name: Jonah DeWaters, PE (Oak Point Associates)
Engineering Consultant Address: 231 Main Street, Biddeford, ME 04005
Phone: (207) 283-0193 Fax: (207) 283-4283 E-mail: jdewaters@oakpoint.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 2,540 GPD
Peaking Factor/ Peak Times: Weekdays, Normal Business Hours (+/- 8am to 5pm)
Specify the source of design guidelines: *(i.e.__"Handbook of Subsurface Wastewater Disposal in Maine,"*
"*Plumbers and Pipe Fitters Calculation Manual," __ Portland Water District Records, __ Other (specify)*
Handbook of Subsurface Wastewater Disposal in Maine

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

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values: 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.

Flow Calculation (non-simultaneous use - uses do not occur at the same time)

USE 1 - Classroom use (Weekdays during normal business hours)

Code Flow (based on K-12 school use, no showers or cafeteria): 10 GPD per student, 12 GPD per staff

Student/Staff count: 230 Students, 20 Staff

Daily flow: 230 students x 10 GPD per student + 20 staff x 12 GPD per staff = **2,540 GPD**

USE 2 - Event use (Evenings/Weekends)

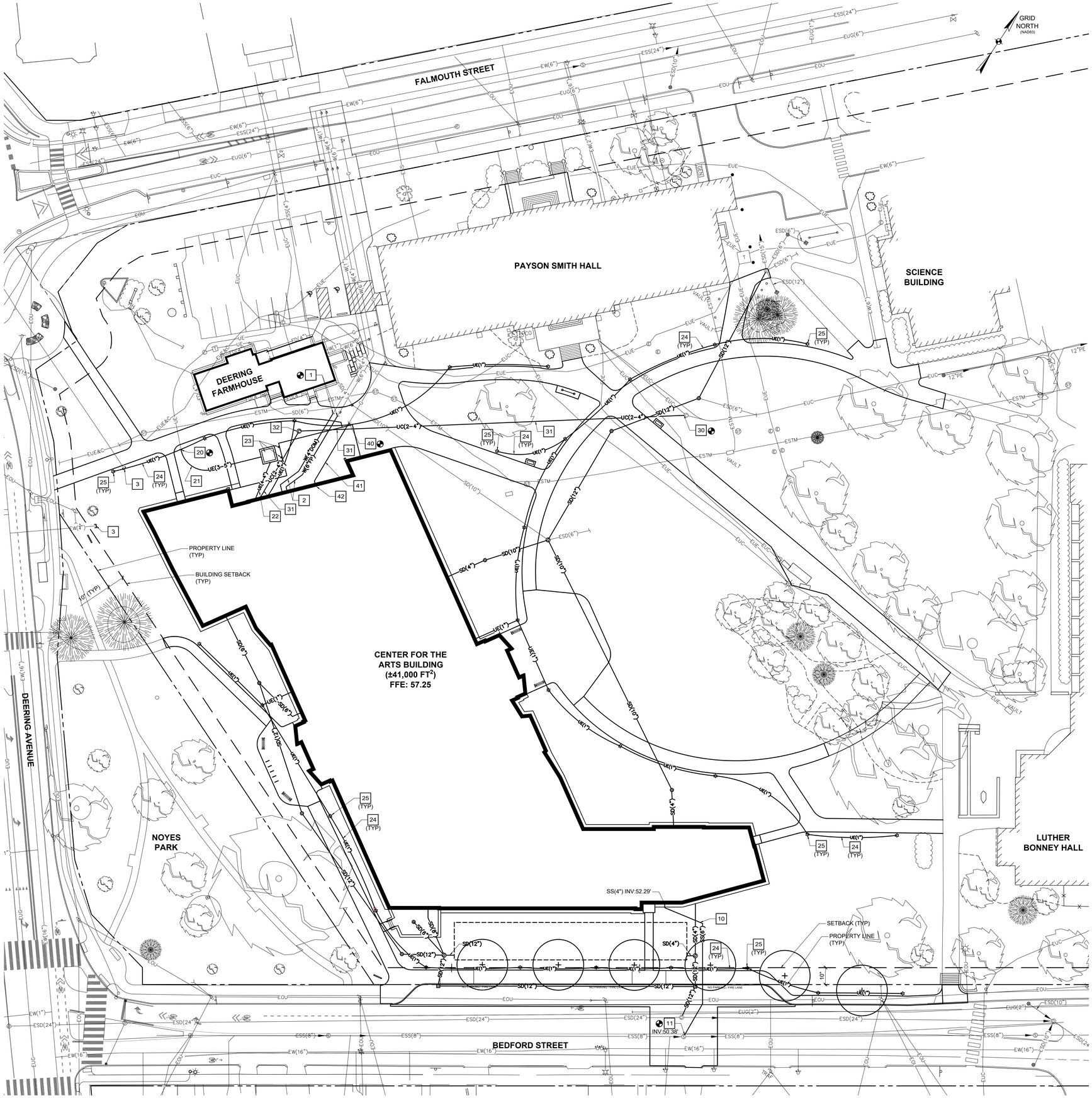
Code flow:
Assembly areas (no seats) = 2 GPD per person
Theater, Indoor = 5 GPD per seat plus 12 GPD per staff member

-Assembly space (Gallery) = 154 people

-Theater Space:
Performance Hall = 188 seats
Arts Lab (performance space) = 80 seats
Rehearsal Hall = 126 seats
Total Theater Seats = 394 Seats

Staff (assuming 5 staff per space) = 20 people

Daily Flow =
Assembly Space = 154 people x 2 GPD per person = 308 GPD
Theater Spaces = 394 seats x 5 GPD per seat = 1,970 GPD
Theater Staff = 5 staff x 12 GPD per staff = 60 GPD
Total Flow = **2,518 GPD**



1 CU101 UTILITY PLAN
SCALE: 1"=20'

NOTE: REFER TO SHEET CG101 FOR STORM DRAIN LINE INFORMATION.

GRAPHIC SCALE
20' 10' 0 20' 40'
1"=20'
CHECK GRAPHIC SCALE BEFORE USING

KEYNOTES: (THIS SHEET ONLY)

1. CONNECT WATER LINE TO CAPPED END OF EXISTING WATER LINES (INSTALLED AS PART OF FARMHOUSE RELOCATION PROJECT).
2. WATER LINE IN PIPE TRENCH. SEE DETAIL 1/C-503
3. REMOVE PORTION OF EXISTING WATER MAIN AS NECESSARY TO FACILITATE BUILDING CONSTRUCTION AND UTILITY INSTALLATION. PLUG END OF PIPE TO REMAIN.
4 - 9. NOT USED THIS SHEET.
10. SEWER LINE IN PIPE TRENCH. SEE DETAIL 1/C-503
11. CORE HOLE IN EXISTING SEWER MANHOLE AND CONNECT SANITARY SEWER LINE. SEE DETAIL 2/C-503 (SIM)
12 - 19. NOT USED THIS SHEET.
20. CONNECT TO CAPPED END OF EXISTING CONDUIT (INSTALLED AS PART OF FARMHOUSE RELOCATION PROJECT).
21. PRIMARY ELECTRICAL LINES IN CONDUIT TRENCH. SEE DETAIL 6/C-503
22. SECONDARY ELECTRICAL LINES IN CONDUIT TRENCH. SEE DETAIL 5/C-503
23. TRANSFORMER ON 9' SQUARE TRANSFORMER PAD. PROVIDE BOLLARDS BETWEEN TRANSFORMER AND EDGE OF PAVEMENT. SEE DETAILS 9/C-502 AND 7/C-503
24. UNDERGROUND LIGHTING LINE IN CONDUIT TRENCH. SEE DETAIL 5/C-503
25. PRECAST CONCRETE LIGHTPOLE BASE. SEE DETAIL 8/C-503
26 - 29. NOT USED THIS SHEET.
30. CORE HOLE IN EXISTING COMMUNICATIONS MANHOLE AND CONNECT COMMUNICATIONS CONDUIT.
31. COMMUNICATIONS LINES IN CONDUIT TRENCH. SEE DETAIL 5/C-503
32. COMMUNICATIONS SPLICE BOX. SEE DETAIL 4/C-503
33 - 39. NOT USED THIS SHEET.
40. EXPOSE CAPPED END OF EXISTING CONDUIT (INSTALLED AS PART OF FARMHOUSE RELOCATION PROJECT) FOR CONNECTION OF GAS MAIN (TO BE PERFORMED BY UNITIL. COORDINATE TIMING OF EXCAVATION AND CONNECTION WITH UNITIL.
41. GAS LINE IN PIPE TRENCH. PIPING AND CONNECTIONS BY UNITIL. COORDINATE TIMING OF EXCAVATION WITH UNITIL. SEE DETAIL 1/C-503
42. BUILDING-MOUNTED GAS REGULATOR AND METER (BY UNITIL) WITH TWO 6" SCHEDULE 40 STEEL BOLLARDS. SEE DETAIL 9/C-502

UNIVERSITY OF SOUTHERN MAINE
CENTER FOR THE ARTS
Portland, Maine
CBL: 114A,A001001 (ZONE R5 W/ USM OVERLAY)
Client:
University of Southern Maine
P.O. Box 9300
Portland, ME 04104

pfeiffer — A PERKINS EASTMAN STUDIO
PFEIFFER
700 SOUTH FLOWER STREET
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OAK POINT ASSOCIATES — architecture engineering planning
OAK POINT ASSOCIATES
231 MAIN STREET
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LANDSCAPE ARCHITECT/
CIVIL/ STRUCTURAL/ MEP ENGINEER
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THEATRICAL:
THEATRE PROJECTS
47 WATER STREET
SOUTH NORWALK, CT 06854
PHONE: 203.299.0835

ACOUSTICS/ AUDIO-VISUAL:
JAFFE HOLDEN
114A WASHINGTON STREET
NORWALK, CT 06854
PHONE: 203.838.4167

LIGHTING:
CLINE BETTRIDGE BERNSTEIN
116 EAST 27TH STREET, 4TH FLOOR
NEW YORK, NY 10016
PHONE: 212.741.3280

COST CONSULTANT:
VENUE
226 5TH AVE N, SUITE 705
ST PETERSBURG, FL 33701
PHONE: 727.498.1091

SEAL:

ISSUE NAME:

NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

UTILITY PLAN

SCALE: As indicated

CU101

PFEIFFER PARTNERS PROJECT NUMBER 6170.00

Section 18 – Solid Waste

Solid Waste Disposal

Solid waste and recyclable materials produced at the building will be disposed of in accordance with State and City requirements.

Once the project is completed, trash receptacles will be located in a room within the building near the loading zone, with recyclable and non-recyclable material separated into different containers. University maintenance staff will collect the trash daily and transport it to the McGoldrick Student Success Center where it will be placed into compactors (one for recycling and one for trash). Both trash and recycling are transported by Troiano Waste Services to the Ecomaine Facility in Portland, Maine.

Construction and Demolition Debris Disposal

The project timeline is such that construction is scheduled to begin in the Summer 2023 and finish by Summer 2025.

This project will include demolishing a portion of the existing Deering Farmhouse, removing existing asphalt concrete pavement, removing asphalt concrete and reinforced concrete sidewalks, clearing and grubbing of existing trees, removing of existing underground utilities and stripping of existing turf areas. The approximate anticipated amount of debris is as follows:

Building Demolition (non-hazardous building materials): +/- 250 CY

This waste shall be separated into recyclable and non-recyclable material. Recyclable material will be delivered to the applicable licensed recycling facility, such as Schnitzer Steel (metals) or Riverside Recycling (general recyclable materials, including plastic and other building materials) in Portland, Maine. Non-recyclable materials will be trucked to a licensed landfill (a list of probable landfills is located at the end of this section).

Asphalt Pavement/Concrete walks: +/- 200 CY

Asphalt pavement and asphalt curbing will be trucked off-site by the Contractor and recycled into new asphalt concrete pavement where possible. Recyclable asphalt materials will be delivered to the Pike Industries plant in Westbrook, Maine or another asphalt batch plant that is able to receive asphaltic materials for recycling. Reinforcing will be separated from concrete and recycled, and the remaining (non-hazardous) concrete material may be either recycled or ground up and mixed with other soil materials to be used as inert fill.

Miscellaneous Construction/Demolition Debris: +/- 200 CY

This waste shall be separated into recyclable and non-recyclable material. Recyclable material will be delivered to the applicable licensed recycling facility, such as Schnitzer Steel (metals) or Riverside Recycling (general recyclable materials, including plastic and other building materials) in Portland, Maine. Non-recyclable materials will be trucked to a licensed landfill (a list of probable landfills is located at the end of this section).

Wood waste (stumps, brush, etc.): +/- 50 CY

Wood waste shall not be permitted to be buried on site. Merchantable trees will be cut and removed from the site and sold as firewood, pulpwood, or saw logs, as applicable. The stumps are to be ground on-site and used for erosion control purposes. Brush and trees shall be either ground up on-site or trucked off-site by the contractor to a MDEP-permitted stump/wood waste disposal site, such as the sites listed at the end of this section. Excess grindings not used for erosion control purposes shall also be trucked off-site by the contractor to one of these sites or another MDEP-permitted stump/wood waste disposal site.

Topsoil/Screenings: +/- 450 CY

Existing topsoil will be processed on site and stockpiled to be reused as topsoil. Tailings and woody material not suitable for use as topsoil will be trucked off-site by the Contractor and disposed of at an MDEP-permitted stump/wood waste disposal site, such as those listed at the end of this section. Aggregate separated from the topsoil will be mixed with suitable material and re-used on site (where permitted) or trucked to offsite to a licensed soil stockpile facility.

Excavated Soil: +/- 8,000 CY

Excavated soil will be stored on site and reused as fill material. Excavated soil that is not suitable or not needed for use as fill material will be trucked off-site by the Contractor and delivered to a local gravel pit or soil storage area, where it can be blended with other soil material and used on future projects.

All other recyclable material will be recycled to the maximum extent practicable and non-recyclable material will be likely be disposed at one of the locations listed at the end of this section.

No burning or burial of construction demolition debris will be allowed on-site except as indicated above.

Because of the time frame for the project, it is difficult to estimate the amount of each type of debris that will be generated and exactly where it will be taken for disposal with enough accuracy to obtain letters from potential disposal sites. However, a list of likely solid waste disposal facilities is included at the end of this section. All waste shall be disposed of at the applicable MDEP licensed facility.

Non-Hazardous Waste Transport

It is anticipated that construction/demolition will be transported from the site by the contractor using trucks weighing not more than 26,000 lbs. If larger vehicles are used, the contractor shall be required to be a licensed transporter of non-hazardous waste or utilize an entity that possesses this license.

Hazardous Waste Disposal

Hazardous wastes will be removed and disposed of by qualified contractors. Hazardous waste encountered will be handled and disposed of in accordance with State and Federal regulations and will be disposed of at one of the special waste disposal facilities listed in this section. Hazardous waste anticipated to be present on the site will be from the demolition of the interior of the existing farmhouse, and it is assumed to consist of the following:

- Lead Paint +/- 1 cy
- An existing 275 gallon fuel oil tank in the basement of the farmhouse is slated to be removed as part of this project. The remaining oil in the tank will be pumped out and the tank will be removed in accordance with DEP regulations.

A hazardous material survey will be conducted within the farmhouse prior to the start of demolition. Hazardous materials noted during the survey will be handled and disposed of in accordance with State and Federal regulations and will be disposed of at one of the special waste disposal facilities listed in this section.

An environmental site assessment is being conducted for the site. It is not anticipated that any previous site uses that produced hazardous materials or are associated with soil contamination will be uncovered. However, similar to other redevelopment sites on the campus and within the city, the urban nature of the project increases the chances urban fill may be encountered. Should this occur, it will be classified as special waste and disposed of in accordance with State and Local regulations.

Active/Licensed Landfills
(Construction/Demolition Debris, Municipal Solid Waste, Hazardous Waste)

Regional Waste Systems Inc. (EcoMaine) 64 Blueberry Rd Portland, Maine 04102 (207) 773-6465
Turnkey Landfill 90 Rochester Neck Road Rochester, New Hampshire 03839
Juniper Ridge Landfill (Located in Old Town, ME) 38 State House Station Augusta, Maine 04333 (207) 394-4372
Waste Management Disposal Services of Maine - Crossroads PO Box 629 Norridgewock, Maine 04957 (207) 623-2714

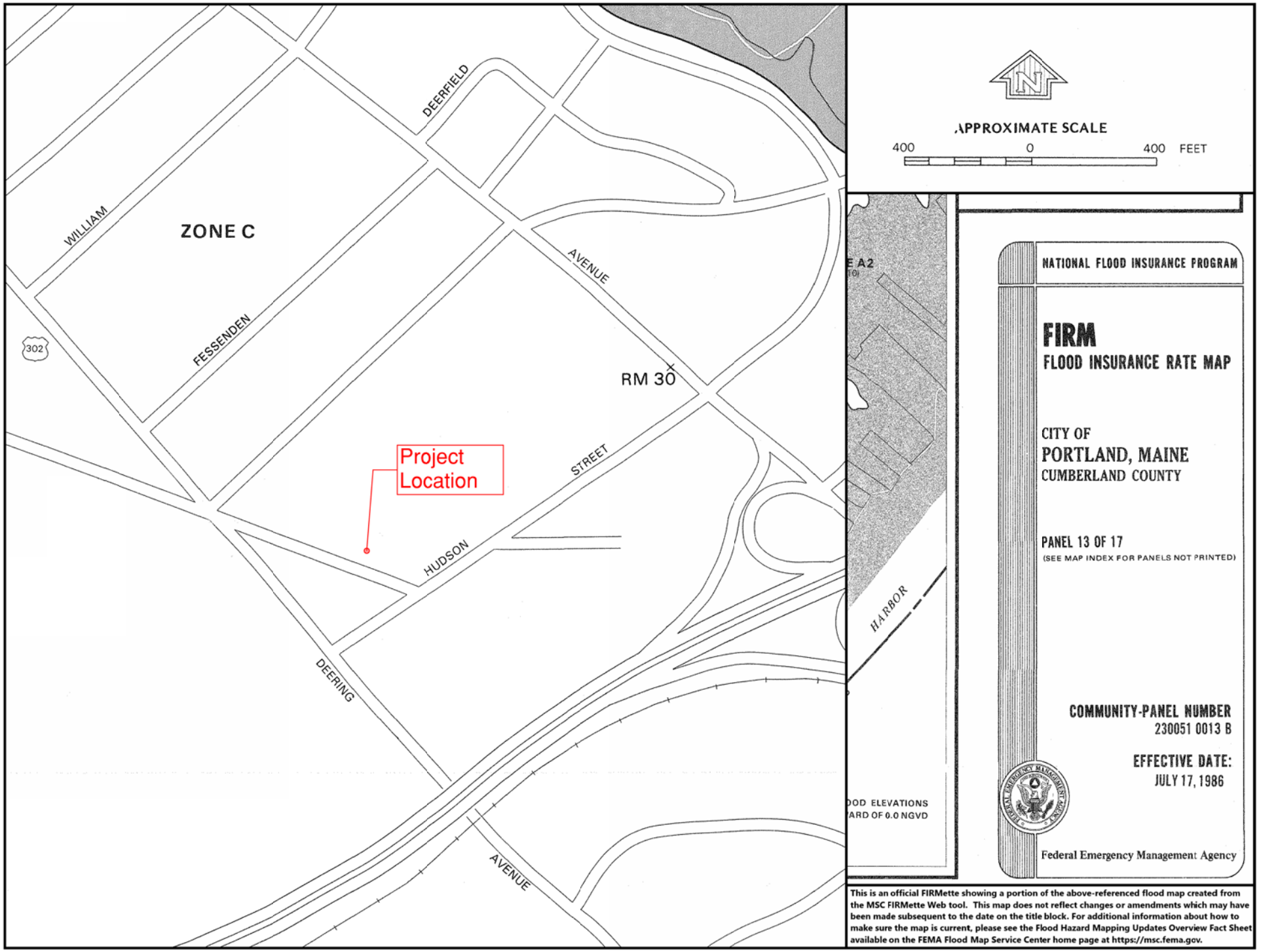
Likely Wood Waste and Aggregate Disposal Sites

Arundel Labbe Excavation, Inc PO Box 1111 Biddeford, Maine
Buxton Gorham Sand and Gravel 939 Parker Farm Rd, Buxton, ME 04093
Gorham Shaw Bros. PO Box 69 Gorham, Maine
Waterboro Dearborn Bros. 999 Narragansett Trail Buxton, Maine
Wells Brex Corporation 258 Maguire Road Kennebunk, Maine
Windham R.J. Grondin & Sons 11 Bartlett Road Gorham, Maine

Section 19 - Flooding

The development will not cause or increase flooding, nor will it cause any flood hazards to other structures

As indicated on the attached portion of FEMA flood zone map community panel 2300510031B, the site is outside the 0.2% annual chance floodplain (Zone X).


ZONE C
WILLIAM
DEERFIELD
AVENUE
FESSENDEN
302
RM 30
Project Location
STREET
HUDSON
DEERING
AVENUE
HARBOR
APPROXIMATE SCALE
400 0 400 FEET
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
CITY OF
PORTLAND, MAINE
CUMBERLAND COUNTY
PANEL 13 OF 17
(SEE MAP INDEX FOR PANELS NOT PRINTED)
COMMUNITY-PANEL NUMBER
230051 0013 B
EFFECTIVE DATE:
JULY 17, 1986
Federal Emergency Management Agency
This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

Section 20 - Blasting

Due to the site's urban location, blasting will not be used on this project.

Section 21 – Air Emission

The only potential air emission point sources for the project are natural gas boilers for both the CFA and the farmhouse, which will have relatively low emissions. The University's existing air emissions permit will be updated to include the additional point sources.

Potential air emission non-point sources include emissions created by construction equipment, worker travel, and VOC emissions from building materials during construction as well as occupant travel to and from the facility once it is completed.

Section 25 – Notices

Because the City of Portland has Delegated Review Authority for this application, and notices are being sent to abutters by the City as part of the Major Site Plan Review Application being submitted at the same time as this application package. Therefore, this section is not applicable.

Department of Environmental Protection
Bureau of Land & Water Quality
17 State House Station
Augusta, Maine 04333
Telephone: 207-287-3901

FOR DEP USE **FORM A PAGE 1**
ATS # _____
L-_____
Total Fees: _____
Date: Received _____

****

SITE LOCATION OF DEVELOPMENT PERMIT APPLICATION 38 M.R.SA. §§481-490

PLEASE TYPE OR PRINT IN *INK ONLY*

This application is for: (CHECK THE ONE THAT APPLIES)	☐ **20 acre development** ☐ **Planning Permit** ☐ **Metallic Mining**	☐ **Marine Oil Terminal** ☐ **Structure** ☐ **Subdivision**	☐ **Major Amendment** ■ **Minor Amendment**

1. Name of Applicant:	University of Southern Maine	**6. Name of Agent (if applicable):**	Jonah DeWaters, PE (OPA)
2. Applicant's Mailing Address:	25 Bedford Street, Portland, ME	**7. Agent's Mailing Address:**	231 Main Street, Biddeford, ME
3. Applicant's Daytime Phone #:	(207) 780-4177	**8. Agent's Daytime Phone # :**	(207) 283-0193
4. Applicant's Fax # (if available):	N/A	**9. Agent's Fax # (if available):**	(207) 283-4283
5. Applicant's *e-mail address* (REQUIRED -license will be sent via: e-mail):	john.souther@maine.edu	**10. Agent's *e-mail address* (REQUIRED - license will be sent via e-mail):**	jdewaters@oakpoint.com

PROJECT INFORMATION

11. Name of Development:	Center for the Arts						
12. Map and Lot #'s:	**Map #:** 114	**Lot #:** A001	**13. Deed Reference #'s:**		**Book #:** 29219	**Page #:** 218	
14. Location of Project City/Town:	Portland	**15. County:**	Cumberland	**16. UTM Northing**	4835062	**17. UTM Easting**	397022
18. Brief Description of Project including total parcel size:	Construction of a new Center for the Arts Building and associated site amenities on the southwest side of the campus near the intersections of Bedford Street and Deering Avenue						

19. Type of Direct Watershed: (Check all that apply)

☐ Lake not most at risk ☐ River, stream or brook ■ Coastal wetland
☐ Lake most at risk ☐ Urban impaired stream ☐ Wellhead or public water
☐ Lake most at risk, severely blooming ☐ Freshwater wetland

20. Name of Waterbody Project Site drains to:	Casco Bay		
21. Amount of Developed Area:	Total acres: 3.92	Existing Developed area: 3.92 acres	New Developed area: 0 acres
22. Amount of Impervious Area:	Total acres: 1.6	Existing Impervious areas 0.4 acres	New Impervious area: 1.6 acres (0.4 acre removed)

23. Development started prior to obtaining a license?:	☐ **Yes** ■ **No**		
24. .Development or any portion of the site subject to enforcement action?	☐ **Yes** ☐ **No**	**If yes**, name of enforcement staff involved?	
25. Common scheme of development?:	☐ **Yes** ☐ **No**	**26. Title, Right or Interest:**	■ **own** ☐ **lease** ☐ **purchase option** ☐ **written agreement**
27. Natural Resources Protection Act permit required?:	☐ **Yes** ☐ **No**	**If yes:** ☐ **PBR** ☐ **Tier 1** ☐ **Tier 2** ☐ **Full Permit**	
28. Existing DEP Permit number (if applicable):	L-20438-22-D-A		
29. Names of DEP staff person(s) present at the pre-application meeting:	N/A (reviewed and approved by the City of Portland)		
30. Does agent have an interest in project? If yes, what is the interest?	☐ **Yes** ■ **No**		

CERTIFICATIONS AND SIGNATURES LOCATED ON PAGE 2

IMPORTANT: IF THE SIGNATURE BELOW IS NOT THE APPLICANT'S SIGNATURE, ATTACH LETTER OF AGENT AUTHORIZATION SIGNED BY THE APPLICANT.

By signing below the applicant (or authorized agent), certifies that he or she has read and understood the following :

CERTIFICATIONS / SIGNATURES

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein.

Further, I hereby authorize the DEP to send me an electronically signed decision on the license I am applying for with this application by emailing the decision to the electronic address located on the front page of this application (see #5 for the applicant and #10 for the agent)"..

Signed:_____ **Title** Cvil Engineer/Agent **Date:** 12/15/2022

Notice of Intent to Comply with Maine Construction General Permit	**With this Site Law application form and my signature, I am filing notice of my intent to carry out work which meets the requirements of the Maine Construction General Permit (MCGP). I have read and will comply with all of the MCGP standards.** **If this form is not being signed by the landowner or lessee of the property, attach documentation showing authorization to sign.** **Signed**_____ **Date:** 12/15/2022

NOTE: You must file a MCGP Notice of Termination (Form K) within 20 days of completing permanent stabilization of the project site.

CERTIFICATION

The person responsible for preparing this application and/or attaching pertinent site and design information hereto, by signing below, certifies that the application for development approval is complete and accurate to the best of his/her knowledge.

Signature: _____

Name (print): Jonah DeWaters, PE

Date: 12/15/22

Re/Cert/Lic No.: _____

Engineer 12273 (Maine)

Geologist_____

Soil Scientist _____

Land Surveyor _____

Site Evaluator _____

Active Member of the Maine Bar _____

Professional Landscape Architect _____

Other_____

STORMWATER REPORT

University of Southern Maine

246 Deering Avenue, Portland, Maine

Center for the Arts
111 Bedford Street, Portland, Maine

Prepared For:

University of Southern Maine
25 Bedford Street
Portland, Maine

December 15, 2022

Prepared By:

OAK POINT ASSOCIATES
architecture
engineering
planning

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NARRATIVE

PRE-DEVELOPMENT RUNOFF CALCULATIONS APPENDIX A

POST-DEVELOPMENT RUNOFF CALCULATIONS APPENDIX B

REDEVELOPMENT AND TREATMENT CALCULATIONS APPENDIX C

Development Location

The new building will be located on the southwest edge of the USM campus, along Bedford Street and adjacent to Noyes Park. A portion of the building will be in the former Brighton Avenue roadway that was removed in 2021 as part of the Deering's Corner Roundabout project. The work in this application package consists of the relocation/addition of a small building, referred to as the Deering Farmhouse, and construction of the Center for the Arts (CFA) Building. Demolition is generally limited to topsoil stripping and removal of sidewalks necessary to accommodate the buildings and pedestrian circulation. A vehicular pull-off on Bedford Street is also proposed that will provide a drop-off area and fire department access for the Center for the Arts Building. Most of the work will occur on USM-owned property which has a total area of 29.33 acres including the portion of the Brighton Avenue right of way that is being conveyed to the University from the City. However, some grading will occur in Noyes Park, and the vehicular pull-off and some sidewalk work will occur in the Bedford Street right-of-way.

The project will result in a total disturbance of approximately 3.7 acres, including the removal of approximately 0.4 acres of impervious area and the creation of approximately 1.6 acres of impervious area (a net increase of approximately 1.2 acres). All construction will take place in previously developed areas. Additional information on developed area, disturbed area, and impervious area can be found in Appendix C of this section.

Surface Water on or abutting the Site

There is no surface water on or abutting the site.

General Topography

The site is situated along the southwest edge of the campus green on USM's Portland campus. It is generally bounded by Falmouth Street and the Science Building to the north, Luther Bonney Hall and Bedford Street to the east, Noyes Park to the south, and Falmouth Street and Payson Smith Hall to the west. The terrain on the site is generally rolling, with a mound/high point on its southeast side near Noyes Park and the former Bedford Street/Brighton Avenue intersection. The interior and northwest portions of the site impacted by this project drain to the northwest into a closed drainage system on campus, which flows into the combined sewer/storm drain line in Falmouth Street. The edges of the site along Noyes Park and Bedford Street drain south/southeast into the closed drainage systems in Deering Avenue and Bedford Street

The drainage areas affected by this project are indicated on Drawing WS101 ("Pre-Development Watershed Plan"), included in Appendix A of this section. As indicated on this drawing, there are two different discharge points within the project area:

DPA consists of runoff primarily from Noyes Park, the former Brighton Avenue right-of-way, and the portion of the USM campus bordering Bedford Street. The Noyes Park portion of this drainage area flows into the storm

drain system beneath Deering Avenue, which is connected to the storm drain system beneath Bedford Street. The remainder of the watershed drains overland to the southeast directly into the storm drain system beneath Bedford Street.

DPB consists mostly of the existing storm drain system that collects runoff from the campus green before flowing northwest into the combined sewer/storm drain line beneath Falmouth Street. This drainage area also includes the area around the parking lot adjacent to Payson Smith Hall, which flows into Falmouth Street and into catch basins in the street that are also connected to the combined sewer/storm drain line.

Flooding

Based on FEMA flood zone map community panel 2300510031B, the site is outside the 0.2% annual chance floodplain (Zone X), and no areas of significant flooding have been reported on the site.

Alterations to Natural Drainage ways

The project does not propose to alter any existing natural drainage ways.

Alterations to Land Cover

As see on the drawings in appendix C, the project proposed to change existing turfgrass and sidewalk areas to a combination of building roof, sidewalks, and turfgrass. The only paved area intended for normal vehicular use is a small pull-off between the building and Bedford Street.

Modeling Assumptions

Pre- and post-development runoff from the site has been modeled using the HydroCAD Stormwater Modeling System. The HydroCAD program is based largely on hydrology techniques developed by the Soil Conservation Service, primarily TR-55. In the HydroCAD Stormwater Model, it was assumed that all land cover types were in "good" condition as defined in U.S. Department of Agriculture Soil Conservation Services (SCS) publications. Additionally for stormwater modeling purposes, a maximum sheet flow distance of 100' and minimum Time of Concentration (TC) of three minutes were used.

Basic Standards

In accordance with the Maine Stormwater Management Rules (Chapter 500 and 502), the project requires compliance with the Basic Standards. This will be achieved through the use of Maine Erosion and Sedimentation Control Best Management Practices. The methods that will be used are described in Section 14 of the Site Location of Development Minor Amendment package and shown in detail on the included drawings. They include the following:

- Sediment barriers placed on the down-gradient of exposed soils
- Inlet protection on downstream structures
- Mulch or temporary seeding for temporary stabilization
- Erosion control blankets, netting, or riprap in erosion-prone areas (e.g. steep slopes and vegetated ditches)
- Excavation dewatering (silt bags or sediment ponds), for excavations below the groundwater elevation and in areas where groundwater is encountered.

General standards

In accordance with Maine Stormwater Management Rules (Chapter 500 and 502), the project must comply with the General Standards which include water quantity and water quality control. The standards will be achieved using Best Management Practices for Stormwater Management.

Stormwater Quantity (Flooding Standard)

Pre- and Post-development watershed models were developed for the work as indicated on Drawings WS101 and WS102. Copies of these drawings, as well as of the curve number, time of concentration, and peak discharge calculations can be found in Appendices A and B of this section. As indicated on these drawings, the primary measure being used to reduce post-development peak rates of runoff is an underdrained subsurface sand filter located between the building and Bedford Street.

The table below summarizes the pre- and post-development peak flow rates at the point of analysis for the project area depicted on the Watershed Plans. This table is also included on sheets WS101 and WS102.

Pre- and Post-Development Peak Runoff Rates (ft^3/s)

Discharge Point	2-Year Storm		10-Year Storm		25-Year Storm	
	Pre	Post	Pre	Post	Pre	Post
DP-A	1.1	1.2	2.3	2.8	3.7	4.3
DP-B	2.8	1.9	6.3	4.7	9.4	7.3
Total	3.8	2.9	8.4	6.9	12.7	10.8

As indicated on the above table, post-development peak runoff rates are less than the pre-development rates for the entire site and Discharge Point DP-B (Falmouth Street). Runoff rates to Discharge Point DP-A are larger due to the preference to direct runoff into the separated storm drainage system in Bedford Street instead of the combined sewer/storm drainage system in Falmouth Street. The City has confirmed that the storm drain line in Bedford Street has enough capacity to accommodate the slight increase in peak flows.

Pipe Sizing Calculations

Proposed drainage pipes have been designed to effectively convey runoff from the 25-year storm event without causing disruptions to the surrounding infrastructure (e.g. flooding at buildings or parking lots). Calculations are included in the post-development runoff calculations in Appendix B of this section.

Water Quality Treatment (Stormwater Quality)

The general (stormwater quality) standard for this project will be achieved using an underdrained subsurface sand filter located between the building and Bedford Street that collects runoff from the roof of the Center for the Arts building and small amount of the sidewalks and turf area on the south side of the Center for the Arts building. This treatment area drains into the storm drain line beneath Bedford Street.

A summary of the disturbed areas and the necessary treatment calculations can also be found in Appendix C of this section, and construction details for the treatment areas are included in the drawing set. As these calculations show, the required treatment is being calculated using the DEP's requirements for a "Redevelopment Project." Based on these calculations, at least 50% of the redevelopment area is being treated.

Pre-Treatment

The majority of the runoff flowing to the treatment area will be from the building roof, and the rest will be from sidewalks and turf areas. Because of this, the amount of pre-treatment required to remove pollutants from the runoff before it enters the treatment area will be minimal. The turf areas between the sidewalks and the storm drain structures will serve to remove sediment from runoff from the sidewalks, and the catch basins will contain 2' deep sumps to provide another level of protection for the treatment area. Also, there is not anticipated to be any sediment in the runoff from the roof. Even with these pre-treatment structures, the nature of the type of treatment being proposed area makes it extremely difficult to remove sediment that accumulates within it. Because of this, the treatment area also includes a MDEP-approved pre-treatment chamber row (Cultec R330-XLHD or similar) with a drain manhole access point on one end for cleaning and inspection.

Maps

See Sections 1 and 11 for USGS quad and Soils Maps.

Drainage Plans

See Appendices A and B of this Section.

Subsurface Investigation

Test pits were not specifically performed in the vicinity of the treatment area. However, due to the proximity of the treatment area to the building and street, an impermeable liner around the treatment area and underdraining around its perimeter are proposed.

Stormwater Maintenance / Inspection Plan

This Maintenance Plan has been prepared as part of the Maine Department of Environmental Protection MDEP Site Location of Development Permit Amendment Application. In accordance with the Site Location of Development Law, regular maintenance of the on-site stormwater facilities is required to ensure they are functioning as intended and to prevent re-suspension and transport of sediment to existing downstream watercourses.

Maintenance of the stormwater management system components will be the responsibility of the University of Southern Maine's facilities department. The University has a contract with Aqualis for maintenance of their stormwater treatment systems, and this system will be added to the contract once the project is complete. The person responsible for implementing the maintenance plan and coordinating maintenance procedures with contracted entities is as follows:

John M. Souther, Executive Director of Facilities Management
University of Southern Maine
25 Bedford Street
Portland, ME 04101
Phone: 207-780-4585 (Office), 207-805-4107 (cell)
Fax: 207-780-4538
Email: john.souther@maine.edu

Records of all stormwater facilities inspections and maintenance work accomplished must be kept on file, retained for a minimum period of five years and made available to the MDEP upon request. A sample maintenance log is attached.

During construction of the proposed treatment areas, inspection and maintenance of erosion and sedimentation control practices and stormwater treatment practices will be the responsibility of the contractor. Refer to the attached drawings for inspection and maintenance requirements during construction.

Facilities that will require regular maintenance after the project has been accepted by the City are listed below along with a description of the required maintenance. The specified maintenance tasks and schedule are intended to identify the minimum requirements. Additional maintenance may be required based on site specific conditions

Sweeping

Paved surfaces must be swept or vacuumed at least annually in the spring to remove all winter sand, and periodically during the year on an as-needed basis to minimize transportation of sediment during rainfall events.

Roadways and Parking Surfaces			
	Spring	Fall or Yearly	After a Major Storm
Clear accumulated winter sand in parking lots and along walkways.	X		
Sweep pavement to remove sediment.	X		
Ensure that stormwater is not impeded by accumulations of material.	X		

Vegetated Areas

Areas of maintained lawn are to be inspected regularly for signs of erosion and channelization. Areas where erosion is occurring or areas of sparse growth must be replanted and stabilized.

Vegetated Areas			
	Spring	Fall or Yearly	After a Major Storm
Inspect all slopes and embankments.	X		
Replant bare areas or areas with sparse growth.	X		
Armor areas with rill erosions with an appropriate lining or divert the erosive flows to on-site areas able to withstand concentrated flows.	X		

Catch Basins

Catch basins must be inspected annually for debris and the accumulation of sediments. Large debris and debris blocking inlet grates must be removed immediately. Sediment accumulations must be removed when sediment reaches two thirds of the total volume of the sump. Vacuuming sediments from catch basins must be done by a vacuum truck. The removed material must be disposed of in accordance with Maine's Solid Waste Disposal Rules.

Catch Basin Systems				
	Spring	Fall or Yearly	After a Major Storm	As Needed
Inspect for accumulation of sediments		X		
Remove and legally dispose of accumulated sediments and debris from the bottom of the basin, inlet grates, inflow channels to the basin, and pipes between basins.				X
Inspect sumps annually and clean with vacuum pump when sediment occupies more than two thirds of the sump capacity. Clean drain lines when sediment occupies more than 20% of pipe diameter.	X	X		X

Ditches, Swales and Culverts				
	Spring	Fall or Yearly	After a Major Storm	As Needed
Inspect and remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit.	X	X		X
Repair any erosion damage at the culvert's inlet and outlet.				X
Inspect after major rainfall event*. Repair erosion and sedimentation immediately			X	X

*A major storm event is classified as a rainfall total of 3.0 inches or more in a 24-hour period (a 2-year storm event).

Underdrained Subsurface Sand Filter

Requirements for engineering inspection of the underdrained subsurface sand filter during the construction phase are indicated on Drawing C-504.

The sand filter must be inspected after every major storm in the first year to ensure proper function. A ball valve located on the outlet of the underdrain piping in the outlet control structure can be adjusted to ensure that the filter drains slowly over a period of 24-48 hours. Thereafter, the filter must be inspected at least annually to ensure that it is draining within 48 hours following a one-inch storm or greater. Following storms that fill the system to overflow, the system must drain in no less than 48 hours.

Pre-Treatment – Underdrained subsurface sand filters

Regular inspection and cleaning of the primary treatment row is critical to ensure that the system functions properly. During the first year of service, the primary treatment row must be inspected every six months. The frequency of future inspections can be adjusted based on previous inspections, but the system must be inspected at least once a year. Inspections will be via a manhole on one end of the isolator row and inspection port risers installed during construction. Contractors performing the inspections and required maintenance must be OSHA certified for confined space entry. When sediment accumulations exceed 3", the sediment must be removed from the chambers using a manufacturer-approved high-pressure water sediment removal device (JetVac or similar).

Underdrained Subsurface Sand Filter					
	Initial Start-Up*	Spring	Fall or Yearly	After a Major Storm	As Needed
Inspect drain dry time (24-48 hours) after 1" or greater storm and adjust flow rate by adjusting ball valve.	X		X		
Inspect primary treatment row for accumulated sediment. Clean with manufacturer-approved high pressure water system when accumulated sediment reaches 3" or more. Inspect semiannually for first year of use an d at least annually thereafter.	X		X		X

*Initial start-up includes all major storm events (rainfall greater than 3.0 inches in a 24-hour period (a 2-year storm event) for the first year of operation.

Sample

Stormwater Maintenance/Erosion & Sediment Control
Maintenance Log

This sample Maintenance Log is intended to accompany the Stormwater Management Facilities Maintenance Plan. The contractor must maintain this log (or a similar log) from the start of construction through acceptance of the facilities by the City. Following acceptance of the facilities, the City must be responsible for maintenance and updating the maintenance log. This log must be kept on file for a minimum of five years and must be available for review by MDEP. A certified post-construction stormwater inspector must perform all inspections. A list of these individuals can be found on the MDEP website.

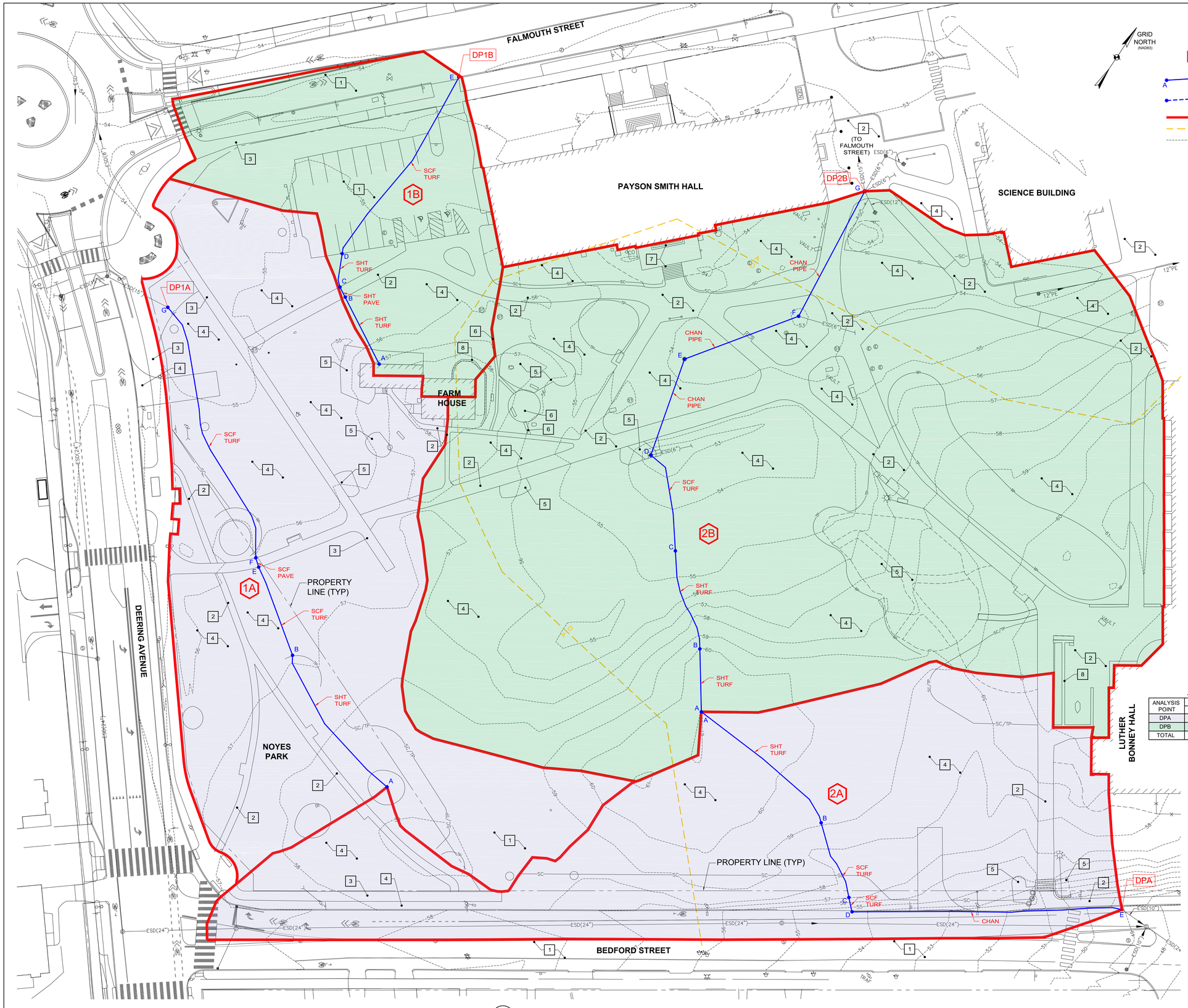
The following items must be checked, cleaned and maintained on a regular basis as specified in the Maintenance Plan and/or as described in the table below.

Item	Maintenance Required & Frequency	Date Completed	Maintenance Personnel	Comments
Vegetated Areas	Inspect all slopes and embankments (annually in spring).			
	Replant bare areas or areas with sparse growth (annually in spring).			
	Armor areas with rill erosions with an appropriate lining or divert the erosive flows to on-site areas able to withstand concentrated flows (annually in spring).			
Catch Basins & Drain Lines	Inspect sump skimmers in catch basins in paved areas (annually in spring). Replace when saturated.			
	Inspect sumps (annually in spring). Clean with vacuum pump when sediment occupies more than two thirds of the sump capacity.			
	Inspect drain lines (annually in spring). Clean when sediment occupies more than 20% of pipe diameter.			
	Inspect drain line inlets/outlets (annually in spring). Remove accumulated sediments when needed.			

Sample (continued…)

Item	Maintenance Required & Frequency	Date Completed	Maintenance Personnel	Comments
Catch Basins & Drain Lines	Inspect drain line inlets/outlets (annually in spring). Repair any erosion damage at the culvert's inlet and outlet as needed.			
Ditches, Swales and Culverts	Inspect after major rainfall event*. Repair debris, erosion and sedimentation immediately.			
Under-drained Subsurface Sand Filter	Inspect drain dry time (annually in spring). If necessary, adjust flow rate by adjusting ball valve.			
	Inspect primary treatment row for accumulated sediment (annually in spring). Clean with manufacturer-approved high pressure water system when accumulated sediment reaches 3" or more.			
*A major storm event is classified as a rainfall total of 3.0 inches or more in a 24-hour period (a 2-year storm event).				

Appendix A -
Pre-Development Runoff Calculations



LEGEND

- SUBAREA NUMBER
- TIME OF CONCENTRATION FLOW PATH
- CATCH BASIN/REACH FLOW PATH
- WATERSHED BOUNDARY
- HYDROLOGIC SOIL GROUP BOUNDARY
- EXISTING CONTOUR LINE
- DISCHARGE POINT (POINT OF ANALYSIS)
- CATCH BASIN/POND ROUTING
- REACH ROUTING
- SHT — SHEET FLOW
- SCF — SHALLOW CONCENTRATED FLOW
- CHAN — CHANNEL FLOW

KEYNOTES: (THIS SHEET ONLY)

1. ASPHALT CONCRETE PAVEMENT.
2. ASPHALT CONCRETE SIDEWALK.
3. REINFORCED CONCRETE SIDEWALK.
4. TURF.
5. MULCH AREA.
6. CRUSHED STONE WALK/SEATING AREA.
7. GRANITE STAIRS.
8. RETAINING WALL.

NOTES:

1. HYDROLOGIC SOIL GROUP BOUNDARIES INDICATED ARE BASED ON THE NRCS WEB SOIL SURVEY (CLASS D MEDIUM INTENSITY SOIL SURVEY)
2. THE PROJECT BENCHMARKS ARE:

   TBM1 IS A 3' OFFSET BRASS MONUMENT AT THE INTERSECTION OF BRIGHTON AVENUE AND FALMOUTH STREET REFERENCED ABOVE. BENCHMARK ELEVATION: 54.688'

   TBM2 IS A BONNET BOLT ON FIRE HYDRANT ON THE NORTH SIDE OF FALMOUTH STREET ACROSS FROM PAYSON SMITH HALL. BENCHMARK ELEVATION: 55.14'

   TBM3 IS A BONNET BOLT ON FIRE HYDRANT ON THE SOUTHEAST CORNER OF THE INTERSECTION OF BEDFORD STREET AND SURRENDEN STREET. BENCHMARK ELEVATION: 47.66'.

PEAK RATE OF RUNOFF (CFS)

ANALYSIS POINT	2-YEAR STORM		10-YEAR STORM		25-YEAR STORM	
	PRE	POST	PRE	POST	PRE	POST
DPA	1.1	1.2	2.3	2.8	3.7	4.3
DPB	2.8	1.9	6.3	4.7	9.4	7.3
TOTAL	3.8	2.9	8.4	6.9	12.7	10.8

1 WS101 PRE-DEVELOPMENT WATERSHED PLAN
SCALE: 1"=20'

GRAPHIC SCALE

CHECK GRAPHIC SCALE BEFORE USING

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SEAL:

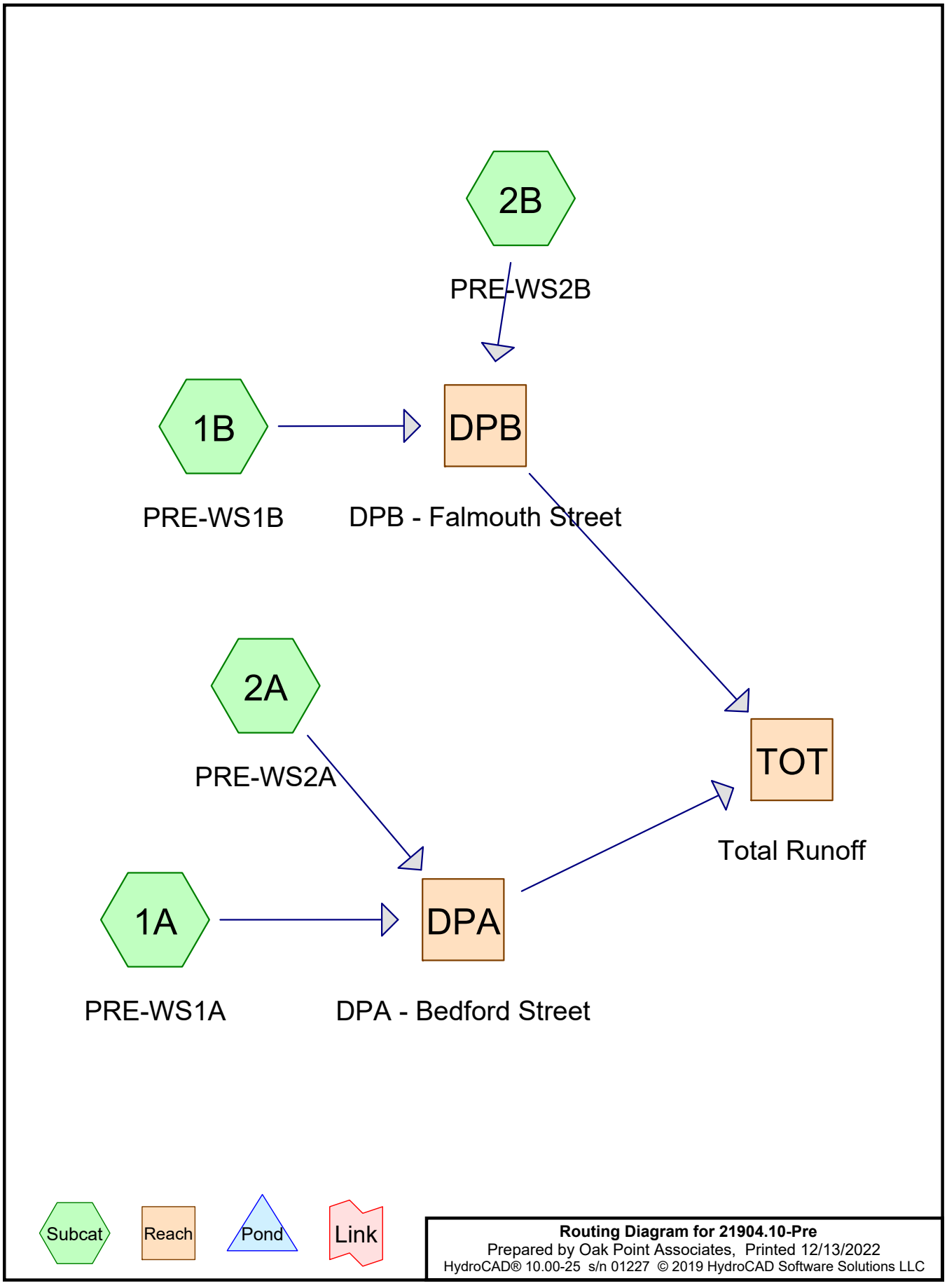
STATE OF MAINE — JONAH DeWATERS — No. 12273 — LICENSED PROFESSIONAL ENGINEER — 12/15/2022

ISSUE NAME:

NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

SCALE: As indicated

PFEIFFER PARTNERS PROJECT NUMBER: 6170.00



Routing Diagram for 21904.10-Pre
Prepared by Oak Point Associates, Printed 12/13/2022
HydroCAD® 10.00-25 s/n 01227 © 2019 HydroCAD Software Solutions LLC

Summary for Subcatchment 1A: PRE-WS1A

Runoff = 0.01 cfs @ 15.81 hrs, Volume= 167 cf, Depth= 0.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	552	98	Roofs
*	4,701	98	Paved surfaces
	53,839	39	>75% Grass cover, Good, HSG A
*	784	74	Mulch, HSG A
	59,876	45	Weighted Average
	54,623		91.23% Pervious Area
	5,253		8.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	100	0.0280	0.12		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 2.70"
1.5	57	0.0080	0.63		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.0	6	0.0220	3.01		**Shallow Concentrated Flow, CD** Paved Kv= 20.3 fps
3.6	164	0.0120	0.77		**Shallow Concentrated Flow, DE** Short Grass Pasture Kv= 7.0 fps
0.1	41	0.0100	5.26	6.46	**Pipe Channel, EF** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
18.8	368	Total			

Summary for Subcatchment 1B: PRE-WS1B

Runoff = 0.44 cfs @ 12.19 hrs, Volume= 1,833 cf, Depth= 0.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	557	98	Roofs
*	12,565	98	Paved surfaces
	9,529	39	>75% Grass cover, Good, HSG A
	860	80	>75% Grass cover, Good, HSG D
*	403	74	Mulch, HSG A
*	12	90	Mulch, HSG D
	23,926	73	Weighted Average
	10,804		45.16% Pervious Area
	13,122		54.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	45	0.0400	0.12		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 2.70"
0.2	8	0.0150	0.68		**Sheet Flow, BC** Smooth surfaces n= 0.011 P2= 2.70"
5.7	20	0.0100	0.06		**Sheet Flow, CD** Grass: Dense n= 0.240 P2= 2.70"
0.8	129	0.0180	2.72		**Shallow Concentrated Flow, DE** Paved Kv= 20.3 fps
12.9	202	Total			

Summary for Subcatchment 2A: PRE-WS2A

Runoff = 1.05 cfs @ 12.28 hrs, Volume= 4,955 cf, Depth= 1.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	12,504	98	Paved surfaces
	11,108	39	>75% Grass cover, Good, HSG A
	30,003	80	>75% Grass cover, Good, HSG D
*	1,286	90	Mulch, HSG D
	54,901	76	Weighted Average
	42,397		77.22% Pervious Area
	12,504		22.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.9	100	0.0190	0.11		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 2.70"
0.6	49	0.0420	1.43		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.0	9	0.3200	3.96		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
2.7	163	0.0310	1.00	0.00	**Trap/Vee/Rect Channel Flow, DE** Bot.W=0.00' D=0.15' Z= 0.3 & 0.0 '/' Top.W=0.04' n= 0.013 Asphalt, smooth
19.2	321	Total			

Summary for Subcatchment 2B: PRE-WS2B

Runoff = 2.37 cfs @ 12.21 hrs, Volume= 10,130 cf, Depth= 0.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	223	98	Roofs
*	20,105	98	Paved surfaces
	29,075	39	>75% Grass cover, Good, HSG A
	65,733	80	>75% Grass cover, Good, HSG D
*	542	74	Mulch, HSG A
*	9,346	90	Mulch, HSG D
	125,024	74	Weighted Average
	104,696		83.74% Pervious Area
	20,328		16.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	38	0.0250	0.10		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 2.70"
5.8	62	0.0900	0.18		**Sheet Flow, BC** Grass: Dense n= 0.240 P2= 2.70"
0.4	62	0.1260	2.48		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
0.4	61	0.0040	2.54	1.39	**Pipe Channel, DE** 10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21' n= 0.013 Clay tile
0.4	74	0.0040	2.87	2.25	**Pipe Channel, EF** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Clay tile
0.5	85	0.0040	2.87	2.25	**Pipe Channel, FG** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Clay tile
14.1	382	Total			

Summary for Reach DPA: DPA - Bedford Street

Inflow Area = 114,777 sf, 15.47% Impervious, Inflow Depth = 0.54" for 2-Year event
Inflow = 1.05 cfs @ 12.28 hrs, Volume= 5,121 cf
Outflow = 1.05 cfs @ 12.28 hrs, Volume= 5,121 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Reach DPB: DPB - Falmouth Street

Inflow Area = 148,950 sf, 22.46% Impervious, Inflow Depth = 0.96" for 2-Year event
Inflow = 2.80 cfs @ 12.21 hrs, Volume= 11,963 cf
Outflow = 2.80 cfs @ 12.21 hrs, Volume= 11,963 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Reach TOT: Total Runoff

Inflow Area = 263,727 sf, 19.42% Impervious, Inflow Depth = 0.78" for 2-Year event
Inflow = 3.77 cfs @ 12.22 hrs, Volume= 17,084 cf
Outflow = 3.77 cfs @ 12.22 hrs, Volume= 17,084 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 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

Subcatchment 1A: PRE-WS1A Runoff Area=59,876 sf 8.77% Impervious Runoff Depth=0.03"
Flow Length=368' Tc=18.8 min CN=45 Runoff=0.01 cfs 167 cf

Subcatchment 1B: PRE-WS1B Runoff Area=23,926 sf 54.84% Impervious Runoff Depth=0.92"
Flow Length=202' Tc=12.9 min CN=73 Runoff=0.44 cfs 1,833 cf

Subcatchment 2A: PRE-WS2A Runoff Area=54,901 sf 22.78% Impervious Runoff Depth=1.08"
Flow Length=321' Tc=19.2 min CN=76 Runoff=1.05 cfs 4,955 cf

Subcatchment 2B: PRE-WS2B Runoff Area=125,024 sf 16.26% Impervious Runoff Depth=0.97"
Flow Length=382' Tc=14.1 min CN=74 Runoff=2.37 cfs 10,130 cf

Reach DPA: DPA - Bedford Street Inflow=1.05 cfs 5,121 cf
Outflow=1.05 cfs 5,121 cf

Reach DPB: DPB - Falmouth Street Inflow=2.80 cfs 11,963 cf
Outflow=2.80 cfs 11,963 cf

Reach TOT: Total Runoff Inflow=3.77 cfs 17,084 cf
Outflow=3.77 cfs 17,084 cf

Total Runoff Area = 263,727 sf Runoff Volume = 17,084 cf Average Runoff Depth = 0.78"
80.58% Pervious = 212,520 sf 19.42% Impervious = 51,207 sf

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 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

Subcatchment 1A: PRE-WS1A Runoff Area=59,876 sf 8.77% Impervious Runoff Depth=0.32"
Flow Length=368' Tc=18.8 min CN=45 Runoff=0.14 cfs 1,612 cf

Subcatchment 1B: PRE-WS1B Runoff Area=23,926 sf 54.84% Impervious Runoff Depth=1.97"
Flow Length=202' Tc=12.9 min CN=73 Runoff=1.00 cfs 3,931 cf

Subcatchment 2A: PRE-WS2A Runoff Area=54,901 sf 22.78% Impervious Runoff Depth=2.21"
Flow Length=321' Tc=19.2 min CN=76 Runoff=2.23 cfs 10,110 cf

Subcatchment 2B: PRE-WS2B Runoff Area=125,024 sf 16.26% Impervious Runoff Depth=2.05"
Flow Length=382' Tc=14.1 min CN=74 Runoff=5.28 cfs 21,354 cf

Reach DPA: DPA - Bedford Street Inflow=2.27 cfs 11,723 cf
Outflow=2.27 cfs 11,723 cf

Reach DPB: DPB - Falmouth Street Inflow=6.27 cfs 25,284 cf
Outflow=6.27 cfs 25,284 cf

Reach TOT: Total Runoff Inflow=8.35 cfs 37,007 cf
Outflow=8.35 cfs 37,007 cf

Total Runoff Area = 263,727 sf Runoff Volume = 37,007 cf Average Runoff Depth = 1.68"
80.58% Pervious = 212,520 sf 19.42% Impervious = 51,207 sf

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 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

Subcatchment 1A: PRE-WS1A Runoff Area=59,876 sf 8.77% Impervious Runoff Depth=0.72"
Flow Length=368' Tc=18.8 min CN=45 Runoff=0.49 cfs 3,607 cf

Subcatchment 1B: PRE-WS1B Runoff Area=23,926 sf 54.84% Impervious Runoff Depth=2.92"
Flow Length=202' Tc=12.9 min CN=73 Runoff=1.50 cfs 5,829 cf

Subcatchment 2A: PRE-WS2A Runoff Area=54,901 sf 22.78% Impervious Runoff Depth=3.21"
Flow Length=321' Tc=19.2 min CN=76 Runoff=3.25 cfs 14,678 cf

Subcatchment 2B: PRE-WS2B Runoff Area=125,024 sf 16.26% Impervious Runoff Depth=3.02"
Flow Length=382' Tc=14.1 min CN=74 Runoff=7.86 cfs 31,438 cf

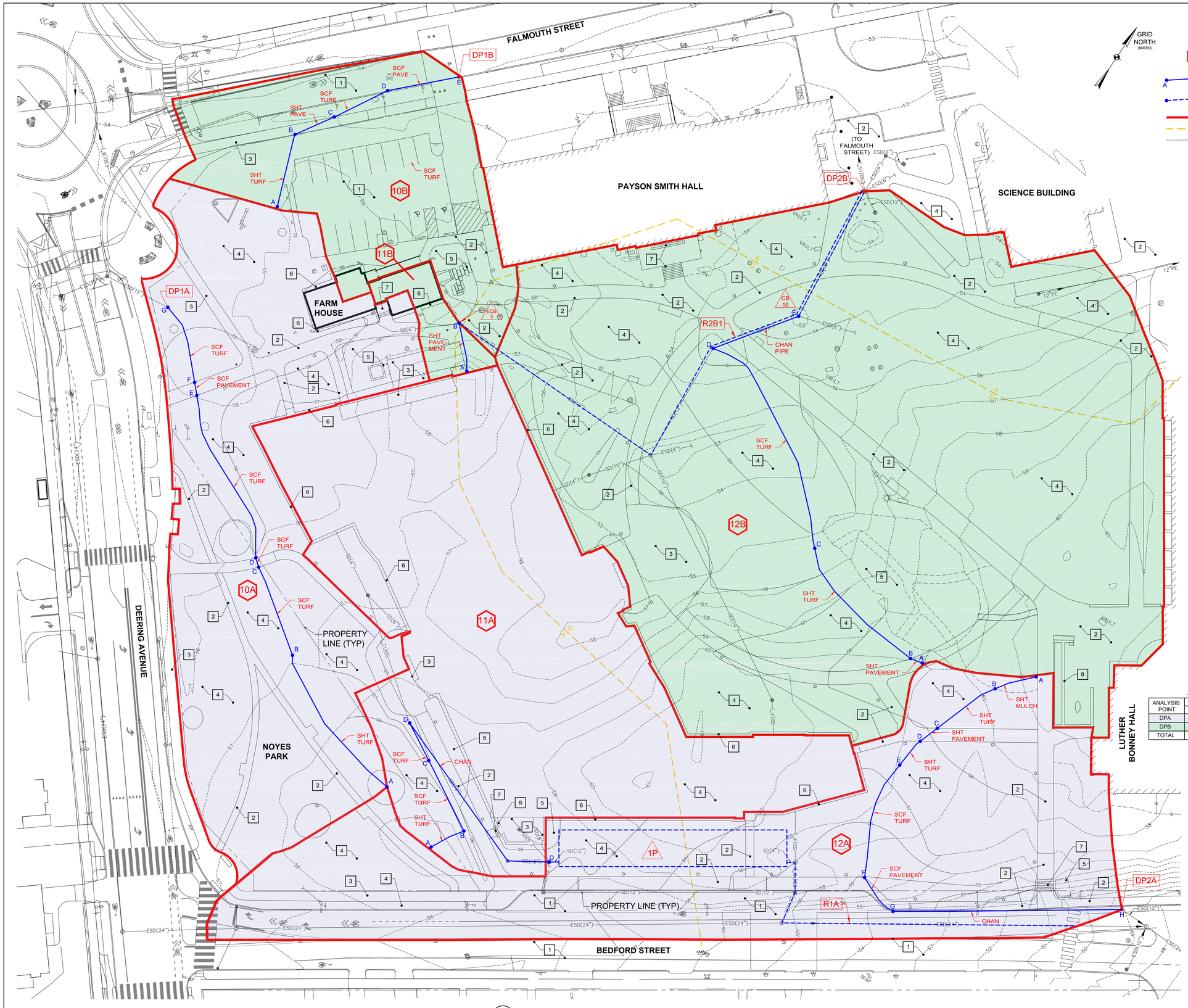
Reach DPA: DPA - Bedford Street Inflow=3.66 cfs 18,284 cf
Outflow=3.66 cfs 18,284 cf

Reach DPB: DPB - Falmouth Street Inflow=9.35 cfs 37,266 cf
Outflow=9.35 cfs 37,266 cf

Reach TOT: Total Runoff Inflow=12.65 cfs 55,551 cf
Outflow=12.65 cfs 55,551 cf

Total Runoff Area = 263,727 sf Runoff Volume = 55,551 cf Average Runoff Depth = 2.53"
80.58% Pervious = 212,520 sf 19.42% Impervious = 51,207 sf

Appendix B -
Post-Development Runoff Calculations



1 WS102 POST-DEVELOPMENT WATERSHED PLAN
SCALE: 1"=20'

LEGEND

- 1 — SUBAREA NUMBER
- A — B — TIME OF CONCENTRATION FLOW PATH
- CATCH BASIN/REACH FLOW PATH
- WATERSHED BOUNDARY
- A — D — HYDROLOGIC SOIL GROUP BOUNDARY
- 405 — EXISTING CONTOUR LINE
- DP1 — DISCHARGE POINT (POINT OF ANALYSIS)
- CB 1 — CATCH BASIN/POND ROUTING
- 1R — REACH ROUTING
- SHT — SHEET FLOW
- SCF — SHALLOW CONCENTRATED FLOW
- CHAN — CHANNEL FLOW

KEYNOTES: (THIS SHEET ONLY)

1. ASPHALT CONCRETE PAVEMENT.
2. ASPHALT CONCRETE SIDEWALK.
3. REINFORCED CONCRETE SIDEWALK.
4. TURF.
5. MULCH AREA.
6. CRUSHED STONE DRIP EDGE.
7. CONCRETE STAIRS.
8. RETAINING WALL.

NOTES:

1. HYDROLOGIC SOIL GROUP BOUNDARIES INDICATED ARE BASED ON THE NRCS WEB SOIL SURVEY (CLASS D MEDIUM INTENSITY SOIL SURVEY)
2. THE PROJECT BENCHMARKS ARE:

TBM1 IS A 3' OFFSET BRASS MONUMENT AT THE INTERSECTION OF BRIGHTON AVENUE AND FALMOUTH STREET REFERENCED ABOVE. BENCHMARK ELEVATION: 54.688'

TBM2 IS A BONNET BOLT ON FIRE HYDRANT ON THE NORTH SIDE OF FALMOUTH STREET ACROSS FROM PAYSON SMITH HALL. BENCHMARK ELEVATION: 55.14'

TBM3 IS A BONNET BOLT ON FIRE HYDRANT ON THE SOUTHEAST CORNER OF THE INTERSECTION OF BEDFORD STREET AND SURRENDEN STREET. BENCHMARK ELEVATION: 47.66'.

PEAK RATE OF RUNOFF (CFS)

ANALYSIS POINT	2-YEAR STORM		10-YEAR STORM		25-YEAR STORM	
	PRE	POST	PRE	POST	PRE	POST
DPA	1.1	1.2	2.3	2.8	3.7	4.3
DPB	2.8	1.9	6.3	4.7	9.4	7.3
TOTAL	3.8	2.9	8.4	6.9	12.7	10.8

GRAPHIC SCALE
20' 10' 0 20' 40'
1"=20'
CHECK GRAPHIC SCALE BEFORE USING

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PHONE: 727.498.1091

SEAL:
STATE OF MAINE — JONAH DeWATERS — No. 12273 — LICENSED PROFESSIONAL ENGINEER — 12/15/2022

ISSUE NAME:

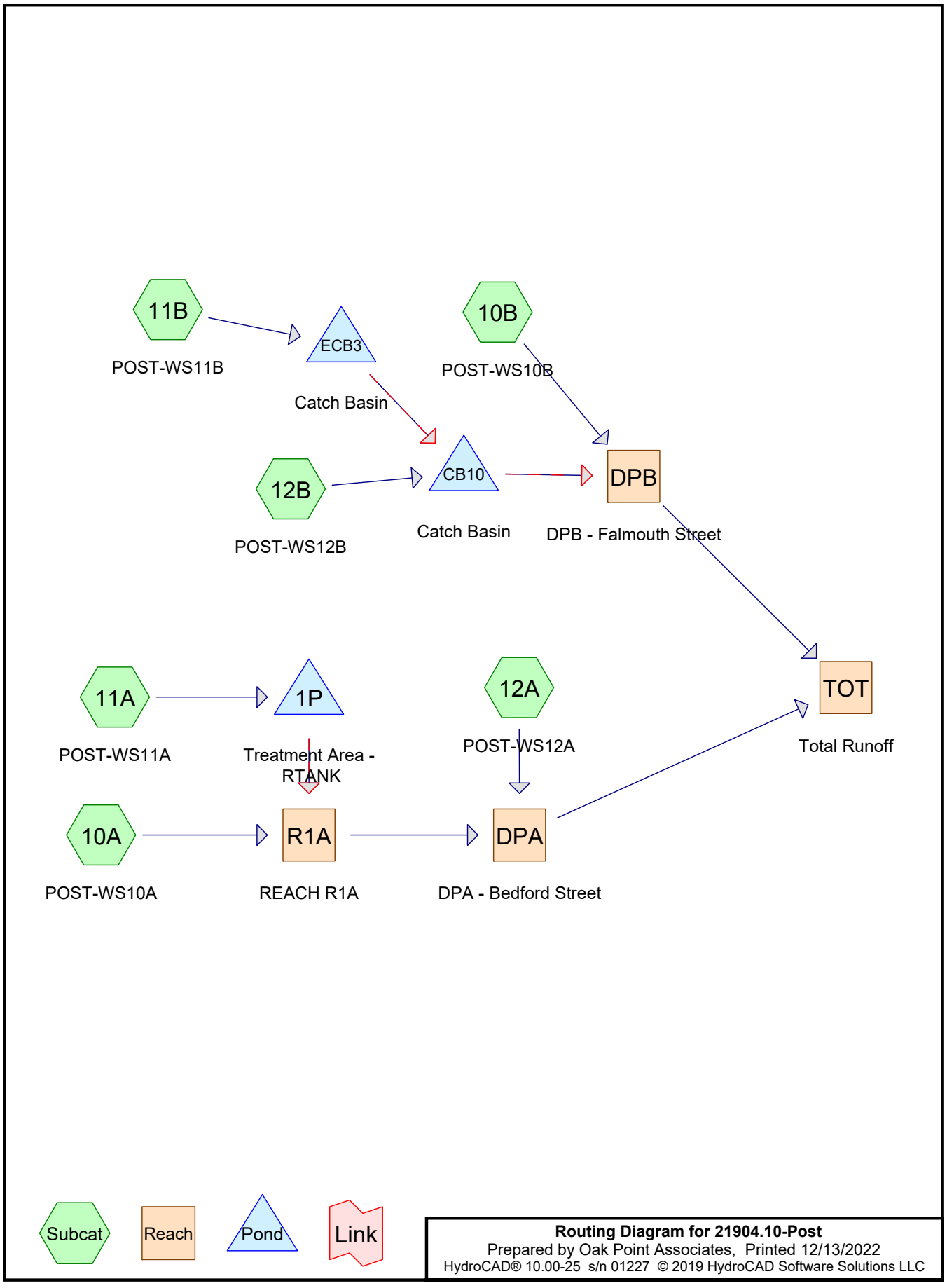
NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

POST-DEVELOPMENT WATERSHED PLAN

SCALE: As indicated

WS102

PFEIFFER PARTNERS PROJECT NUMBER: 6170.00


11B
POST-WS11B
ECB3
Catch Basin
10B
POST-WS10B
12B
POST-WS12B
CB10
Catch Basin
DPB
DPB - Falmouth Street
11A
POST-WS11A
1P
Treatment Area - RTANK
12A
POST-WS12A
TOT
Total Runoff
10A
POST-WS10A
R1A
REACH R1A
DPA
DPA - Bedford Street
Subcat
Reach
Pond
Link
Routing Diagram for 21904.10-Post
Prepared by Oak Point Associates, Printed 12/13/2022
HydroCAD® 10.00-25 s/n 01227 © 2019 HydroCAD Software Solutions LLC

Summary for Subcatchment 10A: POST-WS10A

Runoff = 0.01 cfs @ 13.99 hrs, Volume= 317 cf, Depth= 0.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	5,966	98	Paved surfaces
	34,488	39	>75% Grass cover, Good, HSG A
	0	80	>75% Grass cover, Good, HSG D
*	559	74	Mulch, HSG A
*	0	90	Mulch, HSG D
*	857	98	Roofs
	41,870	49	Weighted Average
	35,047		83.70% Pervious Area
	6,823		16.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	100	0.0280	0.12		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 2.70"
1.5	57	0.0080	0.63		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.0	6	0.0220	3.01		**Shallow Concentrated Flow, CD** Paved Kv= 20.3 fps
2.3	107	0.0120	0.77		**Shallow Concentrated Flow, DE** Short Grass Pasture Kv= 7.0 fps
0.1	8	0.0170	2.65		**Shallow Concentrated Flow, EF** Paved Kv= 20.3 fps
1.1	49	0.0110	0.73		**Shallow Concentrated Flow, FG** Short Grass Pasture Kv= 7.0 fps
18.6	327	Total			

Summary for Subcatchment 10B: POST-WS10B

Runoff = 0.57 cfs @ 12.16 hrs, Volume= 2,119 cf, Depth= 1.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	297	98	Roofs
*	12,979	98	Paved surfaces
	5,978	39	>75% Grass cover, Good, HSG A
*	894	74	Mulch, HSG A
	20,148	79	Weighted Average
	6,872		34.11% Pervious Area
	13,276		65.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	45	0.0150	0.08		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 2.70"
0.6	26	0.0080	0.67		**Sheet Flow, BC** Smooth surfaces n= 0.011 P2= 2.70"
0.7	34	0.0140	0.83		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
0.3	44	0.0120	2.22		**Shallow Concentrated Flow, DE** Paved Kv= 20.3 fps
10.8	149	Total			

Summary for Subcatchment 11A: POST-WS11A

Runoff = 3.01 cfs @ 12.07 hrs, Volume= 9,073 cf, Depth= 2.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	2,754	98	Paved surfaces
	5,946	39	>75% Grass cover, Good, HSG A
	0	80	>75% Grass cover, Good, HSG D
*	839	74	Mulch, HSG A
*	0	90	Mulch, HSG D
*	40,762	98	Roofs
	50,301	91	Weighted Average
	6,785		13.49% Pervious Area
	43,516		86.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	30	0.1000	0.16		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 2.70"
1.0	50	0.0130	0.80		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.4	25	0.0200	0.99		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
0.3	133	0.0200	6.42	5.04	**Pipe Channel, DE** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Clay tile
4.8	238	Total			

Summary for Subcatchment 11B: POST-WS11B

Runoff = 0.06 cfs @ 12.06 hrs, Volume= 204 cf, Depth= 0.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	740	98	Roofs
*	1,036	98	Paved surfaces
	2,126	39	>75% Grass cover, Good, HSG A
*	234	74	Mulch, HSG A
	4,136	66	Weighted Average
	2,360		57.06% Pervious Area
	1,776		42.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	30	0.0380	1.28		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 2.70"
0.4	30	Total, Increased to minimum Tc = 3.0 min			

Summary for Subcatchment 12A: POST-WS12A

Runoff = 1.09 cfs @ 12.30 hrs, Volume= 5,187 cf, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	18,797	98	Paved surfaces
	8,190	39	>75% Grass cover, Good, HSG A
	18,838	80	>75% Grass cover, Good, HSG D
*	0	74	Mulch, HSG A
*	1,134	90	Mulch, HSG D
*	0	98	Roofs
	46,959	80	Weighted Average
	28,162		59.97% Pervious Area
	18,797		40.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	26	0.0260	0.06		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 2.70"
6.4	42	0.0330	0.11		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 2.70"
0.2	13	0.0290	0.97		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 2.70"
3.7	19	0.0260	0.09		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 2.70"
1.0	73	0.0330	1.27		**Shallow Concentrated Flow, DE** Short Grass Pasture Kv= 7.0 fps
0.1	27	0.0270	3.34		**Shallow Concentrated Flow, EF** Paved Kv= 20.3 fps
2.2	138	0.0330	1.03	0.00	**Trap/Vee/Rect Channel Flow, FG** Bot.W=0.00' D=0.15' Z= 0.3 & 0.0 '/' Top.W=0.04' n= 0.013
20.8	338	Total			

Summary for Subcatchment 12B: POST-WS12B

Runoff = 1.29 cfs @ 12.18 hrs, Volume= 5,787 cf, Depth= 0.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	3,223	98	Paved surfaces
	32,669	39	>75% Grass cover, Good, HSG A
	58,423	80	>75% Grass cover, Good, HSG D
*	488	74	Mulch, HSG A
*	7,484	90	Mulch, HSG D
	102,287	68	Weighted Average
	99,064		96.85% Pervious Area
	3,223		3.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	6	0.0080	0.50		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 2.70"
7.8	91	0.0360	0.19		**Sheet Flow, BC** Grass: Short n= 0.150 P2= 2.70"
2.8	142	0.0150	0.86		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
0.3	55	0.0040	2.87	2.25	**Pipe Channel, EF** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Clay tile
0.5	85	0.0040	2.87	2.25	**Pipe Channel, FG** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Clay tile
11.6	379	Total			

Summary for Reach DPA: DPA - Bedford Street

Inflow Area = 139,130 sf, 49.69% Impervious, Inflow Depth > 1.18" for 2-Year event
Inflow = 1.19 cfs @ 12.30 hrs, Volume= 13,676 cf
Outflow = 1.19 cfs @ 12.30 hrs, Volume= 13,676 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Reach DPB: DPB - Falmouth Street

Inflow Area = 126,571 sf, 14.44% Impervious, Inflow Depth = 0.76" for 2-Year event
Inflow = 1.88 cfs @ 12.18 hrs, Volume= 8,050 cf
Outflow = 1.88 cfs @ 12.18 hrs, Volume= 8,050 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

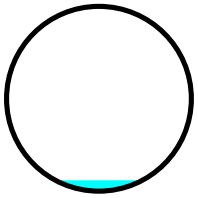
Summary for Reach R1A: REACH R1A

Inflow Area = 92,171 sf, 54.61% Impervious, Inflow Depth > 1.11" for 2-Year event
Inflow = 0.19 cfs @ 13.82 hrs, Volume= 8,497 cf
Outflow = 0.19 cfs @ 13.83 hrs, Volume= 8,489 cf, Atten= 0%, Lag= 0.6 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.64 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 2.07 fps, Avg. Travel Time= 1.4 min

Peak Storage= 13 cf @ 13.83 hrs
Average Depth at Peak Storage= 0.12'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 29.16 cfs

24.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 177.0' Slope= 0.0166 '/'
Inlet Invert= 45.51', Outlet Invert= 42.57'



Summary for Reach TOT: Total Runoff

Inflow Area = 265,701 sf, 32.90% Impervious, Inflow Depth > 0.98" for 2-Year event
Inflow = 2.89 cfs @ 12.21 hrs, Volume= 21,726 cf
Outflow = 2.89 cfs @ 12.21 hrs, Volume= 21,726 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond 1P: Treatment Area - RTANK

Inflow Area = 50,301 sf, 86.51% Impervious, Inflow Depth = 2.16" for 2-Year event
Inflow = 3.01 cfs @ 12.07 hrs, Volume= 9,073 cf
Outflow = 0.18 cfs @ 13.80 hrs, Volume= 8,181 cf, Atten= 94%, Lag= 103.8 min
Primary = 0.08 cfs @ 13.80 hrs, Volume= 789 cf
Secondary = 0.10 cfs @ 13.80 hrs, Volume= 7,392 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 51.66' @ 13.80 hrs Surf.Area= 3,051 sf Storage= 4,656 cf
Flood Elev= 56.00' Surf.Area= 3,051 sf Storage= 9,834 cf

Plug-Flow detention time= 378.3 min calculated for 8,178 cf (90% of inflow)
Center-of-Mass det. time= 330.4 min (1,132.9 - 802.6)

Volume	Invert	Avail.Storage	Storage Description
#1B	49.46'	1,362 cf	**6.33'W x 138.00'L x 5.04'H Field B** 4,406 cf Overall - 1,002 cf Embedded = 3,404 cf x 40.0% Voids
#2A	49.46'	2,154 cf	**15.81'W x 137.71'L x 5.04'H Field A** 10,981 cf Overall - 5,596 cf Embedded = 5,385 cf x 40.0% Voids
#3A	49.96'	5,316 cf	**ACF R-Tank HD 2.5** x 513 Inside #2 Inside= 15.7"W x 42.5"H => 4.42 sf x 2.35'L = 10.4 cf Outside= 15.7"W x 42.5"H => 4.65 sf x 2.35'L = 10.9 cf 513 Chambers in 9 Rows
#4B	49.96'	1,002 cf	**Cultec R-330XLHD** x 19 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 1 rows
		9,834 cf	Total Available Storage

Storage Group B created with Chamber Wizard
Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	46.29'	**12.0" Round Culvert** L= 48.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.29' / 45.61' S= 0.0142 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	51.46'	**4.0" Vert. 18" WQV Impoundment Orifice** C= 0.600
#3	Device 1	54.30'	**6.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#4	Secondary	49.46'	**1.330 in/hr Exfiltration to DMH3 over Surface area** Conductivity to Groundwater Elevation = 1.00' Phase-In= 0.01'

Primary OutFlow Max=0.08 cfs @ 13.80 hrs HW=51.66' TW=45.63' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.08 cfs of 8.17 cfs potential flow)
  ├─**2=18" WQV Impoundment Orifice** (Orifice Controls 0.08 cfs @ 1.53 fps)
  └─**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.10 cfs @ 13.80 hrs HW=51.66' TW=45.63' (Dynamic Tailwater)
└─**4=Exfiltration to DMH3** (Controls 0.10 cfs)

Summary for Pond CB10: Catch Basin

Inflow Area = 106,423 sf, 4.70% Impervious, Inflow Depth = 0.67" for 2-Year event
Inflow = 1.33 cfs @ 12.18 hrs, Volume= 5,960 cf
Outflow = 1.33 cfs @ 12.18 hrs, Volume= 5,931 cf, Atten= 0%, Lag= 0.1 min
Primary = 1.33 cfs @ 12.18 hrs, Volume= 5,931 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 47.10' @ 12.18 hrs Surf.Area= 13 sf Storage= 37 cf

Plug-Flow detention time= 3.9 min calculated for 5,931 cf (100% of inflow)

Center-of-Mass det. time= 1.2 min (893.2 - 892.0)

Volume	Invert	Avail.Storage	Storage Description
#1	44.24'	1,008 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.24	13	0	0
46.24	13	26	26
52.72	13	84	110
53.00	86	14	124
53.83	1,450	637	762
54.00	1,450	247	1,008

Device	Routing	Invert	Outlet Devices
#1	Primary	46.48'	**12.0" Round Storm Drain** L= 83.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.48' / 45.74' S= 0.0089 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Secondary	53.90'	**12.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=1.33 cfs @ 12.18 hrs HW=47.10' TW=0.00' (Dynamic Tailwater)
↑—**1=Storm Drain** (Barrel Controls 1.33 cfs @ 3.68 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=44.24' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond ECB3: Catch Basin

Inflow Area = 4,136 sf, 42.94% Impervious, Inflow Depth = 0.59" for 2-Year event
Inflow = 0.06 cfs @ 12.06 hrs, Volume= 204 cf
Outflow = 0.04 cfs @ 12.15 hrs, Volume= 173 cf, Atten= 35%, Lag= 5.4 min
Primary = 0.04 cfs @ 12.15 hrs, Volume= 173 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 48.05' @ 12.15 hrs Surf.Area= 13 sf Storage= 33 cf

Plug-Flow detention time= 101.7 min calculated for 173 cf (85% of inflow)
Center-of-Mass det. time= 33.1 min (924.4 - 891.4)

Volume	Invert	Avail.Storage	Storage Description
#1	45.50'	151 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.50	13	0	0
47.50	13	26	26
56.10	13	112	138
57.10	13	13	151

Device	Routing	Invert	Outlet Devices
#1	Primary	47.91'	**10.0" Round Storm Drain** L= 271.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.91' / 47.11' S= 0.0030 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf
#2	Secondary	56.10'	**4.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.04 cfs @ 12.15 hrs HW=48.04' TW=47.09' (Dynamic Tailwater)
↑—**1=Storm Drain** (Barrel Controls 0.04 cfs @ 0.99 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=45.50' TW=44.24' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 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

Subcatchment 10A: POST-WS10A Runoff Area=41,870 sf 16.30% Impervious Runoff Depth=0.09"
Flow Length=327' Tc=18.6 min CN=49 Runoff=0.01 cfs 317 cf

Subcatchment 10B: POST-WS10B Runoff Area=20,148 sf 65.89% Impervious Runoff Depth=1.26"
Flow Length=149' Tc=10.8 min CN=79 Runoff=0.57 cfs 2,119 cf

Subcatchment 11A: POST-WS11A Runoff Area=50,301 sf 86.51% Impervious Runoff Depth=2.16"
Flow Length=238' Tc=4.8 min CN=91 Runoff=3.01 cfs 9,073 cf

Subcatchment 11B: POST-WS11B Runoff Area=4,136 sf 42.94% Impervious Runoff Depth=0.59"
Flow Length=30' Slope=0.0380 '/' Tc=3.0 min CN=66 Runoff=0.06 cfs 204 cf

Subcatchment 12A: POST-WS12A Runoff Area=46,959 sf 40.03% Impervious Runoff Depth=1.33"
Flow Length=338' Tc=20.8 min CN=80 Runoff=1.09 cfs 5,187 cf

Subcatchment 12B: POST-WS12B Runoff Area=102,287 sf 3.15% Impervious Runoff Depth=0.68"
Flow Length=379' Tc=11.6 min CN=68 Runoff=1.29 cfs 5,787 cf

Reach DPA: DPA - Bedford Street Inflow=1.19 cfs 13,676 cf
Outflow=1.19 cfs 13,676 cf

Reach DPB: DPB - Falmouth Street Inflow=1.88 cfs 8,050 cf
Outflow=1.88 cfs 8,050 cf

Reach R1A: REACH R1A Avg. Flow Depth=0.12' Max Vel=2.64 fps Inflow=0.19 cfs 8,497 cf
24.0" Round Pipe n=0.013 L=177.0' S=0.0166 '/' Capacity=29.16 cfs Outflow=0.19 cfs 8,489 cf

Reach TOT: Total Runoff Inflow=2.89 cfs 21,726 cf
Outflow=2.89 cfs 21,726 cf

Pond 1P: Treatment Area - RTANK Peak Elev=51.66' Storage=4,656 cf Inflow=3.01 cfs 9,073 cf
Primary=0.08 cfs 789 cf Secondary=0.10 cfs 7,392 cf Outflow=0.18 cfs 8,181 cf

Pond CB10: Catch Basin Peak Elev=47.10' Storage=37 cf Inflow=1.33 cfs 5,960 cf
Primary=1.33 cfs 5,931 cf Secondary=0.00 cfs 0 cf Outflow=1.33 cfs 5,931 cf

Pond ECB3: Catch Basin Peak Elev=48.05' Storage=33 cf Inflow=0.06 cfs 204 cf
Primary=0.04 cfs 173 cf Secondary=0.00 cfs 0 cf Outflow=0.04 cfs 173 cf

Total Runoff Area = 265,701 sf Runoff Volume = 22,687 cf Average Runoff Depth = 1.02"
67.10% Pervious = 178,290 sf 32.90% Impervious = 87,411 sf

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 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

Subcatchment 10A: POST-WS10A Runoff Area=41,870 sf 16.30% Impervious Runoff Depth=0.49"
Flow Length=327' Tc=18.6 min CN=49 Runoff=0.21 cfs 1,712 cf

Subcatchment 10B: POST-WS10B Runoff Area=20,148 sf 65.89% Impervious Runoff Depth=2.46"
Flow Length=149' Tc=10.8 min CN=79 Runoff=1.14 cfs 4,131 cf

Subcatchment 11A: POST-WS11A Runoff Area=50,301 sf 86.51% Impervious Runoff Depth=3.59"
Flow Length=238' Tc=4.8 min CN=91 Runoff=4.89 cfs 15,068 cf

Subcatchment 11B: POST-WS11B Runoff Area=4,136 sf 42.94% Impervious Runoff Depth=1.46"
Flow Length=30' Slope=0.0380 '/' Tc=3.0 min CN=66 Runoff=0.17 cfs 504 cf

Subcatchment 12A: POST-WS12A Runoff Area=46,959 sf 40.03% Impervious Runoff Depth=2.55"
Flow Length=338' Tc=20.8 min CN=80 Runoff=2.13 cfs 9,967 cf

Subcatchment 12B: POST-WS12B Runoff Area=102,287 sf 3.15% Impervious Runoff Depth=1.60"
Flow Length=379' Tc=11.6 min CN=68 Runoff=3.50 cfs 13,642 cf

Reach DPA: DPA - Bedford Street Inflow=2.78 cfs 25,197 cf
Outflow=2.78 cfs 25,197 cf

Reach DPB: DPB - Falmouth Street Inflow=4.70 cfs 18,216 cf
Outflow=4.70 cfs 18,216 cf

Reach R1A: REACH R1A Avg. Flow Depth=0.22' Max Vel=3.97 fps Inflow=0.75 cfs 15,238 cf
24.0" Round Pipe n=0.013 L=177.0' S=0.0166 '/' Capacity=29.16 cfs Outflow=0.75 cfs 15,230 cf

Reach TOT: Total Runoff Inflow=6.93 cfs 43,414 cf
Outflow=6.93 cfs 43,414 cf

Pond 1P: Treatment Area - RTANK Peak Elev=52.79' Storage=7,118 cf Inflow=4.89 cfs 15,068 cf
Primary=0.45 cfs 5,571 cf Secondary=0.10 cfs 7,955 cf Outflow=0.55 cfs 13,526 cf

Pond CB10: Catch Basin Peak Elev=48.07' Storage=50 cf Inflow=3.58 cfs 14,114 cf
Primary=3.58 cfs 14,085 cf Secondary=0.00 cfs 0 cf Outflow=3.58 cfs 14,085 cf

Pond ECB3: Catch Basin Peak Elev=48.22' Storage=35 cf Inflow=0.17 cfs 504 cf
Primary=0.17 cfs 472 cf Secondary=0.00 cfs 0 cf Outflow=0.17 cfs 472 cf

Total Runoff Area = 265,701 sf Runoff Volume = 45,023 cf Average Runoff Depth = 2.03"
67.10% Pervious = 178,290 sf 32.90% Impervious = 87,411 sf

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 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

Subcatchment 10A: POST-WS10A Runoff Area=41,870 sf 16.30% Impervious Runoff Depth=0.98"
Flow Length=327' Tc=18.6 min CN=49 Runoff=0.56 cfs 3,415 cf

Subcatchment 10B: POST-WS10B Runoff Area=20,148 sf 65.89% Impervious Runoff Depth=3.50"
Flow Length=149' Tc=10.8 min CN=79 Runoff=1.62 cfs 5,879 cf

Subcatchment 11A: POST-WS11A Runoff Area=50,301 sf 86.51% Impervious Runoff Depth=4.76"
Flow Length=238' Tc=4.8 min CN=91 Runoff=6.38 cfs 19,959 cf

Subcatchment 11B: POST-WS11B Runoff Area=4,136 sf 42.94% Impervious Runoff Depth=2.29"
Flow Length=30' Slope=0.0380 '/' Tc=3.0 min CN=66 Runoff=0.28 cfs 790 cf

Subcatchment 12A: POST-WS12A Runoff Area=46,959 sf 40.03% Impervious Runoff Depth=3.60"
Flow Length=338' Tc=20.8 min CN=80 Runoff=3.01 cfs 14,093 cf

Subcatchment 12B: POST-WS12B Runoff Area=102,287 sf 3.15% Impervious Runoff Depth=2.47"
Flow Length=379' Tc=11.6 min CN=68 Runoff=5.55 cfs 21,039 cf

Reach DPA: DPA - Bedford Street Inflow=4.25 cfs 35,577 cf
Outflow=4.25 cfs 35,577 cf

Reach DPB: DPB - Falmouth Street Inflow=7.25 cfs 27,648 cf
Outflow=7.25 cfs 27,648 cf

Reach R1A: REACH R1A Avg. Flow Depth=0.29' Max Vel=4.68 fps Inflow=1.30 cfs 21,492 cf
24.0" Round Pipe n=0.013 L=177.0' S=0.0166 '/' Capacity=29.16 cfs Outflow=1.30 cfs 21,484 cf

Reach TOT: Total Runoff Inflow=10.77 cfs 63,225 cf
Outflow=10.77 cfs 63,225 cf

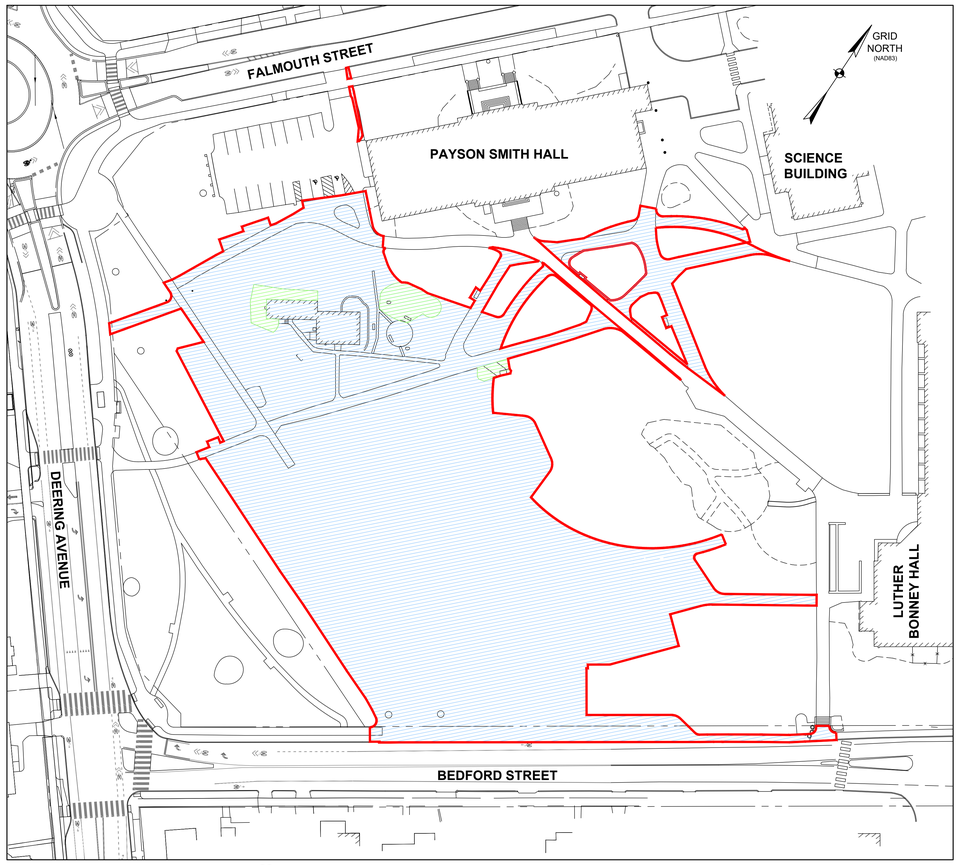
Pond 1P: Treatment Area - RTANK Peak Elev=54.32' Storage=9,609 cf Inflow=6.38 cfs 19,959 cf
Primary=0.73 cfs 9,750 cf Secondary=0.10 cfs 8,328 cf Outflow=0.83 cfs 18,077 cf

Pond CB10: Catch Basin Peak Elev=50.06' Storage=76 cf Inflow=5.68 cfs 21,798 cf
Primary=5.67 cfs 21,769 cf Secondary=0.00 cfs 0 cf Outflow=5.67 cfs 21,769 cf

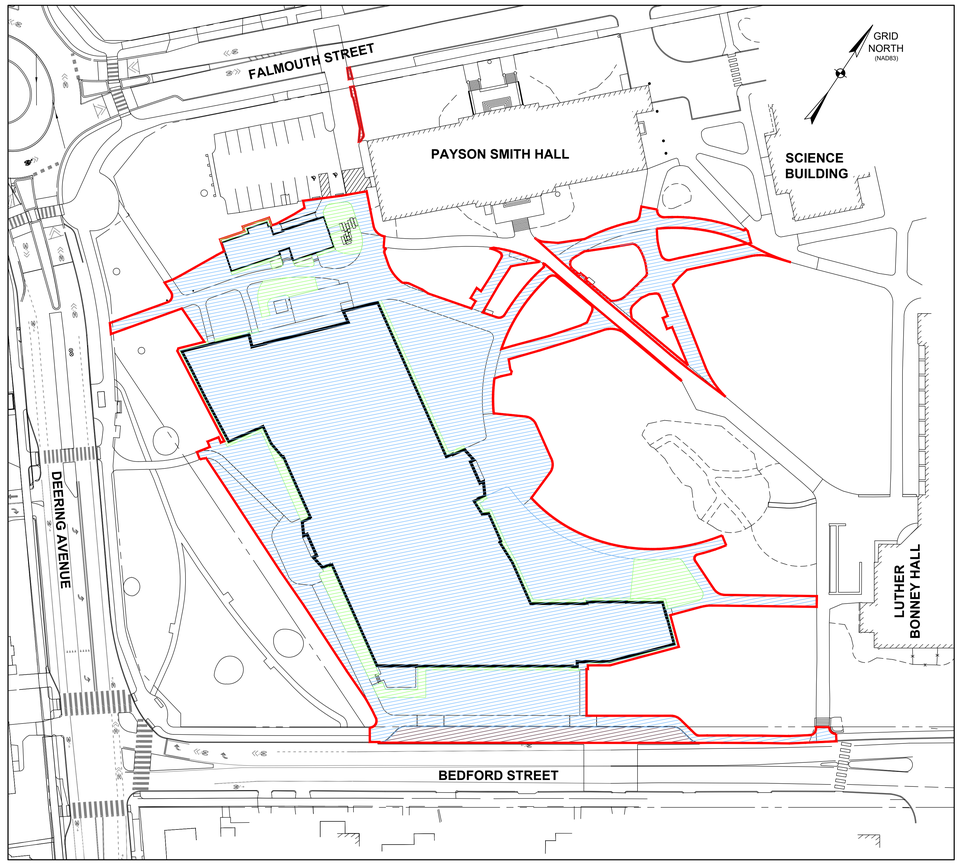
Pond ECB3: Catch Basin Peak Elev=50.07' Storage=59 cf Inflow=0.28 cfs 790 cf
Primary=0.27 cfs 759 cf Secondary=0.00 cfs 0 cf Outflow=0.27 cfs 759 cf

Total Runoff Area = 265,701 sf Runoff Volume = 65,176 cf Average Runoff Depth = 2.94"
67.10% Pervious = 178,290 sf 32.90% Impervious = 87,411 sf

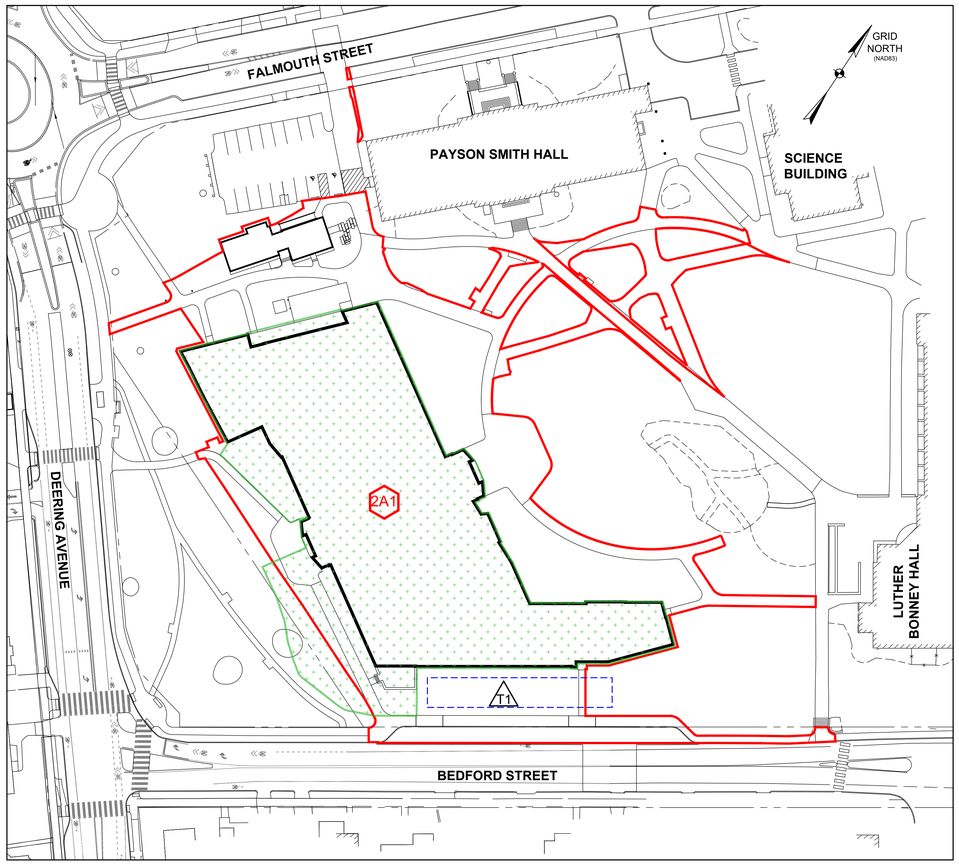
Appendix C - Redevelopment and Treatment Calculations



1 WS102 REDEVELOPMENT CALCULATIONS: PRE-DEVELOPMENT CONDITIONS
SCALE: 1"=40'



2 WS102 REDEVELOPMENT CALCULATIONS: POST-DEVELOPMENT CONDITIONS
SCALE: 1"=40'



3 WS102 TREATMENT PLAN
SCALE: 1"=40'

Pollutant Ranking Calculations						
Land Use		Pollutant Ranking*	Existing Area (SF)	Existing Impact Rating	Proposed Area (SF)	Proposed Impact Rating
Roads where idling may occur periodically due to traffic volume and intersections, High use parking lots		5	0	0	0	0
Other roads, Medium use parking lots		4	0	0	0	0
Other parking lots and driveways, Flat asphalt rooftops, Roofs on an industrial facility		3	0	0	2,700	8,100
Other rooftops, Bikeways, Grassed areas mowed more than twice per year, Walkways/foot traffic-only pavement		2	95,335	190,670	88,618	177,236
Non-grass landscaped areas, Stormwater treatment/storage systems (except buffers)		1	1,955	1,955	5,972	5,972
Forest, Meadow mowed no more than twice per year;		0	0	0	0	0
*From Chapter 500, Section 4.C.2.d.i, Table 2		Total	97,290	192,625	97,290	191,308

Weighted Ranking and Treatment Requirements		
Existing Weighted Impact Rating	1.98	Existing Impact Rating/Total Area
Proposed Weighted Impact Rating	1.97	Proposed Impact Rating/Total Area
Ranked Impact Change	-0.01	Proposed Rating - Existing Rating
Percentage of Area requiring Treatment (Site Law Projects)	50%	Per Chapter 500, Section 4.C.2.d.i, Table 3

TREATMENT REQUIREMENTS		
TOTAL DEVELOPED AREA	97,290	SF
PERCENTAGE OF DEVELOPED AREA REQUIRING TREATMENT	50%	(See Weighted Ranking Results)
DEVELOPED AREA REQUIRING TREATMENT	48,645	SF
DEVELOPED AREA BEING TREATED	50,301	SF
DEVELOPED AREA CREDITS AVAILABLE FOR FUTURE PROJECTS	1,656	SF

TREATMENT SUMMARY

SUBAREA	DEVELOPED AREA (SF)	DEVELOPED IMPERVIOUS AREA (SF)	EXISTING IMPERVIOUS AREA (SF)	TOTAL IMPERVIOUS AREA (SF)	DEVELOPED LANDSCAPED AREA (SF)	EXISTING LANDSCAPED AREA (SF)	TOTAL LANDSCAPED AREA (SF)	BMP TYPE
2A1	50,301	43,503	0	43,503	4,179	2,619	6,798	SUBSURFACE SAND FILTER
TOTAL	50,301	43,503	0	43,503	4,179	2,619	6,798	

TREATMENT AREA SIZING

TREATMENT AREA	IMPERVIOUS AREA (SF)	LANDSCAPED AREA (SF)	REQUIRED VOLUME (IMPERVIOUS AREA X 1"/12) (CF)	REQUIRED VOLUME (LANDSCAPED AREA X .4"/12) (CF)	TOTAL VOLUME REQUIRED (CF)	VOLUME PROVIDED (CF)	REQUIRED SURF AREA (5% OF IMPERVIOUS AREA) (SF)	REQUIRED SURF AREA (2% OF LANDSCAPED AREA) (SF)	TOTAL SURF AREA REQUIRED (SF)	SURF AREA PROVIDED (SF)
T1	43,503	6,798	3,625	227	3,852	4,188	2,175	136	2,311	3,051

LEGEND

- TREATED AREA
- TREATED AREA BOUNDARY
- DEVELOPED AREA BOUNDARY
- 11 — TREATED AREA NUMBER
- T1 — STORMWATER TREATMENT AREA NUMBER

GRAPHIC SCALE
1"=40' — 40' 20' 0 40' 80'
CHECK GRAPHIC SCALE BEFORE USING

UNIVERSITY OF SOUTHERN MAINE
CENTER FOR THE ARTS
111 Bedford Street, Portland, Maine
CBL: 114A A001001 (ZONE RS W/ USM OVERLAY)
Client:
University of Southern Maine
P.O. Box 9300
Portland, ME 04104

pfeiffer — A PERKINS EASTMAN STUDIO
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SUITE 1150
LOS ANGELES, CA 90017
PHONE: 213.624.2775
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OAK POINT ASSOCIATES — architecture engineering planning
OAK POINT ASSOCIATES
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LANDSCAPE ARCHITECT/
CIVIL/ STRUCTURAL/ MEP ENGINEER
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THEATRICAL:
THEATRE PROJECTS
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PHONE: 203.299.0835

ACOUSTICS/ AUDIO-VISUAL:
JAFFE HOLDEN
114A WASHINGTON STREET
NORWALK, CT 06854
PHONE: 203.838.4167

LIGHTING:
CLINE BETTRIDGE BERNSTEIN
116 EAST 27TH STREET, 4TH FLOOR
NEW YORK, NY 10016
PHONE: 212.741.3280

COST CONSULTANT:
VENUE
226 5TH AVE N, SUITE 705
ST PETERSBURG, FL 33701
PHONE: 727.498.1091

SEAL:
STATE OF MAINE — JONAH DeWATERS — 12273 — LICENSED PROFESSIONAL ENGINEER — 12/15/2022

ISSUE NAME:

NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

REDEVELOPMENT AND TREATMENT PLANS

SCALE: As indicated

WS103

PFEIFFER PARTNERS PROJECT NUMBER 6170.00

OAK POINT ASSOCIATES
architecture
engineering
planning

December 15, 2022

Mr. Kevin Kraft
City of Portland Planning Authority
4th Floor, City Hall
389 Congress Street
Portland, ME 04101

Re: Application for Major Site Plan Review and Site Location of Development – Minor Amendment
Center for the Arts Building, University of Southern Maine
111 Bedford Street, Portland, Maine

Dear Mr. Kraft:

On behalf of the University of Southern Maine, please find enclosed Major Site Plan Review and Site Location of Development (Minor Amendment) Application packages for the above referenced project. As indicated in the application package, this project consists of construction of a Center for the Arts (CFA) building on the southwest edge of the University of Southern Maine.

In keeping with the University of Southern Maine's Facilities Master Plan, the new CFA will support the University's goals to support academic excellence and growth and provide the programmatic needs for the School of Music and the Arts and will be the focal point of artistic development and exhibition on the University of Southern Maine's Portland campus. As a new home for the University of Southern Maine's School of Music, the new facility will leverage its prominent exposure, toward both the central campus and the broader community, as a catalyst for engagement not only with music, but with its sister arts.

This intersection of the Arts is most clearly manifested in its central gallery space, a featured forum for the exhibition of the Visual Arts. The new building will also include a 200-seat Performance Hall, a flexible Arts Lab with retractable seating for 80 seats, rehearsal room, classrooms, practice rooms, and office with a new flex studio for the Center of Book Arts. The proposed new development will also include a vehicular drop-off area, loading zone access, pedestrian walkways, landscaping, exterior lighting, and associated site improvements. The proposed new building will be approximately 40,000 square feet and will be prominently sited north of Bedford Street and the newly configured Noyes Park, in the vicinity of the portion of Brighton Avenue that was removed as part of the Deering's Corner Roundabout project in 2021. The Deering Farmhouse will be relocated to the north of the new CFA and improvements to the Campus green will also serve to support this new development. This location will anchor the campus edge and become an iconic feature for the Portland campus.

We look forward working with you and the Planning Department staff to review this project. If you should have any questions or comments on the attached application materials, please do not hesitate to contact me.

Sincerely,

Jonah DeWaters, P.E., LEED AP BD+C
Civil Engineer

Enclosures

OAK POINT ASSOCIATES
architecture
engineering
planning

February 9, 2023

Ms. Maya Balassa
City of Portland Planning Authority
4th Floor, City Hall
389 Congress Street
Portland, ME 04101

Re: Certification of Neighborhood Meeting
Center for the Arts Building, University of Southern Maine
111 Bedford Street, Portland, Maine

Dear Ms. Balassa:

This memo shall serve as certification that a neighborhood meeting was held on February 2, 2023 at the Abromson Community Education Center on USM's Portland Campus at 6pm for the above referenced project. The meeting was also hosted on zoom to allow abutters and interested parties to attend it remotely. A notification letter was mailed on January 18, 2023 to the abutters and interested parties lists provided by the City of Portland Planning Division.

Also included with this memo are the following:

1. A copy of the letter mailed to abutting property owners and interested parties.
2. An attendance record for the meeting.
3. Record of feedback and discussions that occurred at the meeting.

If you have any questions or need more information, please do not hesitate to contact me

Sincerely,

Jonah DeWaters, P.E., LEED AP BD+C
Civil Engineer

OAK POINT ASSOCIATES
architecture
engineering
planning

January 18, 2023

Dear Neighbor:

On behalf of the University of Southern Maine, please join us for a neighborhood meeting to discuss our plans for construction of a Center for the Arts building at 111 Bedford Street in Portland, Maine. A Major Site Plan Application for this project has also been filed with the City of Portland Planning Department.

Meeting Location: Abromson Hall (88 Bedford Street), Room 109/110
Meeting Date: Thursday, February 2, 2023
Meeting Time: 6pm – 7pm

There is also an option to attend the meeting remotely. A link to the meeting will be e-mailed to you after completing the RSVP form located here: bit.ly/3WpisCB

The Land Use Code requires that neighboring property owners and residents on an "interested parties list" be invited to participate in this neighborhood meeting. A sign-in sheet will be circulated, and a record of the meeting will be taken. Both the sign-in sheet and record will be submitted to the Planning Board.

Accommodations can be provided upon request. If you require additional accommodations, please contact Katie Andrews at (207) 780-4484 by 5pm on Monday February 1 to ensure that we have sufficient time to make necessary arrangements.

If you have any questions or need additional information, please contact me via e-mail at jdewaters@oakpoint.com

Sincerely,

Jonah DeWaters, P.E., LEED AP BD+C
Civil Engineer

Note: Under the City of Portland Land Use Code, an applicant for a Major Site Plan, Master Development Plan, Subdivision of over five lots, or Zoning Map Amendment is required to hold a neighborhood meeting within 30 days of an application being deemed complete and no less than seven days before a public hearing. Should you wish to officer additional comments on the proposed development, you may forward them by email to planning@portlandmaine.gov or by mail to the Planning and Urban Development Department, Planning Division, 4th Floor, 389 Congress Street Portland, ME 04101.

SUMMARY OF PUBLIC COMMENTS FROM NEIGHBORHOOD MEETING

Date: February 2, 2023 **Time:** 6 pm

Location: Abromson Community Education Center (88 Bedford Street), Room 109/111 and Zoom Meeting (address provided by USM)

Project: Center for the Arts Building – University of Southern Maine, Portland Campus

Meeting Intent:

This neighborhood meeting was held as required by the City of Portland to review the Center for Arts (CFA) building project. Presenters at the meeting included representatives from USM, Oak Point Associates (Civil Engineer of Record), Consigli Construction (Building General Contractor), Pfeiffer Partners (Architect of Record) and Vanasse Hangen Brustlin (VHB, Traffic Consultant for the Project).

Notification and Attendance

A notification letter was mailed to the list of abutters and interested parties provided by the City of Portland. A list of attendees is attached.

Summary of Public Comment

Below is a summary of public questions and how there were answered during the meeting:

1. *How will drop off occur for vehicles approaching from Deering Avenue?*

   There is a pull off adjacent to the building on the north side of Bedford Street to allow for dropping off passengers. Parking for the building will be in one of USM's existing parking lots or the parking garage. Patrons approaching from Deering Avenue that intend to utilize the drop off will need to drive down Falmouth Street to Forest Avenue, then up Bedford Street so that they can approach the site from the southeast (from Forest Avenue).

2. *Describe the connection between the CFA project and the Farmhouse.*

   The farmhouse will contain administrative offices for programs in the CFA Building and reference materials. Because of this, it is important that the two buildings be complementary to each other and easily accessible. The farmhouse is being relocated to the northwest to allow for construction of the CFA building, but it is being preserved, renovated and added onto so that it can continue to be an asset to the campus.

231 Main Street, Biddeford, Maine 04005 TEL 207.283.0193 FAX 207.283.4283 www.oakpoint.com

3. *Is there anything historic inside the farmhouse? Has it been moved before?*

   There are items within the building that were deemed to be of importance by the City's Historic Preservation Program Manager (Evan Schueckler) such as a hearth and second floor. They are being maintained as part of the project. Kate Willis, an Architectural Historical with Kleinfelder, was hired to study the building's historical significance. Based on her research and her discussions with representatives from USM's Osher Map Library, the portion of the farmhouse being relocated was built in the early 1800's, with a small addition constructed afterwards that is being demolished. There is a high degree of confidence that the building has not been previously moved.

4. *Is it possible for someone to break the windows on the building?*

   The window glass is thicker than a typical window to limit sound transmission through them and contain fritted patterns and specific glazing to increase the privacy of the building's occupants. While it is possible for someone to break the windows, the urban location of the building and proposed site lighting are anticipated to provide an effective vandalism deterrent.

5. *Was the potential for bird strikes considered when designing/selecting the building's windows?*

   Similar to the McGoldrick Center, the City's requirements and other applicable codes will be followed. Additionally, fritted patters on the glass are being utilized.

6. *It appears that several trees are being removed. Is it possible to relocate any of them? The trees being proposed will not reach maturity for many years.*

   The University worked with Oak Point and Pfeiffer to carefully place the building to minimize the impact to as many large trees as possible and to be sensitive to preserving plantings of native herbaceous plants, including the area known as "The Food Forest."

   USM and Oak Point also consulted with the City Arborist several times to discuss strategies for minimizing damage to existing trees, such as to the existing beech tree in Noyes Park and several significant trees on the USM campus near Luther Bonney Hall. Most of trees within the work area are over 10' tall and would likely not survive if relocated. Oak Point and USM will look at the existing smaller trees to see if they can be relocated.

   In addition to landscaping around the building, several street trees are proposed along Bedford Street, and plantings are proposed on the east and west sides of the farmhouse, including a walnut tree to replace the one that will be removed when the building is relocated.

   The landscape plan for the farmhouse project includes repurposing of some of the existing granite foundation blocks as pavers, and there is a large maple tree being removed whose trunk will be salvaged for reuse inside the CFA. A similar requirement will be added for the existing walnut tree that is being removed as part of the farmhouse project.

7. *Is any work being done to upgrade Noyes Park so that is more cohesive with the CFA?*

   The park is not on the University's property, and renovations to it are outside of the scope of the project. However, Oak Point Associates is doing a "Pro Bono" project with the City of Portland to develop concept site plans for upgrades and revisions to the park to make the pedestrian pathways more compatible with the sidewalks on Deering Avenue and Falmouth Street as well as the

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CFA/USM Campus. Once these plans are developed, the City has indicated it will work with representatives from the Noyes family and the community to review the plans and determine next steps, including allocating funding for the work and developing a timeline for its construction.

8. *How is this building usable to all of the arts? Is there a possibility of adding a recording studio in the future?*

   Spaces for the arts will continue to be provided on the Gorham Campus. Additionally, the programming of the building, including the art studio (flex studio) to house the book arts program are intended to draw people into the building. Outdoor sculpture gardens and a gallery space will showcase interactive artwork.

9. *How will traffic get from the drop off on Bedford Street into the parking lot adjacent to the Law School?*

   After turning onto Deering avenue, cars can either turn left into the parking lot from Deering Avenue or utilize the roundabout to turn right into the parking lot.

10. *How will the space be used for outdoor concerts?*

    Outdoor concerts currently occur on USM's Gorham campus approximately once per year, and they will occur on the campus green once the CFA is completed. These events will be conform to the City's noise ordinance requirements, and the public is welcome to attend them. USM will continue to communicate with the neighborhood to ensure that concerns can be mitigated.

    Minimizing sound transmission was also an important design consideration, and care has been taken to limit noise that can be heard outside the building.

11. *(From representatives from Oakhurst Dairy) How do the Traffic Movement Permit and Transportation Demand Management Plan account for growth? Are the predicted parking increases realistic?*

    The answer to this question is not easy to explain at the neighborhood meeting. Instead, USM will follow up directly with Oakhurst representatives to discuss and to review how growth was incorporated into the plans.

12. *Why aren't the overhead wires on Bedford Street being put underground instead being relocated to the opposite side of the Street?*

    The locations are the result of several meetings with Central Maine Power, Spectrum and Consolidated Communications. The project will not connect to the utilities on these poles. They are being relocated to the opposite side of the street to avoid conflicts between the pull-off and sidewalk on Bedford Street and required sidewalk lighting and street trees. Putting the wires underground will involve a significant amount of disturbance to Bedford Street (which is currently under a paving moratorium), requires re-feeding several buildings on Bedford Street, and would be a considerable expense to the project. Oak Point will follow up with the City to discuss further.

The above items are true to the best of the writer's knowledge. If there are errors or omissions, please notify Jonah DeWaters at Oak Point Associates within seven (7) calendars of receipt. If no corrections or additions are made to this document by that date, they will become permanent record.

231 Main Street, Biddeford, Maine 04005 TEL 207.283.0193 FAX 207.283.4283 www.oakpoint.com

USM CFA Neighborhood Meeting Attendance List

Time/Date Thursday, February 2, 2023, 6pm
Location Abromson Hall Rm 109/111 and via Zoom

Name	Affiliation	Address	E-mail	Attendance Type
Adam Tuchinsky	Presenter - USM	Wischamper Center, Room 124E, Portland, ME	adam.tuchinsky@maine.edu	In Person
Michael Hudson	Presenter - USM	246 Deering Avenue, Portland, ME	michael.hudson@maine.edu	In Person
Aaron Witham	Presenter - USM	51 Westminster St, Lewiston, ME	aaron.z.witham@maine.edu	Virtual
Bill Murray	Presenter - Pfieffer Partners	700 South Flower Street, Suite 1150, Los Angeles, CA	bmurray@pfeifferpartners.com	Virtual
Jonah DeWaters	Presenter - Oak Point Associates	231 Main Street, Biddeford, ME	jdewaters@oakpoint.com	In Person
Christopher Brown	Presenter - Consigli Construction	15 Franklin Street, Portland, ME	CBrown@consigli.com	In Person
Jenn Conley	Presenter - Vanasse Hangen Brustlin (VHB)	40 IDX Drive, Building 100 Suite 200, South Burlington, VT	jconley@vhb.com	Virtual
Dorothy VanDine	Owner - USM	PO Box 9300, Portland, ME	dorothy.vandine@maine.edu	In Person
Katie Andrews	Owner - USM	246 Deering Avenue, Portland, ME	katie.andrews@maine.edu	In Person
Thomas Blanchard	Owner - USM	25 Bedford Street, Portland, ME	thomas.blanchard@maine.edu	Virtual
David Burrows	Owner - USM	25 Bedford Street, Portland, ME	david.m.burrows@maine.edu	Virtual
Sonya Julian Lester	Consultant - Pfieffer Partners	700 South Flower Street, Suite 1150, Los Angeles, CA	SLester@pfeifferpartners.com	In Person
Thomas Chan	Consultant - Pfieffer Partners	700 South Flower Street, Suite 1150, Los Angeles, CA	TChan@pfeifferpartners.com	In Person
Allison Dimatteo	Consultant - Oak Point Associates	231Main Street, Biddeford, ME	atowne@oakpoint.com	In Person
Tyler Barter	Consultant - Oak Point Associates	231 Main Street, Biddeford, ME	tbarter@oakpoint.com	In Person
Peter MacGovern	Consultant - Oak Point Associates	85 Middle Street Portsmouth, NH	pmacgovern@oakpoint.com	Virtual
Mary Costigan	Consultant - Burnstein Shur	100 Middle Street, West Tower, Portland, ME	mcostigan@bernsteinshur.com	Virtual
Maya Balassa	City of Porltand Planning Department	None Given	mbalassa@portlandmaine.gov	Virtual
Ian Stevenson	City of Porltand Landmarks	None Given	istevenson@portlandlandmarks.org	Virtual
Nancy Ellenberger	Neighbor/Citizen	29 Falmouth Street, Unit 3, Portland, ME	None Given	In Person
Matt Ellenberger	Neighbor/Citizen	29 Falmouth Street, Unit 3, Portland, ME	None Given	In Person
Hazel Macdonald	Neighbor/Citizen	30 Falmouth Street, Unit 1, Portland, ME	None Given	In Person
Dawn Gay	Neighbor/Citizen	42 Chamberlain Avenue, Portland, ME	None Given	In Person
Susan Brennan	Neighbor/Citizen	105 Fessenden Street, Portland, ME	None Given	In Person
Leonard Brennan	Neighbor/Citizen	106 Fessenden Street, Portland, ME	None Given	In Person
Sally Walker	Neighbor/Citizen	92 Fessenden Street, Portland, ME	None Given	In Person
Anna Woldarczyk	Neighbor/Citizen	124 Bolton Street, Portland, ME	Annawoldarczyk@hotmail.com	In Person
Mark Page	Neighbor/Citizen	364 Forest Avenue, Portland, ME	None Given	In Person
Paul Connolly	Neighbor/Citizen	364 Forest Avenue, Portland, ME	None Given	In Person
E.L. Whitman	Neighbor/Citizen	48 Pitt Street, Portland, ME	None Given	In Person
Lisa Bloss	Neighbor/Citizen	35 Washburn Avenue, Portland, ME	None Given	In Person
George Rheault	Neighbor/Citizen	28 Hanover Street, Portland, ME	None Given	In Person
Carol Schiller	Neighbor/Citizen	7 Longfellow Street , Portland, ME	schiller.carol@yahoo.com	Virtual
Elizabeth Swain	Neighbor/Citizen	22 Wilson Road, Portland, ME	elizabeth.swain@powereng.com	Virtual
Kristin G Sweeney	Neighbor/Citizen	167 Caleb St, Portland, ME	sweeneykg@gmail.com	Virtual
Kimberlee Elder	Neighbor/Citizen	30 Chamberlain, Portland, ME	Kimberlee.elder@gmail.com	Virtual
Jamie Bryant	Neighbor/Citizen	332 Palmer Ave, Portland, ME	jamie.lisa.bryant@gmail.com	Virtual
John Stevens	Neighbor/Citizen	None Given	johncstevens3@gmail.com	Virtual
Julianne Opperman	Neighbor/Citizen	25 Woodmont Street, Portland, ME	Julianne.r.opperman@gmail.com	Virtual
John Opperman	Neighbor/Citizen	25 Woodmont Street, Portland, ME	None Given	Virtual

Greater Portland Landmarks

Historic character enriches our lives

February 7, 2023

Chair Stanley and members of the Planning Board:

Founded in 1964, Greater Portland Landmarks is a non-profit advocacy organization that works toward the preservation and revitalization of greater Portland's built environment. Our goal is to save greater Portland's historic places through preservation and adaptive use while promoting creative new architecture that enhances historic neighborhoods. We appreciate the opportunity to comment on projects that impact the historic character of the city.

The University of Southern Maine's site plan for 111 Bedford Street (USM Center for the Arts) is predicated on relocating the historic Deering Farmhouse (built 1807) by about sixty feet on the university campus. We are writing to express our support for that decision. Landmarks has met with and discussed at length the proposal to move and restore the historic farmhouse. This plan will re-activate the structure as a functional space and will create opportunities for public history. We also understand the move will create the ability for this historic structure to become more integral to the campus and interface with newer buildings, such as the proposed Center for the Arts. We ask you to consider these comments as you deliberate on the scope of the proposed Center for the Arts Major Site Plan.

Thank you,

C. Ian Stevenson, PhD
Director of Advocacy

511 Congress Street, Ste. 502, Portland ME 04101 | 207.774.5561 | info@portlandlandmarks.org | portlandlandmarks.org

University of Southern Maine Center For the Arts

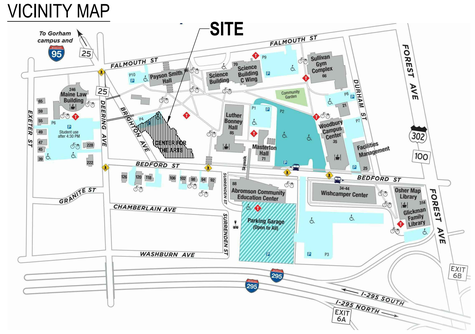
University of Southern Maine

111 Bedford Street, Portland, Maine

CBL: 114A A001001
ZONE R5 W/ USM OVERLAY

MAJOR SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT - MINOR AMENDMENT

VICINITY MAP



15 DECEMBER 2022

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AA903	RENDERED VIEWS
AA904	SOLAR STUDIES

CLIENT
UNIVERSITY OF SOUTHERN MAINE
P.O. BOX 9300
PORTLAND, MAINE 04104

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ST. PETERSBURG, FL 33701
P. 727.498.1091

STATE OF MAINE
JONAH DeWATERS
No. 12273
LICENSED
PROFESSIONAL ENGINEER
12 / 15 / 2022

pfeiffer
— A PERKINS EASTMAN STUDIO

GI100

CIVIL NOTES

GENERAL

1. INFORMATION SHOWN HEREON IS BASED ON THE FOLLOWING:
   a. "BOUNDARY AND TOPOGRAPHIC SURVEY, USM PORTLAND CAMPUS" BY OWEN HASKELL, INC, 390 US ROUTE 1, FALMOUTH, ME. DATED NOVEMBER 12, 2019..
   b. "DEERING'S CORNER ROUNDABOUT," BY RANSOM CONSULTING, INC, 400 COMMERCIAL STREET, SUITE 404, PORTLAND, ME. DATED DECEMBER 18, 2019.
   c. "BEDFORD STREET SEWER SEPARATION PROJECT" BY CITY OF PORTLAND MAINE PUBLIC WORKS DEPARTMENT WATER RESOURCES DIVISION. DATED FEBRUARY 16, 2018. LAST REVISED MARCH 7, 2018.
   d. "UNIVERSITY OF SOUTHERN MAINE PORTLAND CAMPUS UTILITIES MASTER PLAN" BY HARRIMAN ASSOCIATES, 123 MIDDLE STREET, PORTLAND, ME. DATED APRIL 28, 2011
   e. SITE RECONNAISSANCE AND TOPOGRAPHIC SURVEY PERFORMED BY OAK POINT ASSOCIATES IN SPRING/SUMMER, 2022.
   f. SUBSURFACE UTILITY LOCATION SERVICES PROVIDED BY BLOODHOUND UTILITY LOCATION IN SUMMER 2022.
   g. INFORMATION PROVIDED BY THE PORTLAND WATER DISTRICT WINTER, 2019.

3. PROPERTY LINES SHOWN ARE BASED ON PLAN REFERENCE 3a ABOVE.

4. ELEVATIONS SHOWN HEREON ARE BASED ON THE CITY OF PORTLAND DATUM. THE PROJECT BENCHMARKS ARE AS FOLLOWS (SEE ALSO 1/C-001):
   a. TBM1 IS A 3' OFFSET BRASS MONUMENT AT THE INTERSECTION OF DEERING AVENUE AND FALMOUTH STREET. BENCHMARK ELEVATION: 54.10'
   b. TBM2 IS A BONNET BOLT ON FIRE HYDRANT ON THE NORTH SIDE OF FALMOUTH STREET ACROSS FROM PAYSON SMITH HALL. BENCHMARK ELEVATION: 55.14'
   c. TBM3 IS A BONNET BOLT ON FIRE HYDRANT ON THE SOUTHEAST CORNER OF THE INTERSECTION OF BEDFORD STREET AND SURRENDEN STREET. BENCHMARK ELEVATION: 47.66'

5. BEARINGS, COORDINATES AND NORTH ROTATION ARE BASED ON GRID NORTH, NAD83 (1983 WEST ZONE). PROVIDED TO OWEN HASKELL INC BY THE CITY OF PORTLAND AS PART OF THE BOUNDARY AND TOPOGRAPHIC SURVEY LISTED AS PLAN REFERENCE 1a, ABOVE.

6. THIS PROJECT IS SUBJECT TO THE FOLLOWING PERMITS, WHICH MUST BE OBTAINED BY THE OWNER/ARCHITECT PRIOR TO THE START OF CONSTRUCTION. KNOWN CONDITIONS OF THE PERMITS HAVE BEEN INCLUDED IN THE CONTRACT DRAWINGS AND SPECIFICATIONS. ABIDE BY CONDITIONS OF THESE PERMITS:
   a. CITY OF PORTLAND MAJOR SITE PLAN APPROVAL.
   b. MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION SITE LOCATION OF DEVELOPMENT ACT, MINOR AMENDMENT.
   c. MAINE CONSTRUCTION GENERAL PERMIT.

7. OBTAIN ADDITIONAL PERMITS NECESSARY FOR CONSTRUCTION. THESE PERMITS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
   a. CITY OF PORTLAND BUILDING PERMIT.
   b. CITY OF PORTLAND STREET OPENING PERMIT.

9. REVIEW MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION SITE LOCATION OF DEVELOPMENT APPROVAL AND CONDITIONS (PROVIDED IN THE PROJECT SPECIFICATIONS). PRIOR TO COMMENCING ANY SITEWORK, PROVIDE A SIGNED COPY OF THE CERTIFICATION FORM INCLUDED IN THE PROJECT SPECIFICATIONS TO THE ARCHITECT FOR FILING WITH THE CITY OF PORTLAND AND MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

10. PERFORM WORK WITHIN PUBLIC RIGHT OF WAYS (FALMOUTH STREET AND BEDFORD STREET) IN ACCORDANCE WITH CITY OF PORTLAND'S WRITTEN REQUIREMENTS.

11. REPAIR OR REPLACE DAMAGE RESULTING FROM CONTRACTOR OPERATIONS, AS APPROVED BY THE OWNER, AT NO ADDITIONAL COST TO THE OWNER.

12. DO NOT PLACE, PUT OR DUMP CONSTRUCTION MATERIALS OR DEMOLITION DEBRIS IN AREAS THAT COULD DRAIN INTO THE MUNICIPAL STORM DRAIN SYSTEM.

UTILITY NOTES

1. EXISTING UNDERGROUND UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ONLY AND ARE BASED ON FIELD RECONNAISSANCE, PLAN REFERENCES AND PRIVATE SUBSURFACE UTILITY LOCATIONS PERFORMED IN FALL 2019 AND SPRING 2022. PRIOR TO COMMENCING EXCAVATION OPERATIONS ON THE SITE, DETERMINE THE EXACT LOCATION OF UNDERGROUND UTILITIES IN THE WORK UTILIZING A PRIVATE UTILITY LOCATING SERVICE, CONTACT "OK TO DIG" AT 1-866-658-6344, CONTACT "DIG SAFE" AT 811 TO OBTAIN A "DIGSAFE" PERMIT. REPORT DISCREPANCIES BETWEEN THE PLANS AND THE EXACT UTILITY LOCATIONS TO THE OWNER PRIOR TO DISTURBING AREAS SURROUNDING THE UNDERGROUND UTILITIES.

2. UTILITIES IN THE PROJECT MUST REMAIN LIVE AT ALL TIMES DURING CONSTRUCTION UNLESS SHUTDOWNS ARE COORDINATED WITH AND APPROVED IN WRITING BY THE UNIVERSITY OF SOUTHERN MAINE.

3. NOTIFY ARCHITECT AND UNIVERSITY OF SOUTHERN MAINE FACILITIES DEPARTMENT AT LEAST FIVE (5) BUSINESS DAYS PRIOR TO COMMENCING EXCAVATION AND HOLD A PRE-EXCAVATION CONFERENCE TO REVIEW REQUIREMENTS FOR UTILITY SERVICE INTERRUPTIONS AND PROCEDURE FOR REPAIRING ACCIDENTAL DAMAGE TO EXISTING UTILITIES.

4. PERFORM SANITARY SEWER WORK IN ACCORDANCE WITH CITY OF PORTLAND'S WRITTEN REQUIREMENTS. NOTIFY CITY OF PORTLAND DEPARTMENT OF PUBLIC SERVICES ONCE FINAL CONNECTIONS HAVE BEEN MADE, THE LINE HAS BEEN BACKFILLED, AND INSPECT THE LINES WITH A CAMERA IN THE PRESENCE OF A REPRESENTATIVE FROM THE CITY OF PORTLAND TO CONFIRM COMPLIANCE WITH CITY OF PORTLAND STANDARDS AND SPECIFICATIONS. REPORT DEFICIENCIES TO THE ARCHITECT AND THE CITY OF PORTLAND.

5. PERFORM GAS SERVICE WORK IN ACCORDANCE WITH UNITIL REQUIREMENTS. OBTAIN APPROVAL FROM UNITIL PRIOR TO CONSTRUCTION.

6. PERFORM WATER SERVICE WORK IN ACCORDANCE WITH PORTLAND WATER DISTRICT REQUIREMENTS.

7. COORDINATE TIMING OF WORK ON BEDFORD STREET RIGHT-OF-WAY WITH OVERHEAD UTILITY WORK BEING CONDUCTED BY CENTRAL MAINE POWER, SPECTRUM AND CONSOLIDATED COMMUNCAITONS.

PHASING, CONSTRUCTION ACCESS AND CONSTRUCTION MANAGEMENT NOTES

1. MINIMIZE DISRUPTIONS TO EXISTING PARKING AND VEHICULAR AND PEDESTRIAN CIRCULATION. OBTAIN WRITTEN PERMISSION FROM THE UNIVERSITY OF SOUTHERN MAINE PRIOR TO BLOCKING PARKING AREAS OR SHUTTING DOWN SIDEWALKS.

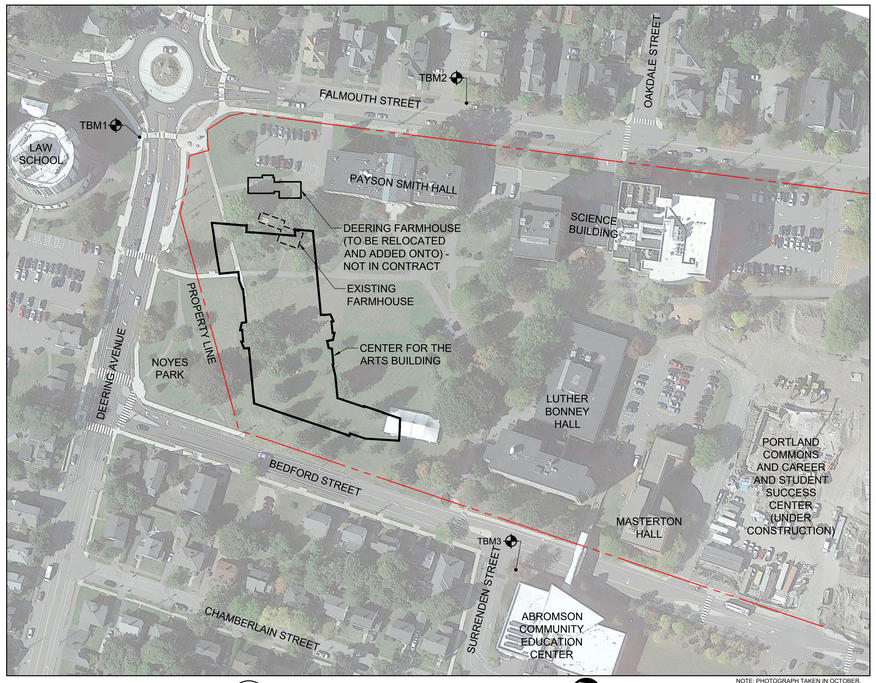
NOTIFICATION REQUIREMENTS

1. IN ADDITION TO THE NOTIFICATION REQUIREMENTS IN THE PROJECT SPECIFICATIONS, PROVIDE THE FOLLOWING NOTIFICATIONS. DO NOT PROCEED WITHOUT ACKNOWLEDGMENT THAT THE NOTIFICATION HAS BEEN RECEIVED AND AUTHORIZATION TO PROCEED HAS BEEN GRANTED AND DOCUMENTED IN WRITING:
   a. NOTIFY USM AT LEAST FIVE BUSINESS DAYS PRIOR TO MAKING CONNECTIONS TO ON CAMPUS ELECTRICAL OR COMMUNICATIONS INFRASTRUCTURE.
   b. INSPECTION OF WATER MAINS AND TEMPORARY WATER SERVICE (IF REQUIRED): PROVIDE WRITTEN NOTIFICATION TO PORTLAND WATER DISTRICT, OWNER, AND ARCHITECT AT LEAST 5 BUSINESS DAYS IN ADVANCE OF BEGINNING WORK ASSOCIATED WITH TEMPORARY OR PERMANENT WATER MAINS OR APPURTENANCES.
   c. INSTALLATION OF SEWER AND STORM DRAIN LINES: NOTIFY CITY OF PORTLAND DEPARTMENT OF PUBLIC SERVICES ONCE FINAL CONNECTIONS HAVE BEEN MADE, THE LINE HAS BEEN BACKFILLED, AND ACCESS IS AVAILABLE TO ALLOW FOR CAMERA INSPECTION OF THE LINES TO CONFIRM COMPLIANCE WITH CITY OF PORTLAND STANDARDS AND SPECIFICATIONS.
   d. INSTALLATION OF GAS MAINS: NOTIFY UNITIL AT LEAST 21 BUSINESS DAYS IN ADVANCE OF REQUIRING GAS MAIN INSTALLATION TO COORDINATE TRENCH EXCAVATION. INSTALLATION OF PIPES AND CONNECTIONS ARE BY UNITIL. BACKFILL TRENCH ONCE UNITIL HAS INSTALLED AND TESTED PIPING AND CONNECTIONS AS REQUIRED.
   e. PLANTING SOIL INSTALLATION: PROVIDE WRITTEN NOTICE TO OWNER AND ARCHITECT AT LEAST 14 BUSINESS DAYS PRIOR TO INSTALLATION OF PLANTING SOIL.

SOIL AND SOIL EXPLORATION NOTES

1. PREPARE AND SUBMIT A DEWATERING PLAN TO THE ARCHITECT AND OWNER PRIOR TO BEGINNING EXCAVATION. SHOULD GROUNDWATER BE ENCOUNTERED DURING EXCAVATION, PERFORM DEWATERING ACTIVITIES IN ACCORDANCE WITH THE APPROVED DEWATERING PLAN AND THE WRITTEN REQUIREMENTS OF BOTH THE MAINE DEP AND THE CITY OF PORTLAND. SEE SHEET C-501 FOR ADDITIONAL CONSTRUCTION DEWATERING REQUIREMENTS.

2. REFER TO THE FOUNDATION PREP AND DRAIN DETAIL FOR ADDITIONAL EXCAVATION AND BACKFILL REQUIREMENTS ASSOCIATED WITH BUILDING FOOTINGS AND FOUNDATIONS



1 C-001 OVERALL EXISTING CONDITIONS PLAN
SCALE: 1"=80'

N GRID NORTH

NOTE: PHOTOGRAPH TAKEN IN OCTOBER, 2021 AND OBTAINED FROM GOOGLE EARTH.

LEGEND

- 147.37'E / 145.55'F — EXISTING GRADE SPOT ELEVATION
- FINISHED GRADE SPOT ELEVATION
- 1 — EXISTING KEYNOTE
- A — REMOVAL KEYNOTE
- 1 — KEYNOTE
- 2 CAP — PLANT KEYNOTE
- 1 — LAYOUT POINT
- 124 — EXISTING CONTOUR LINE
- 124 — FINISH GRADE LINE
- EXISTING PROPERTY LINE
- EXISTING BUILDING LINE
- BUILDING LINE
- EXISTING EDGE OF ASPHALT CONCRETE PAVEMENT
- EDGE OF ASPHALT CONCRETE PAVEMENT
- EXISTING UTILITIES ABANDONED IN-PLACE (CUT AND CAP)
- REMOVALS (DRAWINGS CD101 ONLY)
- SAWCUT
- DRAINAGE FLOW ARROW
- FENCE
- EXISTING UTILITY POLE
- EXISTING DECIDUOUS TREE
- UTILITY POLE
- EXISTING CONIFEROUS TREE
- EXISTING CATCH BASIN
- EXISTING SHRUB
- CATCH BASIN
- SHRUB
- EXISTING STEAM MANHOLE
- EXISTING SEWER MANHOLE
- GROUNDCOVERS / PERENNIALS
- SEWER MANHOLE
- EXISTING WATER SHUT-OFF VALVE
- DECIDUOUS TREE
- WATER SHUT-OFF VALVE
- EOU — EXISTING OVERHEAD UTILITY LINE
- TRAFFIC SIGN (TEXT GIVEN AT SIGN LOCATION)
- EOE — EXISTING OVERHEAD ELECTRIC LINE
- UTILITY POINT OF CONNECTION
- EOU — EXISTING OVERHEAD UTILITY LINE
- B-1 — SOIL TEST BORING LOCATION
- EUE(2-2") — EXISTING UNDERGROUND ELECTRIC LINE (SIZE AND NUMBER AS NOTED, IF KNOWN)
- EUC — EXISTING UNDERGROUND COMMUNICATIONS LINE (SIZE AND NUMBER AS NOTED, IF KNOWN)
- EUE/C — EXISTING UNDERGROUND ELECTRIC/COMMUNICATIONS LINE (SIZE AND NUMBER AS NOTED, IF KNOWN)
- ESS(4") — EXISTING SANITARY SEWER LINE (SIZE AS NOTED)
- ESD(12") — EXISTING STORM DRAIN LINE (SIZE AS NOTED)
- EUG(6") — EXISTING NATURAL GAS LINE (SIZE AS NOTED)
- EW(6") — EXISTING WATER LINE (SIZE AS NOTED)
- ESTM — EXISTING STEAM AND CONDENSATE LINES (SIZE AS NOTED IF KNOWN)
- UE(2-4") — UNDERGROUND ELECTRIC LINES (SIZE AND NUMBER AS NOTED)
- UC(2-4") — UNDERGROUND COMMUNICATIONS LINES (SIZE AND NUMBER AS NOTED)
- SS(4") — SANITARY SEWER LINE (SIZE AS NOTED)
- SD(12") — STORM DRAIN LINE WITH FLOW DIRECTION ARROW
- UG — NATURAL GAS LINE (SIZE AS NOTED)
- W(6") — WATER LINE (SIZE AS NOTED)
- FD(4") — FOUNDATION DRAIN LINE
- SC — SEDIMENT CONTROL WATTLE OR SILT FENCE

ABBREVIATIONS

%	PERCENT	DMH	DRAIN MANHOLE	LT	LEFT	PVC	POLYVINYL CHLORIDE	T	TRANSFORMER
#	NUMBER	E	EAST	MAG	MAGNETIC	PWD	PORTLAND WATER DISTRICT	TBM	TEMPORARY BENCH MARK
±	PLUS OR MINUS	EA	EACH	MAX	MAXIMUM	R	RADIUS	TEMP	TEMPORARY
℄	CENTERLINE	ELEV	ELEVATION	MDOT	MAINE DEPARTMENT OF TRANSPORTATION	REINF	REINFORCED, REINFORCING	TP	TEST PIT
ABAN	ABANDONED	EP	EDGE OF PAVEMENT	MTL	METAL	RGS	RIGID GALVANIZED STEEL	TYP	TYPICAL
ADA	AMERICAN'S WITH DISABILITIES ACT	EQ	EQUAL	MIL	1/1000"	ROW	RIGHT-OF-WAY	USM	UNIVERSITY OF SOUTHERN MAINE
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS	EW	EACH WAY	MIN	MINIMUM	RSF	REINFORCED SILT FENCE	W/	WIDTH, WATER, WEST,WITH
		EXIST	EXISTING	MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES	RT	RIGHT	WWF	WELDED WIRE FABRIC
CF	CONSTRUCTION FENCE	FG	FINISHED GRADE			S	SOUTH		
CJ	CONTROL JOINT	FFE	FINISH FLOOR ELEVATION	N	NORTH	SD	STORM DRAIN		
CLR	CLEAR	FT	FEET, FOOT	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	SF	SILT FENCE		
CMP	CENTRAL MAINE POWER	Fy	YIELD STRENGTH			SIM	SIMILAR		
CO	CLEAN OUT	GAL	GALLON	NO	NUMBER	SMH	SEWER MANHOLE		
CONC	CONCRETE	GALV	GALVANIZED	OC	ON CENTER	SQ	SQUARE		
CONT	CONTINUOUS	HC	HANDICAP	OD	OUTSIDE DIAMETER	SF,SQ FT	SQUARE FEET		
DEP	DEPARTMENT OF ENVIRONMENTAL PROTECTION	IN	INCH(ES)	OZ	OUNCES	STA	STATION		
		INV	INVERT	PE	POLYETHYLENE	SS	SANITARY SEWER, STAINLESS STEEL		
DIA	DIAMETER	L	LENGTH	PSI	POUNDS PER SQUARE INCH				
		LBS	POUNDS	PSIG	POUNDS PER SQUARE INCH GAUGE				

GRAPHIC SCALE

1"=80' — 80' 40' 0 80' 160'

CHECK GRAPHIC SCALE BEFORE USING

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SEAL:
STATE OF MAINE — JONAH DeWATERS — No. 12773 — LICENSED PROFESSIONAL ENGINEER — 12/15/2022

FOR PERMITTING PURPOSES ONLY
NOT FOR CONSTRUCTION

ISSUE NAME:

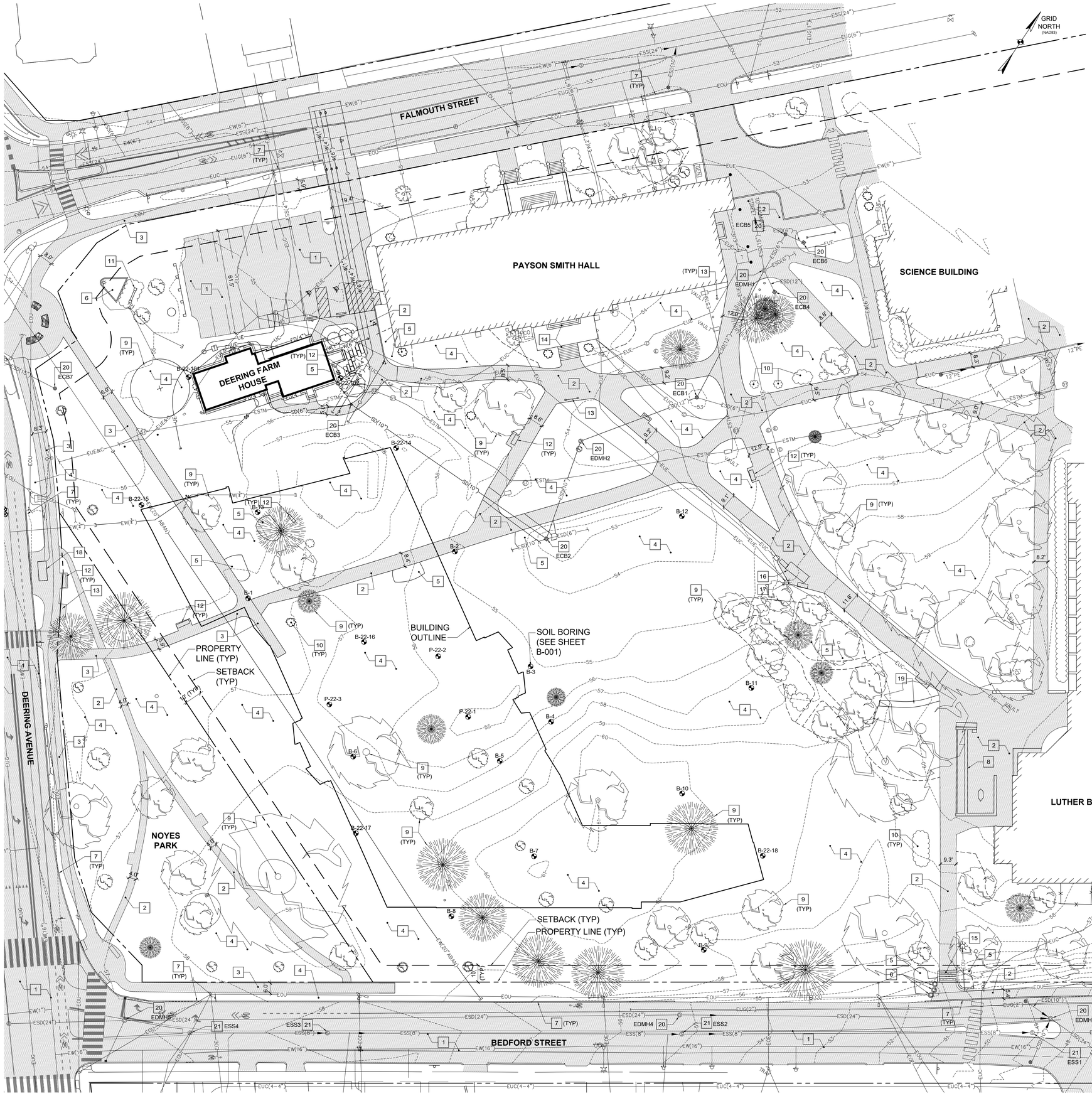
NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

CIVIL NOTES, LEGEND AND ABBREVIATIONS

SCALE: As indicated

C-001

PFEIFFER PARTNERS PROJECT NUMBER - 6170.00



1 CS101 EXISTING CONDITIONS PLAN
SCALE: 1"=20'

KEYNOTES: (THIS SHEET ONLY)

1. EXISTING ASPHALT CONCRETE PAVEMENT.
2. EXISTING ASPHALT CONCRETE SIDEWALK.
3. EXISTING REINFORCED CONCRETE SIDEWALK.
4. EXISTING TURF.
5. EXISTING MULCH AREA.
6. EXISTING PLANTER.
7. EXISTING CURB.
8. EXISTING RETAINING WALL.
9. EXISTING TREE.
10. EXISTING SHRUB/BUSH.
11. EXISTING ILLUMINATED SIGN.
12. EXISTING BENCH.
13. EXISTING BICYCLE RACK.
14. EXISTING GRANITE STEPS.
15. EXISTING CONCRETE STEPS.
16. EXISTING SIGN/KIOSK.
17. EXISTING EMERGENCY CALL BOX.
18. EXISTING METRO BUS STOP.
19. EXISTING RIPRAP DRAINAGE SWALE.
20. EXISTING DRAINAGE STRUCTURE. SEE STRUCTURE SCHEDULE, THIS SHEET
21. EXISTING SANITARY SEWER STRUCTURE. SEE STRUCTURE SCHEDULE, THIS SHEET

EXISTING STRUCTURE SCHEDULE

STRUCTURE	RIM ELEVATION	INVERT IN (SIZE)	INVERT OUT (SIZE)	REMARKS
ECB1	52.72	47.37 (6")	47.05± (12")	FROM NORTH
-	-	47.13 (12")	-	FROM EDMH2
ECB2	52.26	47.11 (10")	46.76 (10")	FROM ECB3
-	-	46.96 (6")	-	FROM NORTH
-	-	46.71 (10")	-	FROM SOUTH
ECB3	56.10	47.91 (4")	47.81' (10")	FARMHOUSE FOUNDATION DRAIN
-	-	47.91 (6")	-	FARMHOUSE ROOF DRAIN
ECB4	53.47	-	48.87 (12")	
ECB5	53.46	51.36 (6")	50.66 (6")	FROM ECB6
ECB6	53.37	-	51.52 (6")	
ECB7	54.28	-	49.79± (15")	
EDMH1	53.97	50.32 (6")	45.77 (15")	FROM ECB5
-	-	48.12 (12")	-	FROM ECB4
-	-	47.37 (6")	-	FROM NORTH
-	-	45.74 (12")	-	FROM ECB1
EDMH2	53.54	46.29 (10")	48.08± (12")	FROM ECB2
EDMH3	48.57	44.52 (10")	41.77 (24")	FROM CURB INLET - NORTH
-	-	44.47 (10")	-	FROM CURB INLET - SOUTH
-	-	42.57 (24")	-	FROM EDMH4
EDMH4	55.11	45.61 (24")	45.51 (24")	FROM EDMH5
EDMH5	56.63±	52.27 (12")	47.01 (24")	FROM CURB INLET - NORTH
-	-	51.49 (12")	-	FROM CURB INLET - SOUTH
-	-	47.01 (24")	-	FROM DEERING AVENUE
ESS1	49.17	40.77 (8")	40.67 (8")	FROM ESS2, CL INV 40.72
ESS2	55.15	47.08 (8")	46.98 (8")	FROM ESS3, CL INV 47.03
ESS3	58.15	52.07 (8")	51.97 (8")	FROM ESS4, CL INV 52.02
ESS4	57.29	52.79± (8")	52.69 (8")	FROM DEERING AVENUE
-	-	-	UNKNOWN	FROM RESIDENCE TO SOUTH

NOTES:
1. REFER TO DRAWING B-001 FOR SOIL BORING INFORMATION.

GRAPHIC SCALE
1"=20' 20' 10' 0 20' 40'
CHECK GRAPHIC SCALE BEFORE USING

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STATE OF MAINE — JONAH DeWATERS — 12273 — LICENSED PROFESSIONAL ENGINEER — 12/15/22
FOR PERMITTING PURPOSES ONLY
NOT FOR CONSTRUCTION

ISSUE NAME:

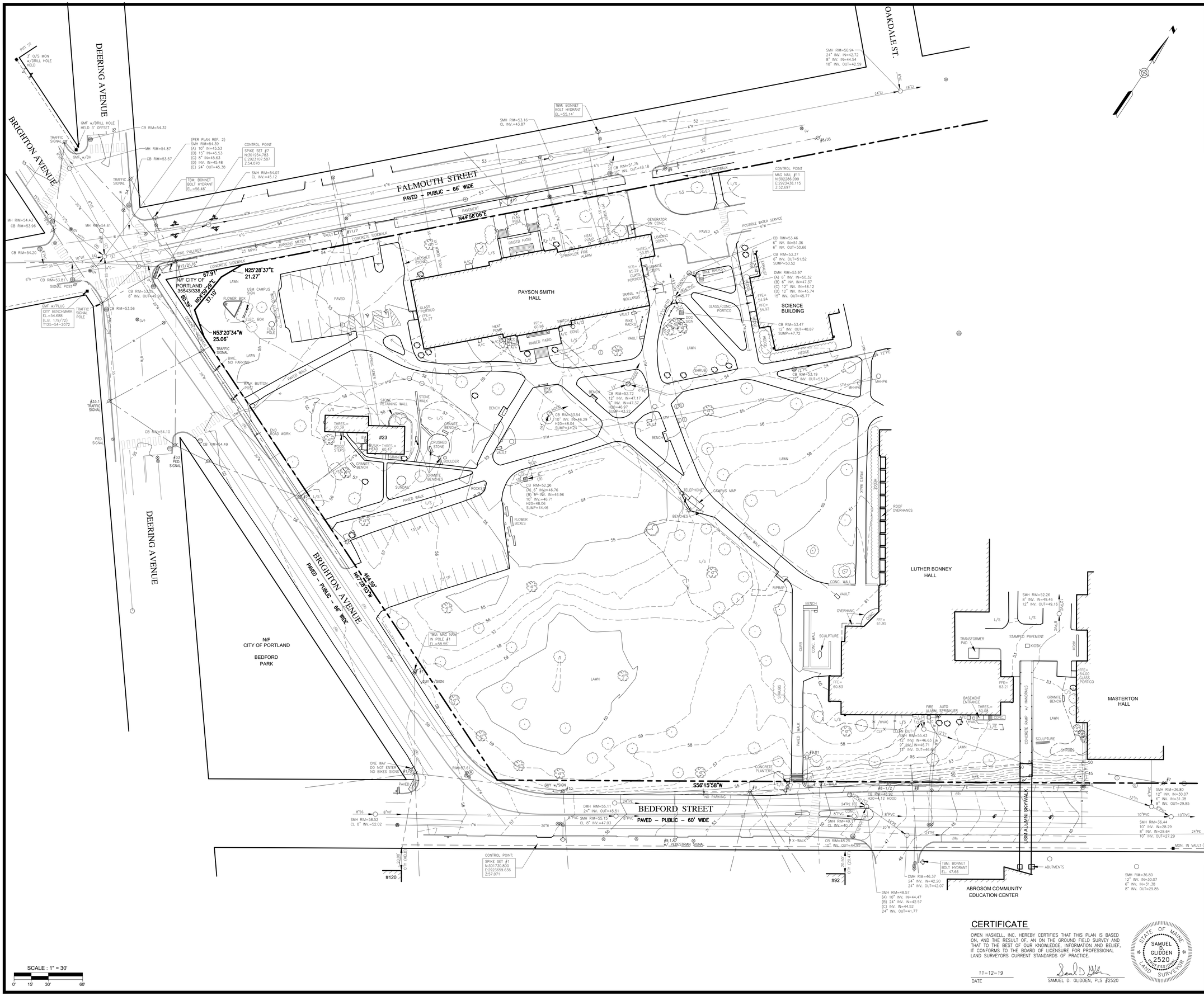
NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

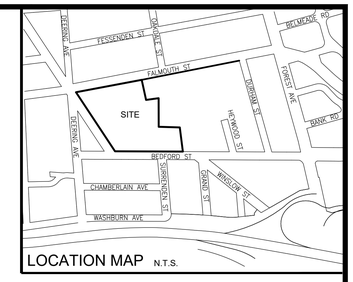
EXISTING CONDITIONS PLAN

SCALE: As indicated

CX101

PFEIFFER PARTNERS PROJECT NUMBER: 6170.00





LEGEND

- IRON PIPE OR ROD FOUND
- MONUMENT FOUND
- UTILITY POLE
- MANHOLE
- EM/GM ELECTRIC/GAS METER
- SIGN
- CATCH BASIN
- HYDRANT
- WATER VALVE OR SHUTOFF
- GV GAS VALVE
- LIGHT POLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- SHRUB / BUSH
- FENCE
- CURB
- OVERHEAD WIRES
- E UNDERGROUND POWER
- C COMMUNICATION
- W WATER LINE
- G GAS LINE
- T TELEPHONE
- SD STORM DRAIN
- SS SANITARY SEWER
- STM STEAM/CONDENSATION LINES
- 50 1' CONTOUR
- IPF/IRF IRON PIPE OR ROD FOUND
- L/S LANDSCAPED AREA
- CONC. CONCRETE
- FFE FINISHED FLOOR ELEVATION
- THRES. THRESHOLD
- N/F NOW OR FORMERLY
- 000/000 DEED BOOK / PAGE

PLAN REFERENCES

1. "BOUNDARY & TOPOGRAPHIC PLAN ON BEDFORD STREET, USM CAMPUS, PORTLAND, MAINE MADE FOR WOODARD & CURRAN, INC." SEPTEMBER 08, 2005 REV. 5 11-02-06 BY OWEN HASKELL, INC. JOB# 05-211.

2. "BRIGHTON-DEERING-FALMOUTH & BEDFORD-DEERING ROUNDABOUTS PRELIMINARY DESIGN PLANS, PREPARED FOR THE CITY OF PORTLAND" BY RANSOM CONSULTING, INC. DATED 2017-07-12 AND REVISED THROUGH 5-10-19. PROJECT NUMBER 141.06013

GENERAL NOTES

1. OWNER OF RECORD: UNIVERSITY OF MAINE SYSTEM
   P/O TAX MAP 114 BLOCK A LOT 1
   C.C.R.D. BOOK 2370 PAGE 135

2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD 83 PER COORDINATE DATA PROVIDED BY THE CITY OF PORTLAND DEPARTMENT OF PUBLIC WORKS.

3. ELEVATIONS ARE BASED ON CITY OF PORTLAND DATUM, NGVD 29. BENCHMARK UTILIZED IS A COPPER BOLT IN 3 FOOT OFFSET MONUMENT LOCATED AT THE SOUTHWEST CORNER OF THE BRIGHTON AVENUE AND FALMOUTH STREET INTERSECTION, SHOWN HEREON.

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 SURVEY HAS NOT PHYSICALLY LOCATION THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

11-12-19
DATE

SAMUEL D. GLIDDEN, PLS #2520

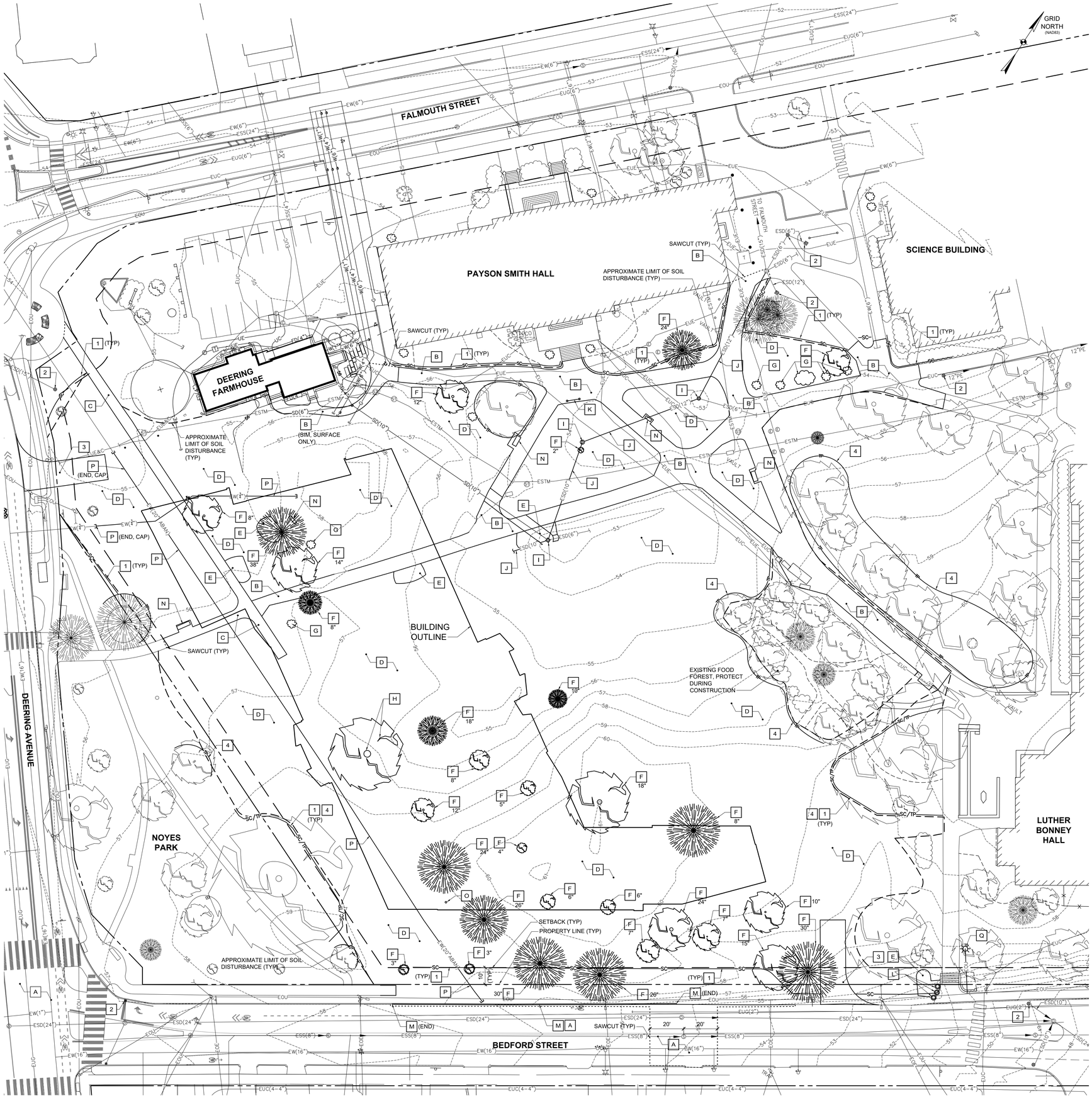
STATE OF MAINE SAMUEL D GLIDDEN 2520 PROFESSIONAL LAND SURVEYOR

Boundary and Topograpic Survey

USM Portland Campus
96 Falmouth Street, Portland, Maine
Made for
Oak Point Associates
231 Main Street, Biddeford, 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: NOV. 12, 2019	JOB NO. 2019-244 P	
CHECKED BY: SDG	SCALE: 1" = 30'	DRWG. NO. 1	



A REMOVALS PLAN
CD101 SCALE: 1"=20'

KEYNOTES: (THIS SHEET ONLY)

- A SAWCUT AND REMOVE EXISTING ASPHALT CONCRETE PAVEMENT, ±4" THICK.
- B SAWCUT AND REMOVE EXISTING ASPHALT CONCRETE SIDEWALK, ±2" THICK.
- C SAWCUT AND REMOVE EXISTING REINFORCED CONCRETE SIDEWALK, ±4" THICK.
- D STRIP AND STOCKPILE EXISTING TURF. COORDINATE SOIL STOCKPILE LOCATION WITH OWNER.
- E STRIP EXISTING MULCH, ±4" THICK AND REMOVE SHRUB PLANTINGS.
- F REMOVE EXISTING TREE AND GRUB OUT STUMP. TRUNK DIAMETER AS INDICATED.
- G REMOVE EXISTING SHRUB/BUSH AND GRUB OUT STUMP.
- H REMOVE EXISTING 48" DIAMETER MAPLE TREE AND GRUB OUT STUMP. SALVAGE TRUNK AND DELIVER TO OWNER.
- I REMOVE EXISTING BRICK CATCH BASIN AND FRAME/COVER.
- J REMOVE EXISTING STORM DRAIN LINE.
- K REMOVE EXISTING METAL BICYCLE RACK AND CONCRETE FOOTINGS.
- L REMOVE EXISTING PRECAST CONCRETE PLANTER.
- M REMOVE EXISTING GRANITE CURB.
- N RELOCATE EXISTING BENCH TO OTHER LOCATION ON CAMPUS. COORDINATE FINAL LOCATION WITH OWNER.
- O REMOVE EXISTING ±4" DIAMETER METAL POLE (FORMER SIGN POST).
- P REMOVE PORTION OF EXISTING ABANDONED WATER MAIN. CAP ENDS TO REMAIN.
- Q REMOVE EXISTING LIGHT POLE, FIXTURE, AND OVERHEAD WIRING.
- 1 SILT FENCE OR SEDIMENT CONTROL FILTER SOCK. SEE DETAILS 1/C-501 AND 2/C-501
- 2 CATCH BASIN INLET PROTECTION. SEE DETAIL 3/C-501
- 3 STABILIZED CONSTRUCTION ENTRANCE/EXIT. SEE DETAIL 4/C-501
- 4 TREE PROTECTION FENCE. SEE DETAIL 6/L-501

GRAPHIC SCALE
1"=20' 20' 10' 0 20' 40'
CHECK GRAPHIC SCALE BEFORE USING

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SEAL:
STATE OF MAINE — JONAH DeWATERS — 13273 — LICENSED PROFESSIONAL ENGINEER — 12/12/22
FOR PERMITTING PURPOSES ONLY
NOT FOR CONSTRUCTION

ISSUE NAME:

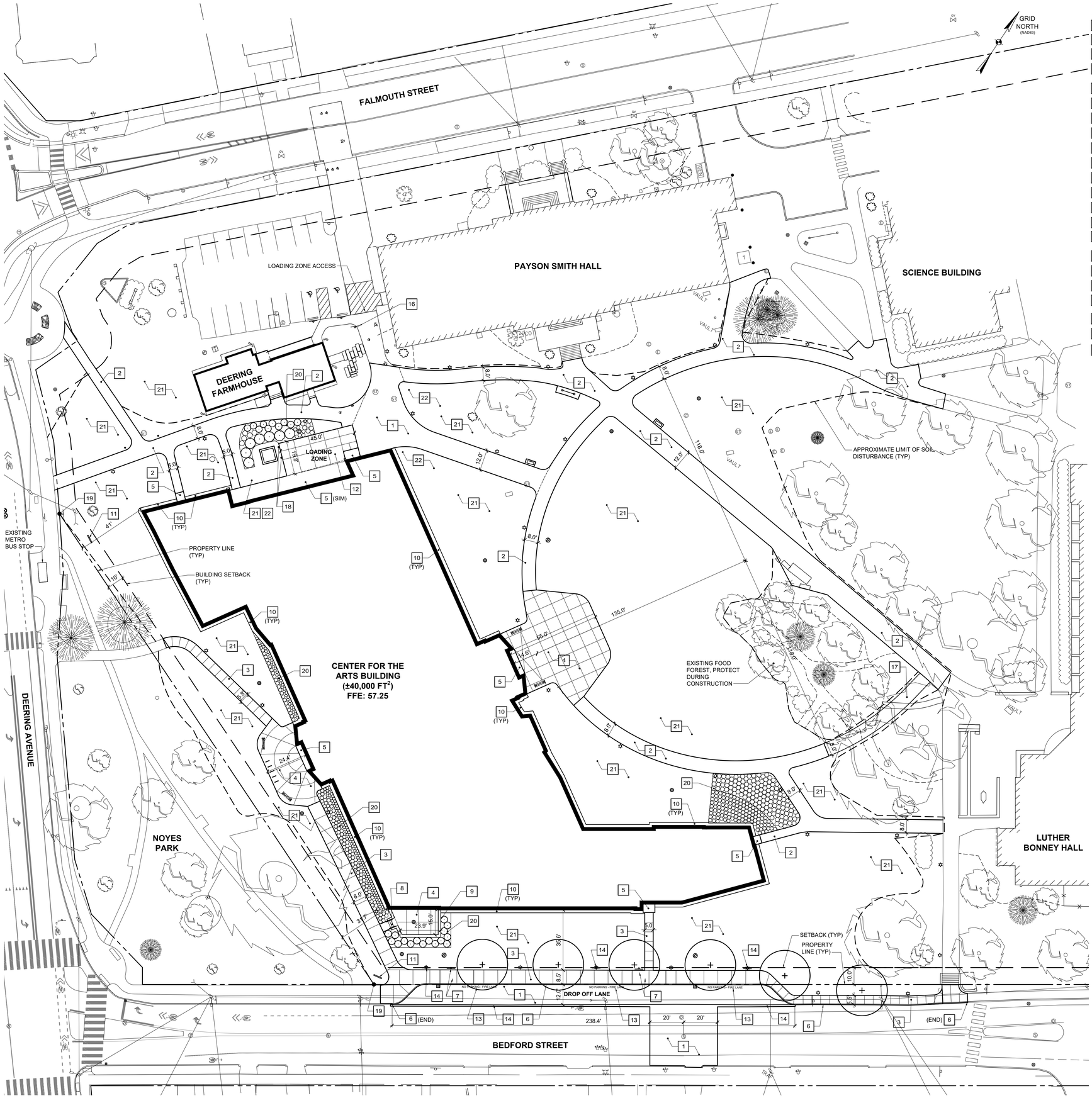
NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

REMOVALS PLAN

SCALE: As indicated

CD101

PFEIFFER PARTNERS PROJECT NUMBER: 6170.00



1 CS101 SITE PLAN
SCALE: 1"=20'

KEYNOTES: (THIS SHEET ONLY)

1. ASPHALT CONCRETE PAVEMENT. SEE DETAIL 1/C-502
2. ASPHALT CONCRETE SIDEWALK. SEE DETAIL 3/C-502
3. REINFORCED CONCRETE SIDEWALK. SEE DETAIL 4/C-502
4. INTEGRALLY-COLORED, SANDBLASTED, DECORATIVE CONCRETE WITH SAW-CUT CONTROL JOINTS. SEE DETAIL 4/C-502
5. REINFORCED CONCRETE STOOP. REFER TO FOUNDATION PLANS.
6. GRANITE CURB. SEE DETAIL 6/C-502
7. ACCESSIBLE LOADING ZONE. SEE DETAIL 7/C-502
8. CONCRETE STAIRS AND DECORATIVE STAINLESS STEEL RAILING.
9. CAST-IN-PLACE CONCRETE SEAT WALL WITH CAST STONE COPING.
10. CRUSHED STONE MOW STRIP. SEE DETAIL 7/L-501
11. INTERNALLY ILLUMINATED BUILDING SIGN.
12. REINFORCED CONCRETE PAVEMENT. SEE DETAIL 2/C-502
13. PAVEMENT MARKING: "NO PARKING - FIRE LANE" MARKING, YELLOW WITH 24" TALL LETTERS.
14. PAVEMENT MARKING: 4" WIDE, WHITE
15. "NO PARKING, FIRE LANE" SIGN MOUNTED TO LIGHTPOLE. MOUNT SO THAT BOTTOM IS 5' ABOVE GRADE AT BACK OF SIDEWALK. SEE DETAIL 8/C-502
16. "AUTHORIZED VEHICLES ONLY" SIGN. SEE DETAIL 8/C-502
17. WOODEN BOARDWALK WITH ADA-COMPLIANT RAMPS ON EACH END.
18. BOLLARD. SEE DETAIL 9/C-502
19. ENGAGE A PROFESSIONAL LAND SURVEYOR TO SET GRANITE PROPERTY MARKERS AT EACH END OF THE USM/NOYES PARK PROPERTY LINE.
20. PLANTING BED (SHRUB/PERENNIAL/GROUNDCOVER).
21. 6" PLANTING SOIL AND TURFGRASS (SOD) ALL DISTURBED AREAS UNLESS INDICATED OTHERWISE.
22. POSSIBLE SNOW STORAGE AREA.

NOTES:
1. REFER TO DRAWING LS101 FOR PLANTINGS AND SITE FURNISHING INFORMATION.
2. REFER TO DRAWING CU101 FOR EXTERIOR LIGHTING.

GRAPHIC SCALE
20' 10' 0 20' 40'
1"=20'
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SEAL:
STATE OF MAINE — JONAH DeWATERS — No. 12273 — LICENSED PROFESSIONAL ENGINEER — 10/21/2022
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NOT FOR CONSTRUCTION

ISSUE NAME:

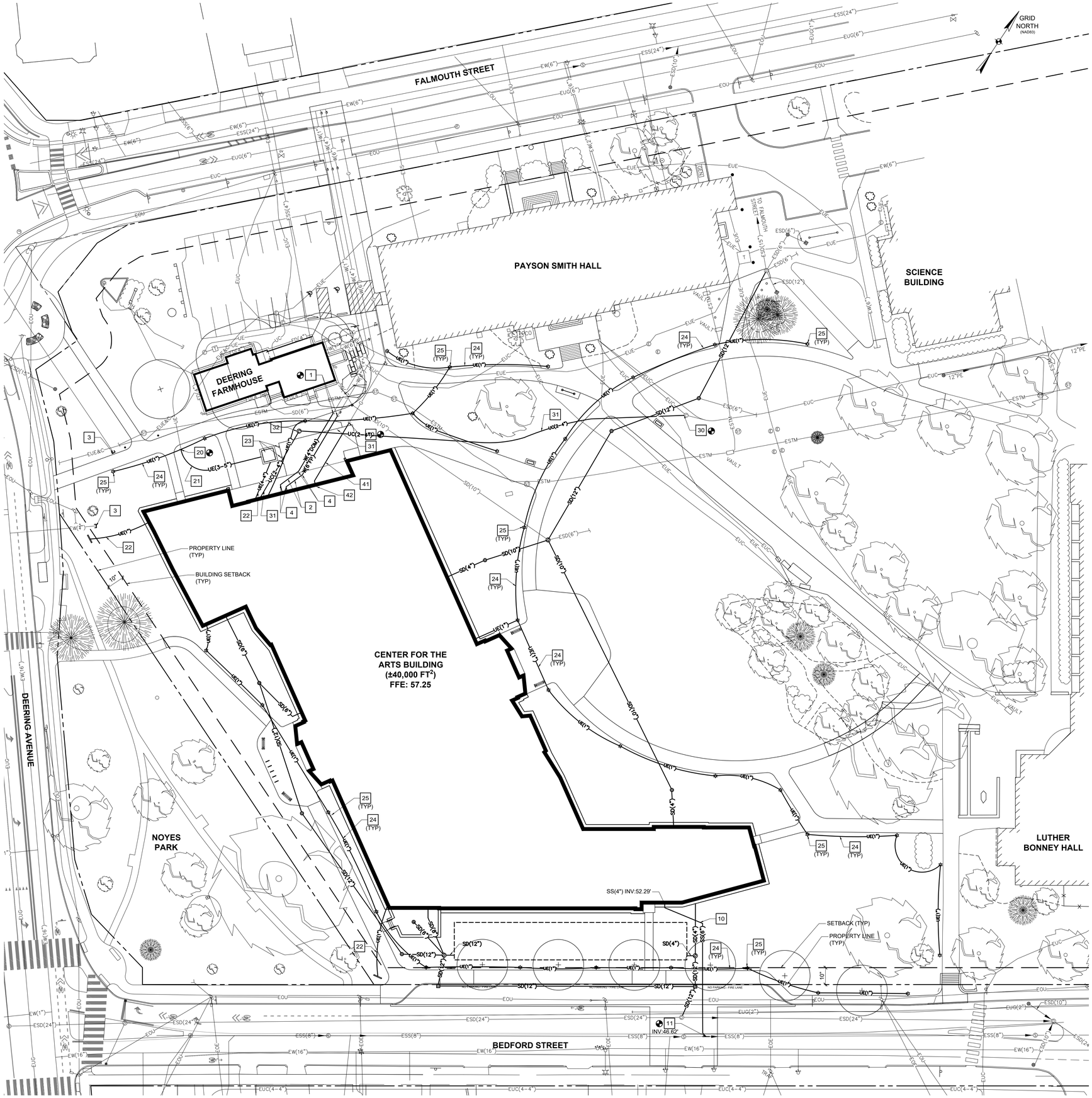
NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

SITE PLAN

SCALE: As indicated

CS101

PFEIFFER PARTNERS PROJECT NUMBER: 6170.00



1 CU101 UTILITY PLAN
SCALE: 1"=20'

NOTE: REFER TO SHEET CG101 FOR STORM DRAIN LINE INFORMATION.

GRAPHIC SCALE
20' 10' 0 20' 40'
1"=20'
CHECK GRAPHIC SCALE BEFORE USING

KEYNOTES: (THIS SHEET ONLY)

1. CONNECT WATER LINE TO CAPPED END OF EXISTING WATER LINES (INSTALLED AS PART OF FARMHOUSE RELOCATION PROJECT).
2. WATER LINE IN PIPE TRENCH. SEE DETAIL 1/C-503
3. REMOVE PORTION OF EXISTING WATER MAIN AS NECESSARY TO FACILITATE BUILDING CONSTRUCTION AND UTILITY INSTALLATION. PLUG END OF PIPE TO REMAIN.
4. THRUST BLOCK. SEE DETAIL 3/C-503
5 - 9. NOT USED THIS SHEET.
10. SEWER LINE IN PIPE TRENCH. SEE DETAIL 1/C-503
11. CONNECT TO EXISTING SEWER LINE. CUT AND REMOVE PORTION OF EXISTING SEWER LINE AND PROVIDE A SOLID 6x8 WYE AND SOLID SLEEVE PVC COUPLINGS
12 - 19. NOT USED THIS SHEET.
20. CONNECT TO CAPPED END OF EXISTING CONDUIT (INSTALLED AS PART OF FARMHOUSE RELOCATION PROJECT).
21. PRIMARY ELECTRICAL LINES IN CONDUIT TRENCH. SEE DETAIL 4/C-503
22. SECONDARY ELECTRICAL LINES IN CONDUIT TRENCH. SEE DETAIL 4/C-503
23. TRANSFORMER ON 9' SQUARE TRANSFORMER PAD. PROVIDE BOLLARDS BETWEEN TRANSFORMER AND EDGE OF PAVEMENT. SEE DETAILS 9/C-502 AND 5/C-503
24. UNDERGROUND LIGHTING LINE IN CONDUIT TRENCH. SEE DETAIL 4/C-503
25. PRECAST CONCRETE LIGHTPOLE BASE. SEE DETAIL 7/C-503
26 - 29. NOT USED THIS SHEET.
30. CORE HOLE IN EXISTING COMMUNICATIONS MANHOLE AND CONNECT COMMUNICATIONS CONDUIT. SEE DETAIL 2/C-503 (SIM)
31. COMMUNICATIONS LINES IN CONDUIT TRENCH. SEE DETAIL 4/C-503
32. COMMUNICATIONS MANHOLE. SEE DETAIL 6/C-503
33 - 39. NOT USED THIS SHEET.
40. EXPOSE CAPPED END OF EXISTING CONDUIT (INSTALLED AS PART OF FARMHOUSE RELOCATION PROJECT). GAS PIPING CONNECTION AND INSTALLATION BY UNITIL, EARTHWORK BY CONTRACTOR. COORDINATE TIMING OF EXCAVATION AND CONNECTION WITH UNITIL.
41. GAS LINE IN PIPE TRENCH. PIPING AND CONNECTIONS BY UNITIL, EARTHWORK BY CONTRACTOR. COORDINATE TIMING OF EXCAVATION WITH UNITIL. SEE DETAIL 1/C-503
42. BUILDING-MOUNTED GAS REGULATOR AND METER (BY UNITIL) WITH TWO 6" SCHEDULE 40 STEEL BOLLARDS. SEE DETAIL 9/C-502

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SEAL:
STATE OF MAINE — JONAH DeWAITERS — 12273 — LICENSED PROFESSIONAL ENGINEER — CIVIL

FOR PERMITTING PURPOSES ONLY
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ISSUE NAME:

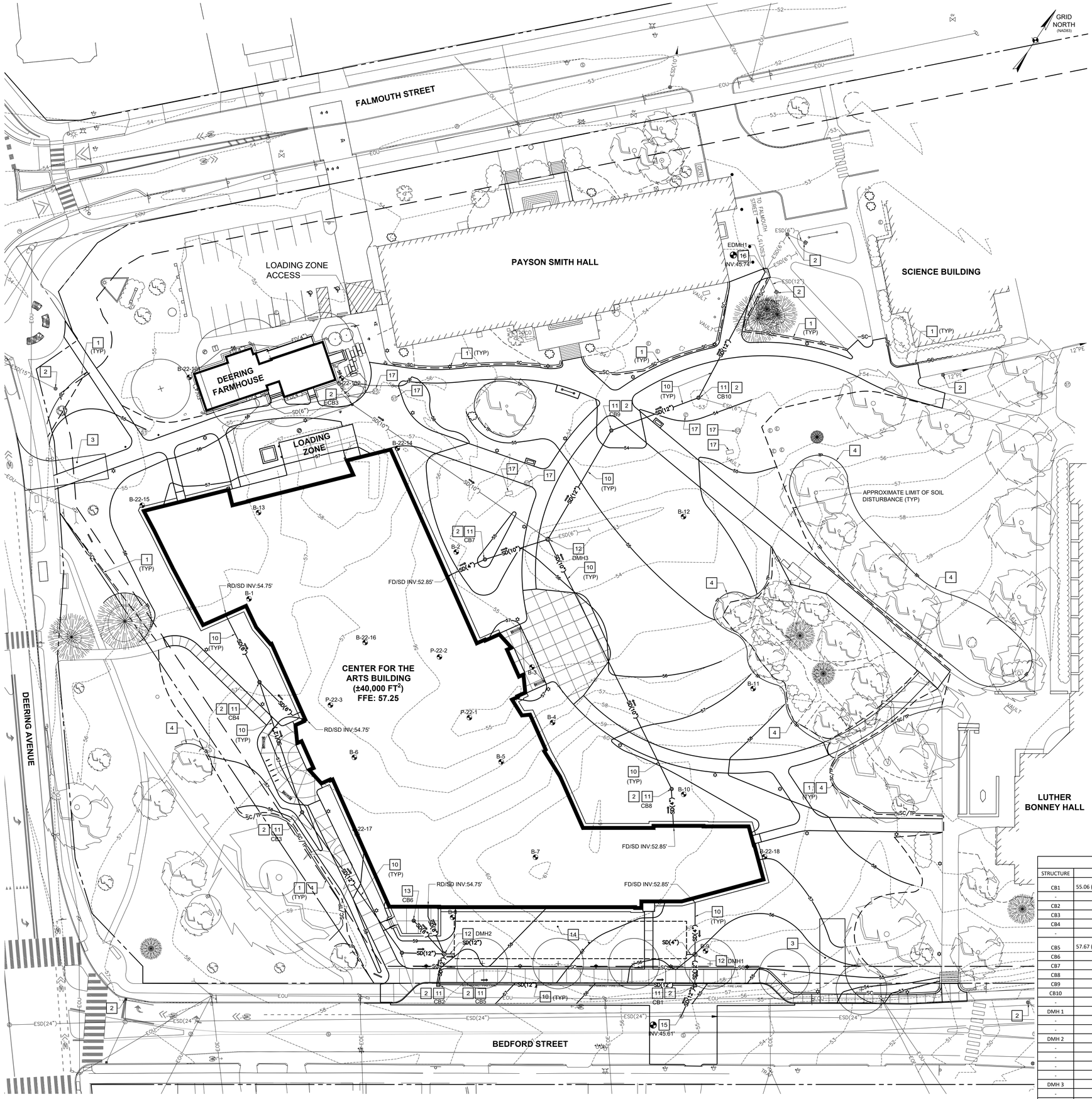
NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

UTILITY PLAN

SCALE: As indicated

CU101

PFEIFFER PARTNERS PROJECT NUMBER 6170.00



1 GRADING AND DRAINAGE PLAN
CS101 SCALE: 1"=20'

KEYNOTES: (THIS SHEET ONLY)

1. SILT FENCE OR SEDIMENT CONTROL FILTER SOCK. SEE DETAILS 1/C-501 AND 2/C-501
2. CATCH BASIN INLET PROTECTION. SEE DETAIL 3/C-501
3. STABILIZED CONSTRUCTION ENTRANCE/EXIT. SEE DETAIL 4/C-501
4. TREE PROTECTION FENCE. SEE DETAIL 6/L-501
5 - 9. NOT USED THIS SHEET.
10. STORM DRAIN LINE IN PIPE TRENCH. SEE DETAIL 1/C-503
11. CATCH BASIN. SEE DRAINAGE STRUCTURE SCHEDULE, THIS SHEET, AND DETAIL 3/C-504
12. DRAIN MANHOLE. SEE DRAINAGE STRUCTURE SCHEDULE, THIS SHEET, AND DETAIL 3/C-504
13. AREA DRAIN WITH HEELPROOF GRATE. SEE DRAINAGE STRUCTURE SCHEDULE, THIS SHEET.
14. STORMWATER TREATMENT AREA: UNDERDRAINED SUBSURFACE SAND FILTER. SEE DETAIL 1/C-504
15. CORE HOLE IN EXISTING DRAINAGE STRUCTURE FOR STORM DRAIN PIPING (INVERT INDICATED WITH KEYNOTE). SEE DETAIL 2/C-503.
16. CONNECT STORM DRAIN PIPING TO EXISTING MANHOLE. MATCH EXISTING INLET INVERT (INVERT AS NOTED). SEE DETAIL 2/C-503 (SIM)
17. ADJUST FRAME AND COVER ON EXISTING STRUCTURE TO MATCH FINISHED GRADE.

DRAINAGE STRUCTURE SCHEDULE

STRUCTURE	RIM ELEVATION	INVERT IN (SIZE)	INVERT OUT (SIZE)	REMARKS
CB1	55.06 (0.1' BELOW NORMAL FG)	46.38 (12")	46.28 (12")	FROM DMH1, RIM 0.1' BELOW NORMAL FG
-	-	47.38 (12")	-	FROM CB5
CB2	58.00	51.87 (12")	51.77 (12")	FROM CB3
CB3	56.50	52.97 (12")	52.87 (12")	FROM CB4
CB4	56.27	53.86 (6")	53.76 (12")	ROOF DRAIN OUTLET
-	-	53.86 (6")	-	ROOF DRAIN OUTLET
CB5	57.67 (0.1' BELOW NORMAL FG)	51.14 (12")	51.04 (12")	FROM DMH2, RIM 0.1' BELOW NORMAL FG
CB6	57.00	-	54.75 (6")	AREA DRAIN WITH HEELPROOF GRATE
CB7	54.75	50.42 (4")	49.92 (10")	FOUNDATION DRAIN OUTLET
CB8	56.09	51.76 (4")	51.26 (10")	FOUNDATION DRAIN OUTLET
CB9	53.33	46.53 (12")	46.48 (12")	FROM DMH3, HOODED OUTLET
CB10	52.80	46.21 (12")	46.16 (12")	FROM CB9, HOODED OUTLET
-	-	47.37 (6") VIF	-	CONNECT TO EXIST 6" LINE
DMH 1	55.98	46.71 (6")	46.61 (12")	TREATMENT AREA DRAIN W/ VALVE
-	-	46.71 (2-4")	-	TREATMENT OUTER UNDERDRAINS
-	-	51.44 (4")	-	FOUNDATION DRAIN OUTLET
DMH 2	58.46	-	51.53 (12")	6' DIA, TO TREATMENT AREA. SEE 2/C-504
-	-	-	51.53 (12")	TREATMENT AREA OVERFLOW TO CB5
-	-	53.11 (8")	-	ROOF DRAIN OUTLET
-	-	53.11 (6")	-	FROM CB6
-	-	51.63 (12")	-	FROM CB2
DMH 3	55.60	46.96 (6") VIF	46.89 (12")	CONNECT TO EXIST 6" LINE (VIF)
-	-	47.11 (10")	-	CONNECT TO EXIST 10" LINE FROM ECB3
-	-	48.07 (10")	-	FROM CB8
-	-	48.07 (10")	-	FROM CB7

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ISSUE NAME:

NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

GRADING AND DRAINAGE PLAN

SCALE: As indicated

CG101

PFEIFFER PARTNERS PROJECT NUMBER: 5170.00

EROSION AND SEDIMENT CONTROL NOTES

A. GENERAL NOTES

1. DURING CONSTRUCTION AND THEREAFTER, IMPLEMENT EROSION CONTROL MEASURES AS INDICATED AND SPECIFIED. PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH THE CURRENT EDITION "MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS" BY THE MAINE DEP.
2. IMPLEMENT NECESSARY MEASURES TO CONTROL EROSION AND SEDIMENTATION FROM THE PROJECT SITE AS REQUIRED PURSUANT TO THE MAINE EROSION AND SEDIMENTATION CONTROL LAW.
3. LIMIT AREAS OF EXPOSED SOILS TO THOSE AREAS THAT WILL ACTIVELY BE WORKED. TEMPORARILY STABILIZE ANY AREA OF DISTURBED SOIL THAT REMAINS UNWORKED FOR MORE THAN 14 DAYS USING TEMPORARY MULCHING (IF THE SOIL WILL BE PERMANENTLY STABILIZED WITHIN 30 DAYS) OR TEMPORARY SEEDING AND MULCHING (IF THE SOIL WILL NOT BE PERMANENTLY STABILIZED WITHIN 30 DAYS). PERMANENTLY STABILIZE ANY AREA OF DISTURBED SOIL BROUGHT TO FINAL GRADE WITHIN 7 DAYS. DISTURBED SOILS DO NOT INCLUDE COMPACTED STRUCTURAL FILLS USED FOR ROADS, PARKING LOTS, AND BUILDING FOUNDATIONS.
4. TEMPORARY EROSION CONTROL MEASURES INCLUDE THE USE OF EROSION CONTROL DEVICES, TEMPORARY SEEDING AND MULCHING, CONSTRUCTION PHASING, AND PROVISIONS FOR STABILIZING INACTIVE AREAS. PERMANENT EROSION CONTROL MEASURES INCLUDE THE USE OF EROSION CONTROL BLANKETS, RIPRAP OUTLET PROTECTION, AND PERMANENT SEEDING AND MULCHING.
5. PROVIDE INLET PROTECTION FOR EACH CATCH BASIN ON THE SAME DAY THAT BACKFILL IS PLACED AROUND THE CATCH BASIN.
6. PROVIDE PLANTING SOIL, SEED, FERTILIZER, AND MULCH ON DISTURBED AREAS NOT OTHERWISE SPECIFIED. PERMANENT SEEDING MUST BE ACCOMPLISHED BETWEEN THE DATES OF APRIL 15 AND JUNE 1 OR AUGUST 15 AND OCTOBER 1. WATER VEGETATED AREAS AS NECESSARY TO ESTABLISH A VIGOROUS GRASS.

B. INSPECTION AND MAINTENANCE

1. INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION AND STORMWATER CONTROL MEASURES, AREAS USED FOR STORAGE THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE PARCEL AT LEAST ONCE A WEEK AND BEFORE AND AFTER EACH STORM EVENT, GREATER THAN 0.1 INCH, PRIOR TO COMPLETION OF PERMANENT STABILIZATION. ENGAGE A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM (MPDES) STANDARDS AND ANY DEPARTMENTAL COMPANION DOCUMENT TO THIS PERMIT, TO CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF BEST MANAGEMENT PRACTICES (BMPs) NEED TO BE MODIFIED OR IF ADDITIONAL BMPs ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.
2. KEEP A LOG (REPORT) SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES. OBSERVATIONS MUST INCLUDE: BMPs THAT NEED TO BE MAINTAINED; LOCATION(S) OF BMPs THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION; AND LOCATION(S) WHERE ADDITIONAL BMPs ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION. FOLLOW-UP TO CORRECT DEFICIENCIES OR ENHANCE CONTROLS MUST ALSO BE INDICATED IN THE LOG AND DATED, INCLUDING WHAT ACTION WAS TAKEN AND WHEN.
3. MAINTAIN EROSION CONTROL MEASURES FOR THE LIFE OF THE PROJECT AND UNTIL PERMANENT STABILIZATION OF THE ENTIRE SITE IS ESTABLISHED. PERMANENT STABILIZATION MUST CONSIST OF AT LEAST 90-PERCENT VEGETATION, PAVEMENT, GRAVEL BASE, OR RIPRAP.
1. REMOVE SEDIMENT ACCUMULATIONS FROM SILT FENCES, HAY BALE BARRIERS, AND STONE CHECK DAMS WHEN THE SEDIMENT DEPTH APPROACHES 6 INCHES, OR AS INDICATED ON DETAILS ON DRAWINGS 1/C-501 AND 2/C-501.
2. INSPECT THE AREAS OF BARE SOIL AND EMBANKMENTS WEEKLY AND AFTER EACH STORM EVENT. PROMPTLY SEEDED AND MULCH EROSION AND AREAS OF EXPOSED SOILS.
3. PROTECT STABILIZED AREAS FROM EROSION AND IMMEDIATELY REPAIR / REVEGETATE ERODED AREAS.
4. REMOVE TEMPORARY EROSION CONTROL MEASURES WITHIN 30 DAYS AFTER THE TRIBUTARY AREA HAS BEEN PERMANENTLY STABILIZED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE.

C. CONSTRUCTION DEWATERING

1. IF DEWATERING OF EXCAVATIONS ARE NECESSARY, UTILIZE BAG-TYPE DEWATERING SEDIMENT FILTERS. DEWATERING SEDIMENT FILTERS MUST BE LOCATED A MINIMUM OF 100 FEET FROM ANY WATER BODY OR WETLAND AND AS FAR AWAY FROM DRAINAGE STRUCTURES AS PRACTICABLE. SEE DETAIL 4/C-501.

D. SEQUENCE OF CONSTRUCTION

1. PHASE CONSTRUCTION TO DISTURB THE LEAST PRACTICAL AREA AT A TIME AND MINIMIZE DISRUPTION TO THE EXISTING CAMPUS. CONSTRUCTION IS EXPECTED TO BEGIN IN THE SUMMER 2023 AND BE COMPLETED BY SUMMER 2025. INITIAL OPERATIONS INCLUDE LAYOUT OF CLEARING LIMITS AND INSTALLATION OF EROSION CONTROL MEASURES.
2. CLEAR TREES, GRUB OUT STUMPS, AND STRIP TOPSOIL. REMOVE WOODY DEBRIS FROM THE PROJECT SITE. STOCKPILE TOPSOIL AS SHOWN ON REMOVALS SITE PLAN AND GRADING PLAN. PROVIDE SILT FENCE DOWNGRADE OF ALL STOCKPILES AND COVER STOCKPILES WITH MULCH.
3. COMMENCE EARTH MOVING OPERATIONS AND CONSTRUCT TEMPORARY SEDIMENT BASINS (IF NEEDED), AS AREAS APPROACH FINISH GRADE, AND CONSTRUCT STORM DRAINAGE SYSTEM BEGINNING AT THE LOW POINT IN THE SYSTEM. PROVIDE TEMPORARY INLET AND OUTLET PROTECTION AS SOON AS PIPES ARE INSTALLED AND MAINTAIN UNTIL THEY ARE CONNECTED TO THE BUILDING AND DRAINAGE STRUCTURES
4. CONTINUE WITH OTHER UTILITY (WATER, SEWER, ELECTRICAL, ETC.) AND BUILDING CONSTRUCTION. PROVIDE VEGETATION, TEMPORARY SEEDING, MULCHING, OR OTHER SURFACE TREATMENTS AS INDICATED IMMEDIATELY UPON ESTABLISHMENT OF FINISH GRADES.

E. SOIL STOCKPILE STABILIZATION

1. COVER SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR LESS THAN 30 DAYS WITH HAY MULCH (AT 90 LBS HAY/1000 SF) OR COVERED WITH A 4 MIL POLYETHYLENE SHEETING, WOVEN OR NON-WOVEN GEOTEXTILE FABRIC WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
2. CONTINUOUSLY ANCHOR POLYETHYLENE SHEETING OR GEOTEXTILE FABRIC ON ALL SIDES AND 12" TO 24" OVERLAP AT SEAMS IN THE DIRECTION OF THE RUNOFF. PROVIDE ADDITIONAL ANCHORS ON THE WINDY SIDE OF THE STOCKPILE.
3. SEED SOIL AND FILL STOCKPILES EXPECTED TO REMAIN LONGER THAN 30 DAYS WITH A CONSERVATION MIX OF ANNUAL RYE GRASS (AT 0.9 LBS/1000 SF) AND HAY MULCHED (AT 90 LBS HAY/1000 SF) WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
4. AT SOIL AND FILL STOCKPILES, INSTALL A SEDIMENT BARRIER (e.g. HAY-BALE BARRIER OR SILT FENCING) AROUND THE DOWNHILL EDGE OF THE STOCKPILE TO TRAP SEDIMENTS.

F. TEMPORARY SEEDING - (DURING CONSTRUCTION AND PRIOR TO PERMANENT SEEDING) WITHIN 14 DAYS OF INACTIVITY OR 7 DAYS AFTER BEING BROUGHT TO FINISH GRADE.

1. BEDDING - REMOVE STONES AND TRASH WITHIN SEEDING THE AREA. TILL THE SOIL TO A DEPTH OF ABOUT 3" TO PREPARE SEED BED AND MIX THE FERTILIZER INTO THE SOIL.
2. FERTILIZER - UNIFORMLY SPREAD FERTILIZER OVER THE AREA PRIOR TO BEING TILLED INTO THE SOIL. APPLY A 10-10-10 MIX OF FERTILIZER AT A RATE OF 300 POUNDS PER ACRE (OR 7 LBS/1,000 SF).
3. SEED MIXTURE - USE ANY OF THE FOLLOWING IN UPLAND AREAS:

TEMPORARY SEEDING RATES			
SPECIES	PER ACRE	PER 1,000 SF	SEEDING DATES
WINTER RYE	112 LBS	2.6 LBS	8/15-10/1
OATS	80 LBS	1.8 LBS	4/1-7/1 & 8/15-9/15
ANNUAL RYE GRASS	40 LBS	0.9 LBS	4/1-7/1 WITH MULCH

4. MULCHING FOR TEMPORARY SEEDING - WHERE IT IS IMPRACTICAL TO INCORPORATE FERTILIZER AND SEED INTO MOIST SOIL, MULCH THE SEEDED AREA TO FACILITATE GERMINATION. MULCH IN THE FORM OF HAY OR STRAW MUST BE APPLIED AT A RATE OF 70 TO 90 LBS PER 1,000 SF.

G. MULCHING

USE TEMPORARY MULCHING ON SLOPES, CHANNELS, OTHER EROSION PRONE AREAS, AND ALL EXPOSED SOILS THAT CANNOT RECEIVE PERMANENT COVER WITH 14 DAYS OF DISTURBANCE OR WITHIN 7 DAYS IN AREAS WITHIN 100' OF A NATURAL RESOURCE. ALSO USE MULCH FOLLOWING TEMPORARY AND PERMANENT SEEDING AS SPECIFIED. USE MULCH ANCHORS ON SLOPES GREATER THAN 5% IN FALL (PAST SEPTEMBER 15 AND OVER WINTER TO APRIL 15).

MULCHING RATES		
MULCH TYPE	RATE PER 1,000 SF	USE AND COMMENTS
HAY OR STRAW	70 TO 90 LBS * * DOUBLE THE RATE FOR OVER WINTER STABILIZATION	MOLD FREE AND DRY, MUST BE USED WITH PLANTINGS. ANCHOR IN AREAS OF STRONG WIND AND SLOPES GREATER THAN 5%.
WOOD CHIPS OR BARK MULCH	3" THICK OR MORE	USE IN FLAT AREAS AND SHORT 4:1 SLOPES.
EROSION CONTROL BLANKETS / MATS	SEE DETAIL 5/C-501	DITCHES, STEEP SLOPES, AND WHERE INDICATED.
EROSION CONTROL MIX	2" FOR SLOPES FLATTER THAN 3:1 OR 4" FOR SLOPES GREATER THAN 3:1. ADD AND ADDITIONAL 1/2" PER 20' OF SLOPE UP TO 100' IF SLOPE IS STEEPER THAN 3:1	FOR USE ON SLOPES LESS THAN 45%.

H. TEMPORARY EROSION CONTROL BLANKET SPECIFICATIONS (SEE DETAIL 5/C-501)

1. EXCELSIOR EROSION CONTROL BLANKET MUST CONSIST OF A MACHINE PRODUCED MAT OF CURLED WOOD EXCELSIOR COVERED WITH EITHER A 3 BY 1 INCH WEAVE OF TWISTED CRAFT PAPER OR A 2 BY 1 INCH BIODEGRADABLE EXTRUDED PLASTIC MESH. THE BLANKET MUST BE OF CONSISTENT THICKNESS WITH FIBERS EVENLY DISTRIBUTED THROUGHOUT. 80 PERCENT OF THE FIBERS MUST BE OVER 6 INCHES IN LENGTH. MINIMUM WIDTH: 48 INCHES, MINIMUM WEIGHT: 0.8 POUNDS PER SQUARE YARD.
2. STRAW-COCONUT EROSION CONTROL BLANKET MUST CONSIST OF A MACHINE PRODUCED BLANKET OF 70 PERCENT WHEAT STRAW AND 30 PERCENT COCONUT FIBER WITH PHOTODEGRADABLE NETTING ON BOTH SIDES AND SEWN TOGETHER WITH COTTON THREAD. MINIMUM WIDTH: 48 INCHES, MINIMUM WEIGHT: 0.75 POUNDS PER SQUARE YARD.

I. EXTENDED USE EROSION CONTROL BLANKET SPECIFICATION

1. JUTE EROSION CONTROL BLANKETS MUST BE OF UNIFORM PLAIN WEAVE SINGLE JUTE YARN AVERAGING APPROXIMATELY 130 POUNDS PER SPINDLE OF 14,400 YARDS. THE YARN MUST BE LOOSELY TWISTED AND WOVEN INTO 48 INCH WIDE BLANKETS WITH A MINIMUM AVERAGE WEIGHT OF 1.0 POUNDS PER SQUARE YARD.

J. OVER WINTER CONSTRUCTION (NOVEMBER 1 THROUGH APRIL 15)

PROVIDE ADDITIONAL STABILIZATION MEASURES BY NOVEMBER 1 FOR WINTER AND SPRING SNOW MELT IF THE CONSTRUCTION SITE IS NOT PERMANENTLY STABILIZED WITH PAVEMENT, GRAVEL ROAD BASE, 90% MATURE VEGETATION COVER, EROSION CONTROL MULCH, OR RIPRAP. PERMANENT SEEDING MUST OCCUR BY AUGUST 15 (45 DAYS BEFORE THE FIRST KILLING FROST), OTHERWISE, OVER WINTER MULCHING IS REQUIRED.

1. DITCHES AND CHANNELS :
   CONSTRUCT AND STABILIZE DITCHES AND CHANNELS BY SEPTEMBER 1.
2. FOR A DITCH OR CHANNEL TO BE GRASS-LINED (75% COVER) THAT IS NOT STABILIZED BY NOVEMBER 15, TAKE THE FOLLOWING ACTION TO STABILIZE THE DITCH FOR WINTER AND SPRING:
   2.1. STONE RIPRAP LINING IN THE DITCH OR CHANNEL: LINE THE DITCH OR CHANNEL WITH STONE RIPRAP BY NOVEMBER 15. USE ANGULAR D50 = 6" STONE FOR STONE RIPRAP OVER FILTER FABRIC. IF NECESSARY, REGRADE THE DITCH / CHANNEL PRIOR TO PLACING THE STONE RIPRAP LINING TO PREVENT THE STONE RIPRAP LINING FROM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.
3. VEGETATED AREAS WITH SLOPES OF 15% SLOPE OR LESS MUST HAVE 90% GRASS COVER BY NOVEMBER 1st OR BE SEEDED WITH WINTER RYE AT 3 LBS PER 1,000 SF, MULCHED WITH HAY AT 75 LBS PER 1,000 SF, AND ANCHORED WITH NETTING OR, BY NOVEMBER 15th, TAKE ONE OF THE THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR WINTER AND SPRING:
   3.1. EROSION CONTROL BLANKET - SEE DETAIL 5/C-501
   3.2. EROSION CONTROL MIX -
   THE MIX MUST BE WELL-GRADED WITH AN ORGANIC COMPONENT THAT IS BETWEEN 50 AND 100% OF DRY WEIGHT, AND THAT IS COMPOSED OF FIBROUS AND ELONGATED FRAGMENTS. THE MINERAL PORTION OF THE MIX MUST BE NATURALLY INCLUDED IN THE PRODUCT WITH NO LARGER ROCKS (>3") OR LARGE AMOUNTS OF FINES (SILTS AND CLAYS). IN STUMP GRINDING, THE MINERAL SOIL ORIGINATES FROM THE ROOT BALL AND MUST NOT BE REMOVED BEFORE GRINDING. THE MIX MUST BE FREE OF REFUSE, MATERIAL TOXIC TO PLANT GROWTH OR UNSUITABLE MATERIAL (BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS). APPLY A THICKNESS OF 2" ON 3:1 SLOPES OR LESS AND ADD AN ADDITIONAL 1/2" PER 20' OF SLOPE OR UP TO 4" FOR A 100' SLOPE.
   3.3. HAY MULCH -
   APPLY AT A RATE OF 150 LBS PER 1,000 SF (3 TONS PER ACRE) AND ANCHORED WITH NETTING (PEG AND TWINE) OR A TACKIFIER TO PREVENT MULCH DISPLACEMENT BEFORE FREEZING CONDITIONS. NO SOIL MUST BE VISIBLE THROUGH THE MULCH AND HAY MULCH CAN NOT BE APPLIED OVER SNOW.
4. SEED AND MULCH VEGETATED SLOPES GREATER THAN 15% BY SEPTEMBER 1. ON A SLOPE THAT IS NOT STABILIZED BY OCTOBER 15, SEED WITH WINTER RYE AT A SEEDING RATE OF 3 LBS PER 1,000 SF AND PROTECTED WITH EROSION CONTROL BLANKETS. IF THE RYE FAILS TO GROW 3" OR FAILS TO COVER AT LEAST 75% OF THE SLOPE BY NOVEMBER 15, TAKE ONE OF THE THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR WINTER AND SPRING:
   4.1. EROSION CONTROL BLANKET - SEE DETAIL 5/C-501.
   4.2. EROSION CONTROL MIX - THE MIX MUST BE WELL-GRADED WITH AN ORGANIC COMPONENT THAT IS BETWEEN 50 AND 100% OF DRY WEIGHT, AND THAT IS COMPOSED OF FIBROUS AND ELONGATED FRAGMENTS. THE MINERAL PORTION OF THE MIX MUST BE NATURALLY INCLUDED IN THE PRODUCT WITH NO LARGER ROCKS (>3") OR LARGE AMOUNTS OF FINES (SILTS AND CLAYS). IN STUMP GRINDING, THE MINERAL SOIL ORIGINATES FROM THE ROOT BALL AND MUST NOT BE REMOVED BEFORE GRINDING. THE MIX MUST BE FREE OF REFUSE, MATERIAL TOXIC TO PLANT GROWTH OR UNSUITABLE MATERIAL (BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS). APPLY A THICKNESS OF 4" ON GREATER THAN 3:1 AND AND IF SLOPES ARE GREATER THAN 60' LONG, 5" IS NEEDED.
   4.3. RIPRAP - ANGULAR STONE WITH SIZE AND THICKNESS APPROPRIATE TO STABILIZE THE SLOPE.
5. SOIL STOCKPILES MUST BE MULCHED FOR OVER WINTER PROTECTION WITH HAY AT TWICE THE NORMAL RATE (150 LBS PER 1,000 SF), OR WITH 4" LAYER OF EROSION CONTROL MIX. DO NOT LEAVE STOCKPILES, EVEN OVER WINTER (EVEN MULCHED), WITHIN 100' OF OF A PROTECTED RESOURCE.

K. PERMANENT SEEDING - (SEEDING DATES APRIL 15 TO JUNE 1 OR AUGUST 15 TO OCTOBER 1 ONLY)

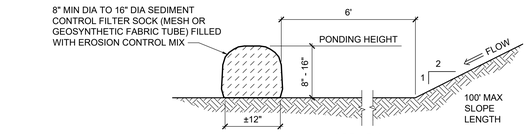
1. PERMANENT SEEDING MUST OCCUR BY OCTOBER 1 TO ALLOW FOR 90% STAND OF TURF TO ESTABLISH PRIOR TO NOVEMBER 1.
2. SITE PREPARATION - INSTALL NEEDED SURFACE WATER CONTROL MEASURES PRIOR TO SEEDING. GRADE TO PERMIT USE OF CONVENTIONAL EQUIPMENT FOR SEED-BED PREPARATION. PROVIDE ADEQUATE DRAINAGE WHERE INTERNAL WATER MOVEMENT MUST CAUSE SEEPS OR SLIPPAGE BEFORE SEEDING IS WELL ESTABLISHED.
3. BEDDING - REMOVE STONES, TRASH, ROOTS, AND OTHER DEBRIS THAT WILL INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, TILL THE SOIL TO A DEPTH OF 4" TO PREPARE A SEEDBED AND MIX FERTILIZER INTO THE SOIL. WHEN PRACTICAL, PERFORM CULTURAL OPERATIONS AT RIGHT ANGLES TO THE SLOPE. PROVIDE THE BEST CONDITIONS POSSIBLE FOR SEEDING.
4. FERTILIZER - APPLY LIME AND FERTILIZER EVENLY OVER THE AREA PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. BASE KINDS AND AMOUNTS OF LIME AND FERTILIZER ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM MUST BE APPLIED:
   4.1. GROUND LIMESTONE AT A RATE OF 138 LBS PER 1,000 SF (3 TONS PER ACRE) 10-20-20 FERTILIZER OR EQUIVALENT AT 18.4 LBS PER 1,000 SF (800 LBS PER ACRE) WORK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF 4" EITHER BEFORE OR DURING THE FINAL SEEDBED PREPARATIONS.
5. SEED MIXTURE: SEE SPECIFICATIONS AND DRAWINGS FOR SEEDING MIXTURES AND LOCATIONS OF SEED MIXTURE TYPES.

L. OFF-SITE VEHICLE TRACKING

1. USE STABILIZED CONSTRUCTION ENTRANCE/EXIT CONFORMING TO THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S WRITTEN REQUIREMENTS AT EACH SITE ACCESS POINT.

M. HOUSEKEEPING

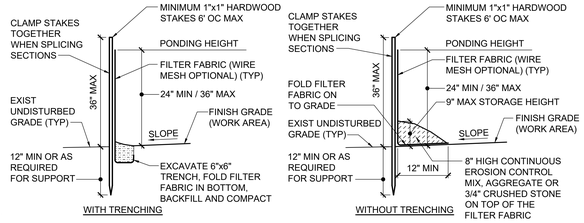
1. COLLECT WASTE MATERIALS AND STORE IN SECURELY LIDDED RECEPTACLES. DEPOSIT TRASH AND CONSTRUCTION DEBRIS FROM THE SITE IN A DUMPSTER. DO NOT BURY CONSTRUCTION WASTE MATERIALS ON SITE.
2. DISPOSE OF HAZARDOUS WASTE MATERIALS IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATIONS OR BY THE MANUFACTURER.
3. COLLECT SANITARY WASTE FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.
4. STORE MATERIALS STORED ON SITE IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINER, AND IF POSSIBLE UNDER A ROOF OR OTHER ENCLOSURE. STORE ONLY SUFFICIENT AMOUNTS OF MATERIALS TO COMPLETE THE JOB.
5. DISPOSE OF NOT TO BE USED SURPLUS MATERIALS OFF SITE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND STATE AND FEDERAL CODES.
6. MONITOR CONSTRUCTION RELATED EQUIPMENT AND VEHICLES FOR LEAKS AND PROVIDE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE LEAKAGE.
7. DISCHARGE AND WASH OUT SURPLUS CONCRETE FROM CONCRETE TRUCKS OR DRUM WASH WATER IN A CONTAINED AREA ON SITE. COORDINATE AREA WITH OWNER.
8. CLEAN UP SPILLS IMMEDIATELY AFTER DISCOVERY IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED METHODS. KEEP MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP IN THE MATERIAL STORAGE AREA ON SITE. MATERIALS INCLUDE, BUT ARE NOT LIMITED TO, BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC OR METAL TRASH CONTAINERS. REPORT SPILLS OF TOXIC OR HAZARDOUS MATERIALS S TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY AND OWNER IMMEDIATELY REGARDLESS OF THE SIZE.



SEDIMENT CONTROL FILTER SOCK NOTES:

1. SEDIMENT CONTROL FILTER SOCKS MUST BE MANUFACTURED FOR THE PURPOSE OF TEMPORARY SEDIMENT CONTROL AND INSTALLED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS.
2. REMOVE ROOTS, ROCKS, MOW OR FLATTEN GRASS TO MAINTAIN FULL CONTACT WITH GROUND AND FILTER SOCK.
3. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE HALF THE FILTER SOCK HEIGHT.
4. SEDIMENT CONTROL FILTER SOCKS MUST REMAIN IN PLACE UNTIL ALL AREAS ARE STABILIZED.
5. SECURE SEDIMENT CONTROL FILTER SOCKS WITH CONCRETE BLOCKS AND/OR WOOD STAKES IN LOCATIONS WHERE SOCK FAILS TO REMAIN IN PLACE DUE TO HYDRAULIC FORCE. SPACE BLOCKS/STAKES AT INTERVALS NECESSARY TO KEEP FILTER SOCK FROM MOVING.
6. EROSION CONTROL MIX MUST CONSIST PRIMARILY OF WELL GRADED ORGANIC MATERIAL AND MUST INCLUDE SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR OTHER PRODUCTS BASED ON A SIMILAR RAW SOURCE. SILT, CLAY, OR FINE SAND ARE NOT ACCEPTABLE IN THE FILTER SOCK EROSION CONTROL MIX.

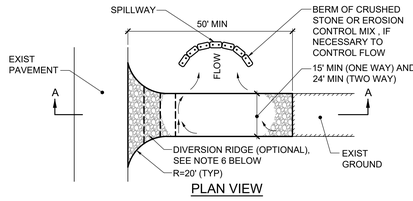
1 SEDIMENT CONTROL FILTER SOCK DETAIL
CD101,CG101 C-501 NOT TO SCALE

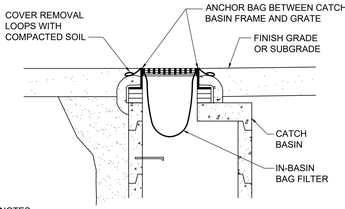


SILT FENCE NOTES

1. REMOVE SEDIMENT DEPOSITS WHEN DEPOSITS EXCEED 6" IN DEPTH.
2. INSPECT SILT FENCES AFTER EACH RAINFALL AND ALL NECESSARY REPAIRS/REPLACEMENT MADE IMMEDIATELY.
3. REMOVE SILT FENCES AFTER SATISFACTORY VEGETATIVE COVER IS ESTABLISHED. PROVIDE TOPSOIL, FINISH GRADE, SEED, AND MULCH DISTURBED AREAS.
4. IN AREAS WHERE SILT FENCE CAN NOT BE TRENCHED SUCH AS FROZEN GROUND, BEDROCK, STONY SOIL, ROOTS OR NEAR A PROTECTED RESOURCE ANCHOR THE SILT FENCE USING THE "WITHOUT TRENCHING" METHOD SHOWN ABOVE.

2 SILT FENCE DETAIL
CD101,CG101 C-501 NOT TO SCALE

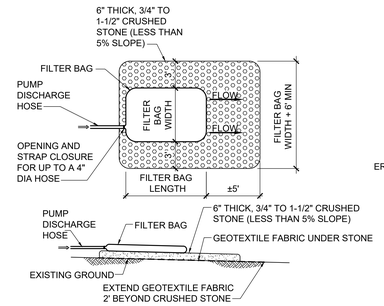




NOTES

1. IN-BASIN BAG FILTERS MUST BE A WOVEN POLYPROPYLENE WITH THE FOLLOWING MINIMUM PROPERTIES:
   a. GRAB TENSILE STRENGTH ACCORDING TO ASTM D4632: 300 LBS
   b. PUNCTURE RESISTANCE ACCORDING TO ASTM D4833: 120 LBS
   c. MULLEN BURST ACCORDING TO ASTM D3786: 800 PSI
   d. FLOW RATE ACCORDING TO ASTM D4491: 44 GAL/MIN/SF
2. BAG FILTER SEAMS MUST BE DOUBLE STITCHED WITH HIGH-STRENGTH NYLON THREAD AND MUST HAVE AN AVERAGE WIDE WIDTH STRENGTH PER ASTM D4884 OF 165 LBS/INCH.
3. PROVIDE TYPE A INLET PROTECTION IN EXISTING OR NEWLY PAVED AREAS WITH NON-STABILIZED TRIBUTARY WATERSHEDS.
4. REMOVE ACCUMULATED SEDIMENTS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. DO NOT PUNCTURE BAG FILTER TO CLEAN OUT SEDIMENT.

3 CATCH BASIN INLET PROTECTION DETAIL
CD101,CG101 C-501 NOT TO SCALE



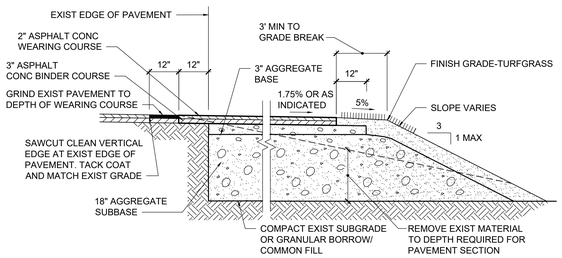
GEOTEXTILE FILTER BAG NOTES:

1. LOCATE DEWATERING SEDIMENT FILTERS A MINIMUM OF 100 FEET FROM ANY WATER BODY, WETLAND OR DRAINAGE STRUCTURE. DEWATERING SEDIMENT FILTERS MUST BE A NON-WOVEN GEOTEXTILE FABRIC WITH THE FOLLOWING MINIMUM PROPERTIES:
   a. FLOW RATE IN ACCORDANCE WITH ASTM D4491: 60 GAL/MIN/SF
   b. AOS % RETAINED IN ACCORDANCE WITH ASTM D4751: 100 US SIEVE
   c. MULLEN BURST STRENGTH IN ACCORDANCE WITH ASTM D3786: 350 PSI MIN
   d. PUNCTURE RESISTANCE IN ACCORDANCE WITH ASTM D4833: 110 LBS MIN
   e. WEIGHT IN ACCORDANCE WITH ASTM D3776: 8 OZ/YARD MIN
   f. GRAB TENSILE STRENGTH IN ACCORDANCE WITH ASTM D4632: 205 LBS MIN
2. INSTALL, OPERATE AND REMOVE DEWATERING SEDIMENT FILTERS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND PRINTED INSTRUCTIONS.

4 TYP GEOTEXTILE FILTER BAG DETAIL
C-501 C-501 NOT TO SCALE

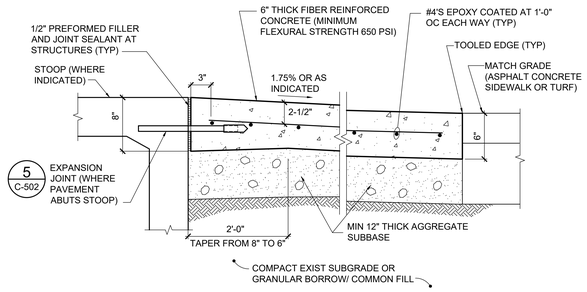
STABILIZED CONSTRUCTION ENTRANCE / EXIT NOTES

1. STONE FOR A STABILIZED CONSTRUCTION ENTRANCE / EXIT MUST BE ANGULAR 2 TO 3 INCH STONE OR APPROPRIATE RECLAIMED CONCRETE MATERIAL.
2. THE LENGTH OF THE STABILIZED ENTRANCE / EXIT MUST NOT BE LESS THAN 50 FEET.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE / EXIT MUST NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE / EXIT MUST NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 20 FEET, WHICHEVER IS GREATER.
5. GEOTEXTILE FILTER FABRIC MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE / EXIT MUST BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A DIVERSION RIDG



1 C-502 ASPHALT CONCRETE PAVEMENT SECTION

CS101,C-502,C-503 — C-502 NOT TO SCALE

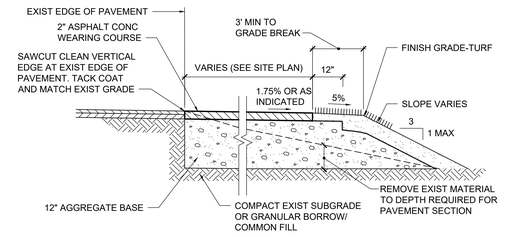


2 C-502 TYP REINFORCED CONCRETE PAVEMENT DETAIL

CS101,C-503 — C-502 NOT TO SCALE

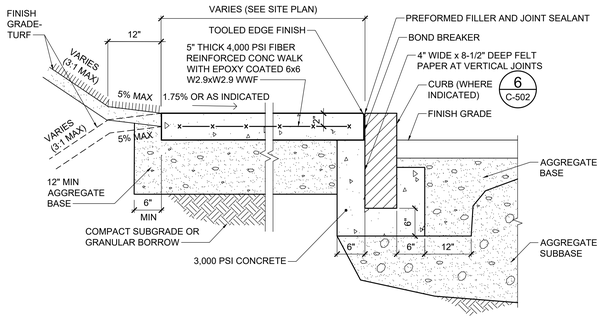
CONCRETE PAVEMENT NOTES:

1. PROVIDE MEDIUM BROOM FINISH PERPENDICULAR TO DIRECTION OF TRAVEL.
2. PROVIDE CONTROL JOINTS AT 6-0" TO 10'-0" ON CENTER, EQUALLY SPACED, UNLESS INDICATED OTHERWISE, AND AT ALL EDGES. (5 C-502)
3. PROVIDE EXPANSION JOINTS IN CONCRETE WHERE PAVEMENT ABUTS STOOPS. (5 C-502)
4. PROVIDE 1/2" PREFORMED FILLER AND JOINT SEALER WHERE PAVEMENT ABUTS THE BUILDING, CURBING, CANOPY COLUMNS, EXISTING REINFORCED CONCRETE SIDEWALKS, AND EQUIPMENT PADS.



3 C-502 TYP ASPHALT CONCRETE SIDEWALK SECTION

CS101,C-503 — C-502 NOT TO SCALE

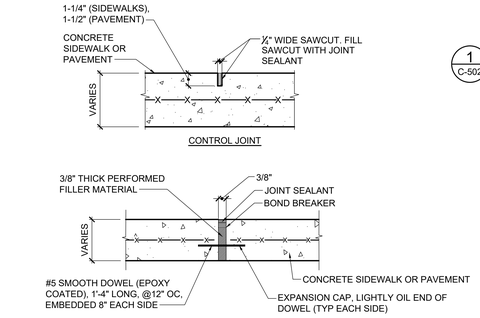


CONCRETE WALK NOTES:

1. PROVIDE MEDIUM BROOM FINISH PERPENDICULAR TO DIRECTION OF TRAVEL.
2. PROVIDE TOOLED CONTROL JOINTS AT 5'-0" TO 6'-0" ON CENTER, EQUALLY SPACED, UNLESS INDICATED OTHERWISE, AND AT ALL EDGES. (5 C-502)
3. PROVIDE EXPANSION JOINTS IN CONCRETE AT THE FOLLOWING: (5 C-502)
   a. AT 25'-35' ON CENTER EQUALLY SPACED UNLESS INDICATED OTHERWISE
   b. AT JOINT BETWEEN SIDEWALK AND STOOP
   c. WHERE INDICATED.
4. PROVIDE 1/2" PREFORMED FILLER AND JOINT SEALER WHERE WALK ABUTS THE BUILDING, CURBING, CANOPY COLUMNS, EXISTING REINFORCED CONCRETE SIDEWALKS, AND EQUIPMENT PADS.

4 C-502 TYPICAL REINFORCED CONCRETE WALK DETAIL

CS101,C-502,C-503 — C-502 NOT TO SCALE



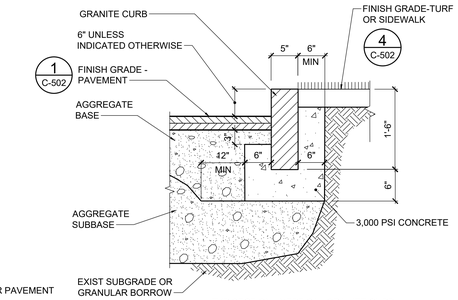
EXPANSION JOINT

CONCRETE JOINT NOTES:

1. PROVIDE TOOLED EDGES AT JOINTS WITH A 1/4" RADIUS
2. SURFACE MUST BE SMOOTH AND AT A CONSTANT DEPTH
3. BREAK REINFORCING AT EXPANSION JOINTS.

5 C-502 TYP CONCRETE JOINT DETAILS

C-502 — C-502 NOT TO SCALE



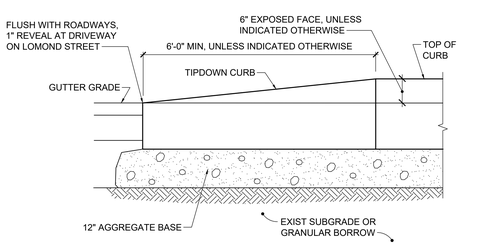
TYP SECTION - VERTICAL GRANITE CURB

GRANITE CURB NOTES:

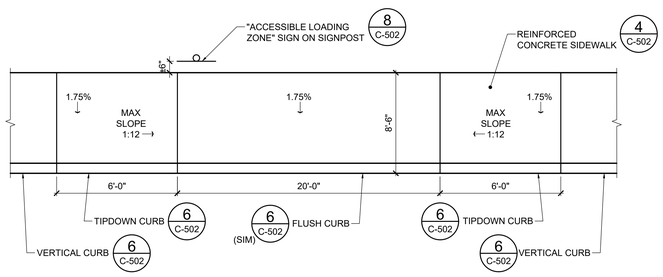
1. JOINTS: PROVIDE 4" WIDE x 8-1/2" DEEP FELT PAPER OR FILTER FABRIC ON BACKSIDE OF CURB JOINTS.
2. PROVIDE CURVED SECTIONS OF CURBING FOR ALL CURVES WITH RADII OF 60'-0" OR LESS THAT MATCHES THE RADII OF THE CURVES INDICATED. SEE SHEETS CL101 AND CL102 FOR LAYOUT INFORMATION.

6 C-502 TYP GRANITE CURB DETAILS

CS101,C-503,C-504 — C-502 NOT TO SCALE

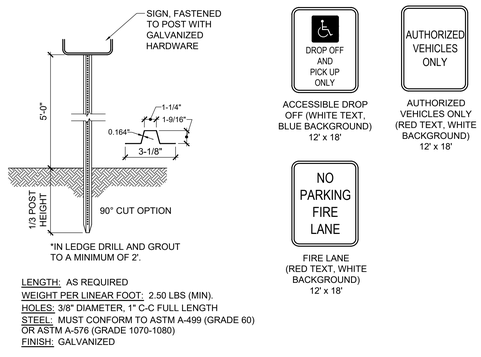


TIPDOWN CURB



7 C-502 ACCESSIBLE LOADING ZONE DETAIL

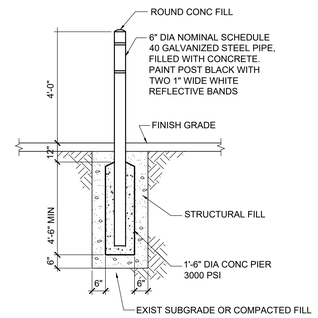
CS101 — C-502 NOT TO SCALE



LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN).
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: MUST CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070-1080)
FINISH: GALVANIZED

8 C-502 SIGN AND POST DETAILS

CS101,C-502 — C-502 NOT TO SCALE



9 C-502 TYP BOLLARD DETAIL

CS101,CU101 — C-502 NOT TO SCALE

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ST PETERSBURG, FL 33701
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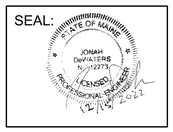
SEAL:



ISSUE NAME:

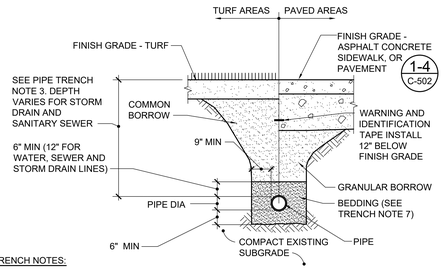
NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

SITE DETAILS-1

SCALE: As indicated

C-502

PFEIFFER PARTNERS PROJECT NUMBER: 6170.00



PIPE TRENCH NOTES:

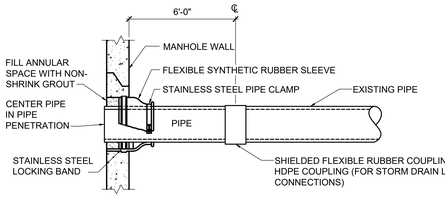
1. INSTALL THERMOPLASTIC (PVC, HDPE) GRAVITY PIPING IN ACCORDANCE WITH ASTM D 2321. SEE ALSO PIPE TRENCH BEDDING NOTES.
2. INSTALL WATER SUPPLY PIPING IN ACCORDANCE WITH PORTLAND WATER DISTRICT WRITTEN INSTRUCTIONS. BEDDING REQUIRED IS INDICATED IN PIPE TRENCH BEDDING NOTES.
3. MAINTAIN THE FOLLOWING DEPTH OF COVER FOR EACH SERVICE:

SERVICE	MIN DEPTH OF COVER
WATER SUPPLY	5'-6" (6'-0" MAX)*
SANITARY SEWER	4'-6"
NATURAL GAS (ON SITE)	2'-0"
STORM DRAIN	AS INDICATED

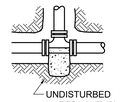
*MAXIMUM COVER OVER WATER SUPPLY LINE IS 6'-0" UNLESS SPECIFICALLY INDICATED OTHERWISE

4. PROVIDE A MINIMUM OF 12" VERTICAL CLEARANCE BETWEEN WATER LINES AND ANY PIPES THAT CROSS THEM. PROVIDE A MINIMUM OF 6" VERTICAL CLEARANCE BETWEEN ALL OTHER CROSSING PIPES.
5. PROVIDE MIN 0.005'/FT (0.5%) PITCH ON ALL GRAVITY PIPING.
6. WRAP ALL DUCTILE IRON WATER PIPING IN MIN 8 MIL POLYETHYLENE SHEETING AND TAPE SECURELY BEFORE BURYING IN ACCORDANCE WITH PWD'S WRITTEN REQUIREMENTS.
7. PIPE BEDDING MUST BE ASTM D 2321, CLASS 1B OR II BEDDING, EXCEPT WITH 100 PERCENT PASSING A 1" SIEVE AND GREATER THAN 75 PERCENT PASSING A NO. 4 SIEVE, EXCEPT AT SEWER AND STORM DRAINAGE PIPING, WHERE 3/4" CRUSHED STONE MUST BE USED.
8. EXCAVATION WORK MUST COMPLY WITH OSHA STANDARDS. TRENCH SIDEWALLS MUST BE VERTICAL FROM TRENCH BOTTOM TO 12" ABOVE TOP OF PIPE.

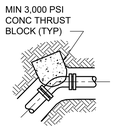
1 PIPE TRENCH DETAIL
CU101,CG101,C-503,C-504 / C-503 NOT TO SCALE



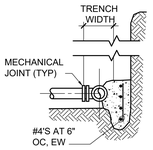
2 TYP PIPE PENETRATION AND CONNECTION DETAIL
CU101,CG101 / C-503 NOT TO SCALE



TYP PLAN VIEW, TEE/CAP



TYP PLAN VIEW, BEND, VERTICAL AND HORIZONTAL



TYP SECTION (TEE OR BEND)

THRUST BLOCK SCHEDULE
BASED ON 100 PSI WORKING PRESSURE
(SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL)

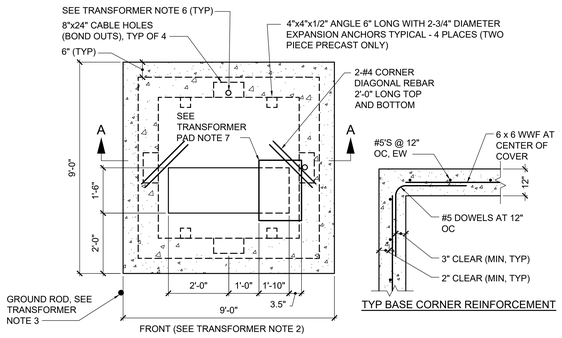
REACTION TYPE	PIPE SIZE (INCHES) 4"	6"	8"	10"	12"
90° BEND	1.9	4.0	6.8	10.3	14.5
TEE/CAP	1.4	2.8	4.8	7.3	10.3
45° BEND	1.0	2.2	3.7	5.6	7.9
22.5° BEND	0.5	1.1	1.9	2.8	4.0
11.25° BEND	0.3	0.6	1.0	1.4	2.0

NOTES:
1. FOR OTHER PRESSURES, AREA OF CONCRETE THRUST BLOCKING IS DIRECTLY PROPORTIONAL TO AREAS SHOWN IN ABOVE TABLE.
2. AREA OF THRUST BLOCKS SHOWN ARE BASED ON A MINIMUM SOIL BEARING CAPACITY OF 2,000 POUNDS PER SQUARE FOOT AND 1.5 SAFETY FACTOR. BEARING CAPACITY MAY BE ALTERED BY THE OWNER/ARCHITECT BASED ON CONDITIONS ENCOUNTERED.

THRUST BLOCK NOTES:

1. PROVIDE CONCRETE THRUST BLOCKING IN ACCORDANCE WITH NFPA 24.
2. CONCRETE THRUST BLOCKING (MIN 3,000 PSI) IS REQUIRED FOR ALL TEES, BENDS, REDUCERS, AND PLUGS.
3. PLACE CONCRETE PAVERS OR BRICK IN FRONT OF ALL PLUGS BEFORE PLACING THRUST BLOCKS.
4. WRAP FITTINGS IN POLYETHYLENE PRIOR TO INSTALLATION OF CONCRETE THRUST BLOCKING.
5. PLACE THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND CONCRETE THRUST BLOCK TO UNDISTURBED MATERIAL.
6. EXTEND CONCRETE THRUST BLOCKING THE ENTIRE LENGTH OF THE FITTING. DO NOT COVER ANY PART OF THE JOINT WITH CONCRETE.
7. INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.
8. GRIP-RING RESTRAINT SYSTEMS ARE REQUIRED FOR ALL MECHANICAL JOINTS. THESE SYSTEMS DO NOT REDUCE THE REQUIREMENTS FOR THRUST BLOCKING.
9. PROVIDE ADDITIONAL JOINT RESTRAINT WHERE INDICATED ON DRAWINGS.

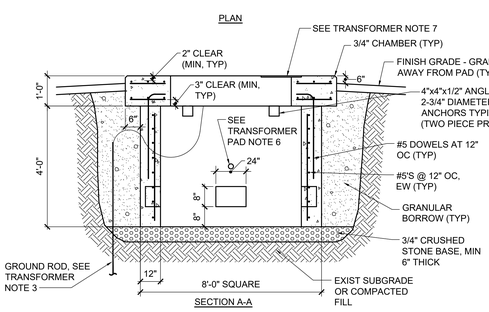
3 THRUST BLOCK DETAIL
CU101 / C-503 NOT TO SCALE



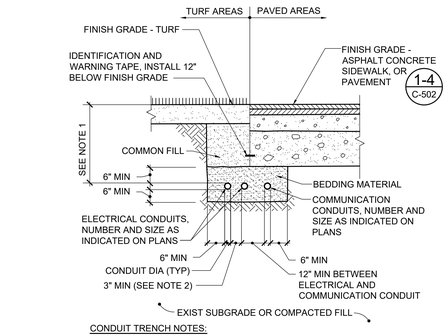
TYP BASE CORNER REINFORCEMENT

TRANSFORMER PAD NOTES:

1. TRANSFORMER PAD MUST COMPLY WITH ILLUSTRATION NO. 25, "LARGE (9'x9') THREE PHASE TRANSFORMER FOUNDATION" OF THE "CENTRAL MAINE POWER HANDBOOK OF REQUIREMENTS FOR ELECTRIC SERVICE AND METER INSTALLATIONS."
2. "FRONT" DENOTES THE SIDE ON WHICH THE ACCESS DOORS ARE LOCATED AND MUST FACE ADJACENT ROADWAY UNLESS INDICATED OTHERWISE.
3. PROVIDE A 3/4" DIA. x 8' LONG COPPER CLAD GROUND ROD. INSTALL 6" IN FRONT OF THE LEFT FRONT CORNER OF THE FOUNDATION. THE TOP OF THE GROUND ROD MUST BE 6" BELOW FINAL GRADE. A GROUND WIRE MUST BE INSTALLED FROM THE GROUND ROD THROUGH THE CABLE HOLE AT THE BOTTOM OF THE PAD. 20' OF GROUND WIRE MUST BE PROVIDED SO THAT IT CAN BE INSTALLED THROUGH THE TWO GROUNDING LUGS AND CONNECTED TO THE NEUTRAL SPADE.
4. CONCRETE COMPRESSIVE STRENGTH MUST BE 4,000 PSI @ 28 DAYS. FOR CAST-IN-PLACE EARLY HIGH STRENGTH MAY BE USED WITH A MINIMUM OF SEVEN DAY CURE TIME. REINFORCING STEEL MUST BE Fy = 60KSI
5. FOR PRECAST UNITS: THE PRECAST SUPPLIER MUST PROVIDE LIFTING LUGS IN THE SLAB (FOUNDATION) AND BASE; THE PRECAST SUPPLIER MUST ASSEMBLE THE SLAB TO THE BASE PRIOR TO SHIPPING TO THE SITE TO ENSURE THAT THE SLAB AND BASE FIT PROPERLY (WITH NO ROCKING OF THE SLAB EVIDENT).
6. PULLING EYE INSERT, FOR USE WITH 3/4" NATIONAL COURSE THREAD EYE-BOLT (RICHMOND LCB-1 OR EQUIVALENT) LOCATED OPPOSITE EACH CABLE HOLE AND 2' FROM BOTTOM.
7. USE A 24"x24"x1/4" THICK GALVANIZED STEEL PLATE TO COVER A PORTION OF THE CABLE HOLE WHEN THE TRANSFORMER DOES NOT COMPLETELY COVER IT. CUT THE STEEL PLATE TO FIT, IF NECESSARY. GALVANIZE ALL CUT EDGES OF THE PLATE.



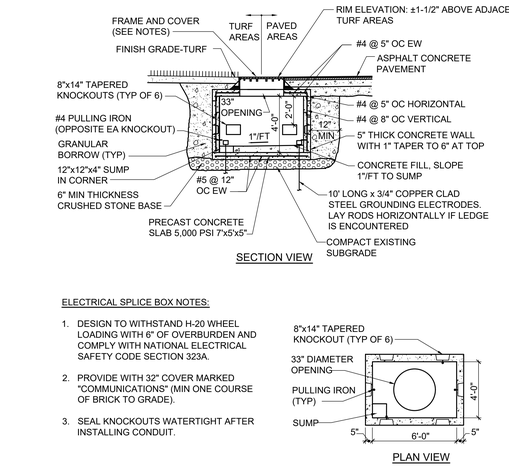
5 TRANSFORMER PAD DETAIL
CU101 / C-503 NOT TO SCALE



CONDUIT TRENCH NOTES:

1. MINIMUM COVER IS AS FOLLOWS:
   PRIMARY ELECTRICAL CONDUIT: 30"
   SECONDARY ELECTRICAL CONDUIT:24"
   LIGHTING CONDUIT: 24"
   COMMUNICATIONS CONDUIT: 24"
2. VERTICAL CONDUIT BENDS, RISERS, AND ABOVE GRADE CONDUIT MUST BE RIGID GALVANIZED STEEL.
3. PROVIDE 24" MIN SEPARATION BETWEEN GAS LINES AND ELECTRICAL/COMMUNICATIONS CONDUITS.

4 CONDUIT TRENCH DETAIL
CU101 / C-503 NOT TO SCALE



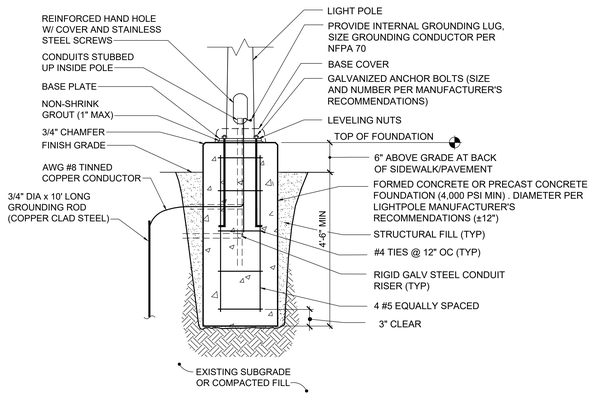
SECTION VIEW

ELECTRICAL SPLICE BOX NOTES:

1. DESIGN TO WITHSTAND H-20 WHEEL LOADING WITH 6" OF OVERBURDEN AND COMPLY WITH NATIONAL ELECTRICAL SAFETY CODE SECTION 323A.
2. PROVIDE WITH 32" COVER MARKED "COMMUNICATIONS" (MIN ONE COURSE OF BRICK TO GRADE).
3. SEAL KNOCKOUTS WATERTIGHT AFTER INSTALLING CONDUIT.

PLAN VIEW

6 COMMUNICATIONS MANHOLE DETAIL
CU101 / C-503 NOT TO SCALE



LIGHT POLE LOCATION NOTE:

1. POSITION LIGHTPOLES SO THAT THE CENTER OF THE BASE IS 18" FROM THE BACK OF THE ADJACENT SIDEWALK.

7 LIGHT POLE FOUNDATION DETAIL
CU101 / C-503 NOT TO SCALE

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SEAL:

FOR PERMITTING PURPOSES ONLY
NOT FOR CONSTRUCTION

ISSUE NAME:

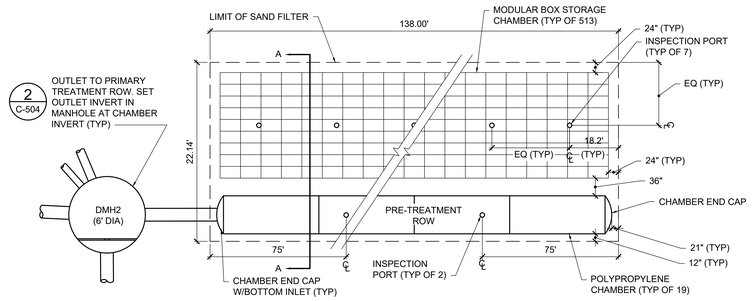
NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

SITE DETAILS-2

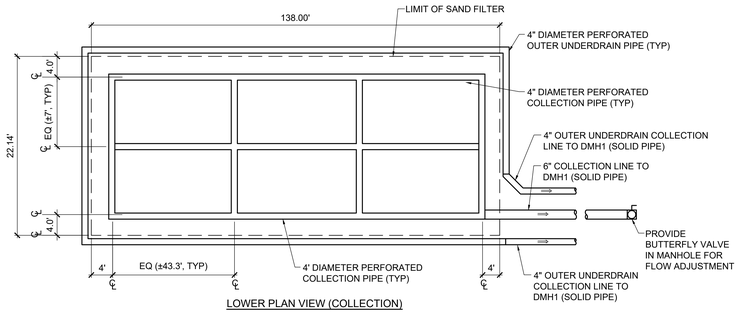
SCALE: As indicated

C-503

PFEIFFER PARTNERS PROJECT NUMBER: 6170.00



UPPER PLAN VIEW (DISTRIBUTION)



LOWER PLAN VIEW (COLLECTION)

SOIL AND SAND FILTER INSTALLATION/INSPECTION/MATERIAL NOTES:

INSTALLATION AND COMPACTION

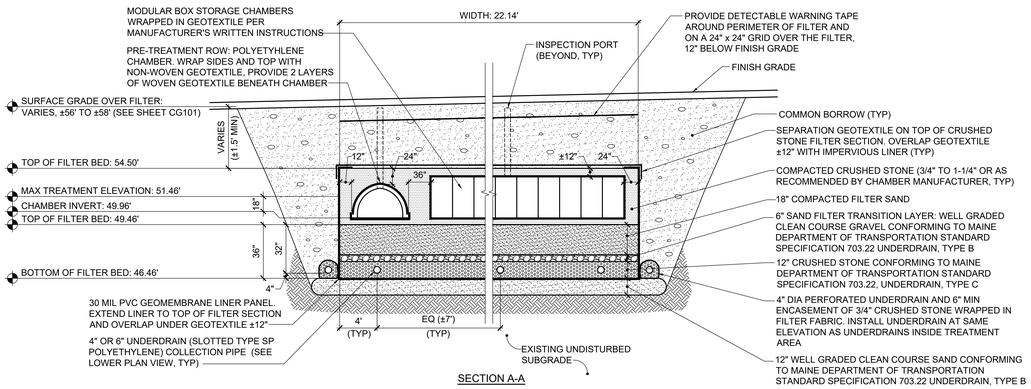
1. INSTALL MATERIALS IN 2" TO 9" LIFTS.
2. COMPACT MATERIALS IN ACCORDANCE WITH ASTM D698 TO THE FOLLOWING LEVELS:
   a. SAND FILTER: 92% TO 95% STANDARD PROCTOR
   b. SAND FILTER TRANSITION LAYER: 90% TO 92% STANDARD PROCTOR
   c. UNDERDRAIN BEDDING: 90% TO 92% STANDARD PROCTOR

CONSTRUCTION INSPECTION/OVERSIGHT

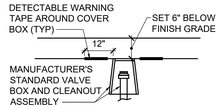
1. THE OWNER MUST RETAIN THE SERVICES OF AN INSPECTOR (DESIGN ENGINEER) TO INSPECT/OVERSEE THE CONSTRUCTION AND STABILIZATION OF ALL STORMWATER MANAGEMENT STRUCTURES. ONCE THE STORMWATER MANAGEMENT STRUCTURES ARE CONSTRUCTED AND TRIBUTARY AREAS ARE STABILIZED, THE INSPECTOR (OR OWNER) MUST NOTIFY THE DEP IN WRITING TO STATE THAT CONSTRUCTION OF THE TREATMENT AREA HAS BEEN COMPLETED. ACCOMPANYING THE NOTIFICATION MUST BE A LOG OF THE INSPECTIONS GIVING THE DATE OF EACH INSPECTION, THE TIME OF EACH INSPECTION, THE ITEMS INSPECTED ON EACH VISIT, AND THE RESULTS OF THE INSPECTION. INCLUDE IN THE NOTIFICATION TESTING DATA/SIEVE ANALYSIS DATA OF MATERIALS THAT MAKE UP THE SOIL FILTER (TYPE B AND TYPE C UNDERDRAIN MATERIAL AND FILTER MEDIA).
2. INSPECTION OF THE FILTER BASIN MUST BE PROVIDED FOR EACH PHASE OF CONSTRUCTION, WITH REQUIRED REPORTING TO THE DEP. AT A MINIMUM, INSPECTIONS WILL OCCUR:
   a. AFTER PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED;
   b. AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA/FILTER SAND;
   c. AFTER THE FILTER MEDIA/FILTER SAND HAS BEEN INSTALLED.
   d. AFTER THE SAND FILTER CHAMBERS HAVE BEEN INSTALLED BUT NOT BACKFILLED.
   e. AFTER BACKFILLING OVER THE SAND FILTER CHAMBERS BUT PRIOR TO INSTALLING TOPSOIL.
   f. ALL MATERIAL USED FOR THE CONSTRUCTION OF THE SAND FILTER IS SUBJECT TO APPROVAL BY THE INSPECTOR AFTER TESTS BY A CERTIFIED LABORATORY SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS.
3. NOTIFY THE OWNER/INSPECTOR AT LEAST 72 HOURS PRIOR TO THE ANTICIPATED COMPLETION OF EACH OF THE ITEMS LISTED ABOVE TO COORDINATE TIMING OF INSPECTIONS.

TESTING AND SUBMITTALS

1. TESTING AND SUBMITTALS: IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE SOIL FILTER SYSTEMS. SAMPLES USED FOR ANALYSIS MUST BE A COMPOSITE OF AT LEAST THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE (SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY). SUBMIT ALL RESULTS OF THE FOLLOWING FIELD AND LABORATORY TESTING TO THE OWNER/ARCHITECT FOR REVIEW AND APPROVAL:
   a. PERFORM AND SUBMIT A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES; 1996A) FOR MATERIALS INDICATED TO CONFIRM THE MEET THE REQUIRED GRADATIONS.
   b. PERFORM A PERMEABILITY TEST ON THE FILTER SAND CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 92-95% OF MAXIMUM DRY DENSITY BASED ON ASTM D698. THE RESULTING PERMEABILITY MUST BE BETWEEN 1 AND 2 INCHES PER HOUR.



SECTION A-A



TYP INSPECTION PORT DETAIL

UNDERDRAINED SUBSURFACE SAND FILTER NOTES:

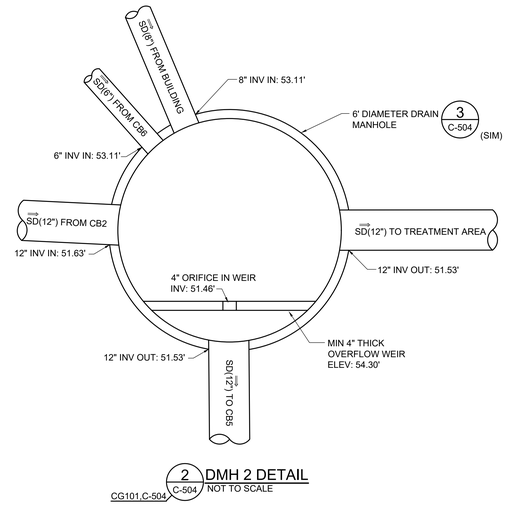
1. SEE SOIL AND SAND FILTER INSTALLATION/INSPECTION/MATERIAL NOTES, THIS SHEET.
2. CHAMBERS SELECTED MUST ACCOMMODATE HS-20 LOADING.
3. DIMENSIONS ARE BASED ON ONE MANUFACTURER. BASIS OF DESIGN IS AS FOLLOWS:
   PRE-TREATMENT CHAMBERS: CULTEC 330XLHD
   MODULAR BOX CHAMBERS: ACF ENVIRONMENTAL R-TANK HD (DOUBLE+MINI).
4. REQUIRED STORAGE VOLUME INSIDE CHAMBERS IS AS FOLLOWS:
   PRE-TREATMENT (EFFECTIVE STORAGE AFTER OVERLAP): 52.2 CF PER CHAMBER (38.6 CF AT 18")
   MODULAR BOX CHAMBERS (ASSUMES 95% VOID SPACE): 10.4 CF PER CHAMBER (4.4 CF AT 18")
5. INSTALL CHAMBERS AND CONNECT PIPING TO CHAMBERS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
6. INSTALL INSPECTION AND CLEANOUT PORTS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
7. GEOTEXTILES USED AROUND CHAMBERS MUST CONFORM TO MANUFACTURER'S WRITTEN RECOMMENDATIONS.
8. SEE DRAWING CG101 FOR DRAINAGE STRUCTURE SCHEDULE.

1 C-504 CG101,C-504 — UNDERDRAINED SUBSURFACE SAND FILTER DETAILS
NOT TO SCALE

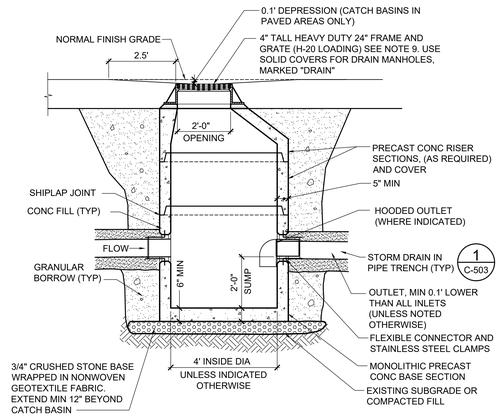
MATERIAL GRADATION REQUIREMENTS

SIEVE SIZE	% PASSING BY WEIGHT		
	MDOT 703.22, TYPE B	MDOT 703.22, TYPE C	FILTER SAND (MDOT 703.01)
2"	-	-	-
1"	95-100	100	-
3/4"	-	90-100	-
1/2"	75-100	-	-
3/8"	-	0-75	100
#4	50-100	0-25	95-100
#8	-	-	80-100
#10	-	0-5	-
#16	-	-	50-85
#20	15-80	-	-
#30	-	-	25-60
#40	-	-	-
#50	0-15	-	-
#60	-	-	10-30
#100	-	-	2-10
#200	0-5	-	0-5 (8-10% PREFERRED)
CLAY	-	-	-

**PERMEABILITY OF FILTER SAND BE BETWEEN 1 AND 2 INCHES PER HOUR.



2 C-504 CG101,C-504 — DMH 2 DETAIL
NOT TO SCALE



CATCH BASIN NOTES:

1. CONCRETE MUST BE MIN F'c=5,000 PSI.
2. DIMENSIONS INDICATED ARE MINIMUMS. PROVIDE REINFORCING AND CONCRETE THICKNESS TO ACHIEVE AASHTO HS-20 LOADING CLASSIFICATION (32,000 POUND AXLE LOAD).
3. CATCH BASINS MUST CONFORM TO ASTM C478, UNLESS INDICATED OTHERWISE.
4. PROVIDE PIPE PENETRATIONS AS INDICATED ON PLANS.
5. SHIPLAP JOINTS MUST HAVE 2 STRIPS OF 1" DIA BUTYL RUBBER SEALANT, RAM-NEK GASKET OR APPROVED EQUAL.
6. PROVIDE LOCK JOINT FLEXIBLE PIPE SLEEVES, CAST IN OR GASKET WITH EXPANSION SLEEVE.
7. EACH CASTING TO HAVE LIFTING HOLES CAST IN. PLUG LIFTING HOLES WITH GROUT AFTER PLACING MANHOLE.
8. PROVIDE SQUARE GRATES IN PAVED AREAS AND ROUND GRATES IN TURF AREAS.

3 C-504 CG101,C-504 — TYPICAL CATCH BASIN/DRAIN MANHOLE DETAILS
NOT TO SCALE

UNIVERSITY OF SOUTHERN MAINE
CENTER FOR THE ARTS
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Client:
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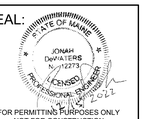
THEATRICAL:
THEATRE PROJECTS
47 WATER STREET
SOUTH NORWALK, CT 06854
PHONE: 203.299.0835

ACOUSTICS/ AUDIO-VISUAL:
JAFFE HOLDEN
114A WASHINGTON STREET
NORWALK, CT 06854
PHONE: 203.838.4167

LIGHTING:
CLINE BETTRIDGE BERNSTEIN
116 EAST 27TH STREET, 4TH FLOOR
NEW YORK, NY 10016
PHONE: 212.741.3280

COST CONSULTANT:
VENUE
226 5TH AVE N, SUITE 705
ST PETERSBURG, FL 33701
PHONE: 727.498.1091

SEAL:



FOR PERMITTING PURPOSES ONLY
NOT FOR CONSTRUCTION

ISSUE NAME:

NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

SITE DETAILS-3

SCALE: As indicated

C-504

PFEIFFER PARTNERS PROJECT NUMBER 6170.00

BORING LOG — B-1

S.W.COLE ENGINEERING INC

BORING NO.: B-1 | SHEET: 1 of 1 | PROJECT NO.: 20-1470 | DATE START: 11/18/2020 | DATE FINISH: 11/18/2020

CLIENT: University of Southern Maine
PROJECT: Proposed Center for the Arts
LOCATION: Bedford Street, Portland, Maine

Drilling Information

LOCATION: See Exploration Location Plan | ELEVATION (FT): 58' +/- | TOTAL DEPTH (FT): 9.0 | LOGGED BY: Patrick Otis
DRILLING CO.: S. W. Cole Explorations, LLC | DRILLER: Sam Shaw | DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Mobile Drill B-53 | AUGER ID/OD: 2 1/4 in./ 5 5/8 in. | SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic | HAMMER WEIGHT (lbs): 140 | CASING ID/OD: N/A /N/A | CORE BARREL:
HAMMER EFFICIENCY FACTOR: | HAMMER DROP (inch): 30
WATER LEVEL DEPTH (ft): No free water observed.
GENERAL NOTES:

ADD TO NOTES AND SYMBOLS: Water Level (at time of Drilling, ▽ At Completion of Drilling, ▼ After Drilling) | D = Split Spoon Sample, V = Thin Walled Tube Sample, R = Rock Core Sample, V = Field Vane Shear | Pen. = Penetration Length, Rec. = Recovery Length, kpf = Blows per Foot, mpf = Minute per Foot | WOR = Weight of Rods, WOH = Weight of Hammer, RQD = Rock Quality Designation, PID = Photoionization Detector | S_u = Field Vane Shear Strength, kips/sq ft, q_u = Unconfined Compressive Strength, kips/sq ft, Ø = Friction Angle (Estimated), N/A = Not Applicable

SAMPLE INFORMATION

Elev. (ft)	Depth (ft)	Casing Blow Cnt.	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blow Count / RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H.S. Depth	Remarks
55	0		1D	0-2	2/0	50/2"			Loose, dark brown silty SAND with fat CLAY, some rootlets		
50	5		2D	5-7	24/16	5-7/9-33-33			Loose to medium dense, brown SAND and SILT		
									Dense, brown gravelly silty SAND, crushing gravel with spoon		
									Auger Into Probable bedrock		

Bottom of Exploration at 8.8 feet
Auger Refusal - Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B- 1

BORING LOG — B-2

S.W.COLE ENGINEERING INC

BORING NO.: B- 2 | SHEET: 1 of 1 | PROJECT NO.: 20-1470 | DATE START: 11/18/2020 | DATE FINISH: 11/18/2020

CLIENT: University of Southern Maine
PROJECT: Proposed Center for the Arts
LOCATION: Bedford Street, Portland, Maine

Drilling Information

LOCATION: See Exploration Location Plan | ELEVATION (FT): 60' +/- | TOTAL DEPTH (FT): 8.5 | LOGGED BY: Patrick Otis
DRILLING CO.: S. W. Cole Explorations, LLC | DRILLER: Sam Shaw | DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Mobile Drill B-53 | AUGER ID/OD: 2 1/4 in./ 5 5/8 in. | SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic | HAMMER WEIGHT (lbs): 140 | CASING ID/OD: N/A /N/A | CORE BARREL:
HAMMER EFFICIENCY FACTOR: | HAMMER DROP (inch): 30
WATER LEVEL DEPTH (ft): No free water observed.
GENERAL NOTES:

ADD TO NOTES AND SYMBOLS: Water Level (at time of Drilling, ▽ At Completion of Drilling, ▼ After Drilling) | D = Split Spoon Sample, V = Thin Walled Tube Sample, R = Rock Core Sample, V = Field Vane Shear | Pen. = Penetration Length, Rec. = Recovery Length, kpf = Blows per Foot, mpf = Minute per Foot | WOR = Weight of Rods, WOH = Weight of Hammer, RQD = Rock Quality Designation, PID = Photoionization Detector | S_u = Field Vane Shear Strength, kips/sq ft, q_u = Unconfined Compressive Strength, kips/sq ft, Ø = Friction Angle (Estimated), N/A = Not Applicable

SAMPLE INFORMATION

Elev. (ft)	Depth (ft)	Casing Blow Cnt.	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blow Count / RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H.S. Depth	Remarks
55	0		1D	0-2	24/12	2-2-2-2			Loose, dark brown silty SAND with fat CLAY, some rootlets		
50	5		2D	5-7	24/18	5-4-8-11	q_u=0.6 tsf		Stiff, grey-brown sandy clayey SILT with sand seams		
									Medium dense, brown silty SAND with gray sandy SILT layers		
									Auger Into Probable bedrock		

Bottom of Exploration at 8.5 feet
Auger Refusal - Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B- 2

BORING LOG — B-3

S.W.COLE ENGINEERING INC

BORING NO.: B- 3 | SHEET: 1 of 1 | PROJECT NO.: 20-1470 | DATE START: 11/18/2020 | DATE FINISH: 11/19/2020

CLIENT: University of Southern Maine
PROJECT: Proposed Center for the Arts
LOCATION: Bedford Street, Portland, Maine

Drilling Information

LOCATION: See Exploration Location Plan | ELEVATION (FT): 59' +/- | TOTAL DEPTH (FT): 20.1 | LOGGED BY: Patrick Otis
DRILLING CO.: S. W. Cole Explorations, LLC | DRILLER: Sam Shaw | DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Mobile Drill B-53 | AUGER ID/OD: 2 1/4 in./ 5 5/8 in. | SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic | HAMMER WEIGHT (lbs): 140 | CASING ID/OD: N/A /N/A | CORE BARREL:
HAMMER EFFICIENCY FACTOR: | HAMMER DROP (inch): 30
WATER LEVEL DEPTH (ft): Soils wet at 12' and saturated below 19'
GENERAL NOTES:

ADD TO NOTES AND SYMBOLS: Water Level (at time of Drilling, ▽ At Completion of Drilling, ▼ After Drilling) | D = Split Spoon Sample, V = Thin Walled Tube Sample, R = Rock Core Sample, V = Field Vane Shear | Pen. = Penetration Length, Rec. = Recovery Length, kpf = Blows per Foot, mpf = Minute per Foot | WOR = Weight of Rods, WOH = Weight of Hammer, RQD = Rock Quality Designation, PID = Photoionization Detector | S_u = Field Vane Shear Strength, kips/sq ft, q_u = Unconfined Compressive Strength, kips/sq ft, Ø = Friction Angle (Estimated), N/A = Not Applicable

SAMPLE INFORMATION

Elev. (ft)	Depth (ft)	Casing Blow Cnt.	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blow Count / RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H.S. Depth	Remarks
55	0		1D	0-2	24/15	2-4-4-4			Very loose, brown silty SAND and SILT		
50	5		2D	5-7	24/20	5-7-10-13			Very loose, brown silty SAND (FILL/REWORKED)		
45	10		3D	10-12	24/15	5-14-24-22			Loose, gray sandy SILT, some clay		
40	15		4D	15-17	24/15	13-13-9-14			Stiff, brown silty CLAY, some sand with frequent sand seams		
35	20		5D	20-20.1	1/1	50/1"			Dense to medium dense, light brown/ light gray, silty gravelly SAND		

Auger Into Probable bedrock
Bottom of Exploration at 20.1 feet
Auger Refusal - Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B- 3

BORING LOG — B-4

S.W.COLE ENGINEERING INC

BORING NO.: B- 4 | SHEET: 1 of 1 | PROJECT NO.: 20-1470 | DATE START: 11/19/2020 | DATE FINISH: 11/19/2020

CLIENT: University of Southern Maine
PROJECT: Proposed Center for the Arts
LOCATION: Bedford Street, Portland, Maine

Drilling Information

LOCATION: See Exploration Location Plan | ELEVATION (FT): 58' +/- | TOTAL DEPTH (FT): 4.0 | LOGGED BY: Patrick Otis
DRILLING CO.: S. W. Cole Explorations, LLC | DRILLER: Sam Shaw | DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Mobile Drill B-53 | AUGER ID/OD: 2 1/4 in./ 5 5/8 in. | SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic | HAMMER WEIGHT (lbs): 140 | CASING ID/OD: N/A /N/A | CORE BARREL:
HAMMER EFFICIENCY FACTOR: | HAMMER DROP (inch): 30
WATER LEVEL DEPTH (ft): No free water observed.
GENERAL NOTES:

ADD TO NOTES AND SYMBOLS: Water Level (at time of Drilling, ▽ At Completion of Drilling, ▼ After Drilling) | D = Split Spoon Sample, V = Thin Walled Tube Sample, R = Rock Core Sample, V = Field Vane Shear | Pen. = Penetration Length, Rec. = Recovery Length, kpf = Blows per Foot, mpf = Minute per Foot | WOR = Weight of Rods, WOH = Weight of Hammer, RQD = Rock Quality Designation, PID = Photoionization Detector | S_u = Field Vane Shear Strength, kips/sq ft, q_u = Unconfined Compressive Strength, kips/sq ft, Ø = Friction Angle (Estimated), N/A = Not Applicable

SAMPLE INFORMATION

Elev. (ft)	Depth (ft)	Casing Blow Cnt.	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blow Count / RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H.S. Depth	Remarks
55	0		1D	0-2	24/15	2-2-2-3			Very loose, dark brown silty SAND		
									Loose, brown silty SAND, some gravel		

Auger Into Probable bedrock
Bottom of Exploration at 4.0 feet
Auger Refusal - Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B- 4

BORING LOG — B-5

S.W.COLE ENGINEERING INC

BORING NO.: B- 5 | SHEET: 1 of 1 | PROJECT NO.: 20-1470 | DATE START: 11/19/2020 | DATE FINISH: 11/19/2020

CLIENT: University of Southern Maine
PROJECT: Proposed Center for the Arts
LOCATION: Bedford Street, Portland, Maine

Drilling Information

LOCATION: See Exploration Location Plan | ELEVATION (FT): 57' +/- | TOTAL DEPTH (FT): 2.5 | LOGGED BY: Patrick Otis
DRILLING CO.: S. W. Cole Explorations, LLC | DRILLER: Sam Shaw | DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Mobile Drill B-53 | AUGER ID/OD: 2 1/4 in./ 5 5/8 in. | SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic | HAMMER WEIGHT (lbs): 140 | CASING ID/OD: N/A /N/A | CORE BARREL:
HAMMER EFFICIENCY FACTOR: | HAMMER DROP (inch): 30
WATER LEVEL DEPTH (ft): No free water observed.
GENERAL NOTES:

ADD TO NOTES AND SYMBOLS: Water Level (at time of Drilling, ▽ At Completion of Drilling, ▼ After Drilling) | D = Split Spoon Sample, V = Thin Walled Tube Sample, R = Rock Core Sample, V = Field Vane Shear | Pen. = Penetration Length, Rec. = Recovery Length, kpf = Blows per Foot, mpf = Minute per Foot | WOR = Weight of Rods, WOH = Weight of Hammer, RQD = Rock Quality Designation, PID = Photoionization Detector | S_u = Field Vane Shear Strength, kips/sq ft, q_u = Unconfined Compressive Strength, kips/sq ft, Ø = Friction Angle (Estimated), N/A = Not Applicable

SAMPLE INFORMATION

Elev. (ft)	Depth (ft)	Casing Blow Cnt.	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blow Count / RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H.S. Depth	Remarks
55	0		1D	0-2	24/12	3-1-2-4			Very loose, dark brown silty SAND		
									Loose, brown silty SAND (REWORKED)		

Bottom of Exploration at 2.5 feet
Auger Refusal - Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B- 5

BORING LOG — B-6

S.W.COLE ENGINEERING INC

BORING NO.: B- 6 | SHEET: 1 of 1 | PROJECT NO.: 20-1470 | DATE START: 11/20/2020 | DATE FINISH: 11/20/2020

CLIENT: University of Southern Maine
PROJECT: Proposed Center for the Arts
LOCATION: Bedford Street, Portland, Maine

Drilling Information

LOCATION: See Exploration Location Plan | ELEVATION (FT): 57' +/- | TOTAL DEPTH (FT): 5.5 | LOGGED BY: Eric Baron
DRILLING CO.: S. W. Cole Explorations, LLC | DRILLER: Sam Shaw | DRILLING METHOD: Solid Stem Auger
RIG TYPE: Track Mounted Mobile Drill B-53 | AUGER ID/OD: 4 1/2 in. | SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic | HAMMER WEIGHT (lbs): 140 | CASING ID/OD: N/A /N/A | CORE BARREL:
HAMMER EFFICIENCY FACTOR: | HAMMER DROP (inch): 30
WATER LEVEL DEPTH (ft): No free water observed. Soils moist
GENERAL NOTES:

ADD TO NOTES AND SYMBOLS: Water Level (at time of Drilling, ▽ At Completion of Drilling, ▼ After Drilling) | D = Split Spoon Sample, V = Thin Walled Tube Sample, R = Rock Core Sample, V = Field Vane Shear | Pen. = Penetration Length, Rec. = Recovery Length, kpf = Blows per Foot, mpf = Minute per Foot | WOR = Weight of Rods, WOH = Weight of Hammer, RQD = Rock Quality Designation, PID = Photoionization Detector | S_u = Field Vane Shear Strength, kips/sq ft, q_u = Unconfined Compressive Strength, kips/sq ft, Ø = Friction Angle (Estimated), N/A = Not Applicable

SAMPLE INFORMATION

Elev. (ft)	Depth (ft)	Casing Blow Cnt.	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blow Count / RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H.S. Depth	Remarks
55	0		1D	0-2	24/12	1-1-2-3			Very loose, brown silty SAND with organics		
50	5		2D	5-7	24/16	4-5-13-20			Medium dense, brown/ gravelly SAND; some silt		
45	10		3D	10-12	24/13	11-14-11-11			Medium dense, brown/ gravelly SAND and SILT, some clay with occasional sand layers		
40	15		4D	15-17	24/12	5-7-10-19			Medium dense, brown silty gravelly SAND		
35	20		5D	20-21.5	18/15	8-13-16-20			Auger into probable WEATHERED BEDROCK 17 TO 19.5'		
30	25		6D	25-27	24/15	13-16-15-19			Medium dense to dense, gray-brown sandy SILT, some gravel		

Bottom of Exploration at 27.0 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B- 6

BORING LOG — B-7

S.W.COLE ENGINEERING INC

BORING NO.: B- 7 | SHEET: 1 of 1 | PROJECT NO.: 20-1470 | DATE START: 11/19/2020 | DATE FINISH: 11/19/2020

CLIENT: University of Southern Maine
PROJECT: Proposed Center for the Arts
LOCATION: Bedford Street, Portland, Maine

Drilling Information

LOCATION: See Exploration Location Plan | ELEVATION (FT): 55' +/- | TOTAL DEPTH (FT): 17.5 | LOGGED BY: Patrick Otis
DRILLING CO.: S. W. Cole Explorations, LLC | DRILLER: Matt Bussey | DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Mobile Drill B-53 | AUGER ID/OD: 2 1/4 in./ 5 5/8 in. | SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic | HAMMER WEIGHT (lbs): 140 | CASING ID/OD: N/A /N/A | CORE BARREL: NQ2 / 2
HAMMER EFFICIENCY FACTOR: | HAMMER DROP (inch): 30
WATER LEVEL DEPTH (ft): No free water observed.
GENERAL NOTES:

ADD TO NOTES AND SYMBOLS: Water Level (at time of Drilling, ▽ At Completion of Drilling, ▼ After Drilling) | D = Split Spoon Sample, V = Thin Walled Tube Sample, R = Rock Core Sample, V = Field Vane Shear | Pen. = Penetration Length, Rec. = Recovery Length, kpf = Blows per Foot, mpf = Minute per Foot | WOR = Weight of Rods, WOH = Weight of Hammer, RQD = Rock Quality Designation, PID = Photoionization Detector | S_u = Field Vane Shear Strength, kips/sq ft, q_u = Unconfined Compressive Strength, kips/sq ft, Ø = Friction Angle (Estimated), N/A = Not Applicable

SAMPLE INFORMATION

Elev. (ft)	Depth (ft)	Casing Blow Cnt.	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blow Count / RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H.S. Depth	Remarks
55	0		1D	0-2	24/18	2-2-2-4			Very loose, dark brown silty SAND (TOPSOIL)		
50	5		2D	5-6.1	13/6	10-34-25/1"	q_u=6.7 %		Medium dense to dense, brown SAND and SILT, some gravel		
45	10		R1	7.5-10	60	8			Bedrock: Grey Schist, moderately hard, fractured		
			R2	12.5-17.5	60	66					

Bottom of Exploration at 17.5 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B- 7

BORING LOG — B-8

S.W.COLE ENGINEERING INC

BORING NO.: B- 8 | SHEET: 1 of 1 | PROJECT NO.: 20-1470 | DATE START: 11/19/2020 | DATE FINISH: 11/19/2020

CLIENT: University of Southern Maine
PROJECT: Proposed Center for the Arts
LOCATION: Bedford Street, Portland, Maine

Drilling Information

LOCATION: See Exploration Location Plan | ELEVATION (FT): 58.6' +/- | TOTAL DEPTH (FT): 3.5 | LOGGED BY: Patrick Otis
DRILLING CO.: S. W. Cole Explorations, LLC | DRILLER: Sam Shaw | DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Mobile Drill B-53 | AUGER ID/OD: 2 1/4 in./ 5 5/8 in. | SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic | HAMMER WEIGHT (lbs): 140 | CASING ID/OD: N/A /N/A | CORE BARREL:
HAMMER EFFICIENCY FACTOR: | HAMMER DROP (inch): 30
WATER LEVEL DEPTH (ft): No free water observed.
GENERAL NOTES:

ADD TO NOTES AND SYMBOLS: Water Level (at time of Drilling, ▽ At Completion of Drilling, ▼ After Drilling) | D = Split Spoon Sample, V = Thin Walled Tube Sample, R = Rock Core Sample, V = Field Vane Shear | Pen. = Penetration Length, Rec. = Recovery Length, kpf = Blows per Foot, mpf = Minute per Foot | WOR = Weight of Rods, WOH = Weight of Hammer, RQD = Rock Quality Designation, PID = Photoionization Detector | S_u = Field Vane Shear Strength, kips/sq ft, q_u = Unconfined Compressive Strength, kips/sq ft, Ø = Friction Angle (Estimated), N/A = Not Applicable

SAMPLE INFORMATION

Elev. (ft)	Depth (ft)	Casing Blow Cnt.	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blow Count / RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H.S. Depth	Remarks
55	0		1D	0-2	24/12	2-3-3-5			Loose, brown/ gravelly SAND and SILT, some rootlets		
									Loose, gray-brown silty SAND, some gravel		

Bottom of Exploration at 3.5 feet
Auger Refusal - Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B- 8

BORING LOG — B-9

S.W.COLE ENGINEERING INC

BORING NO.: B- 9 | SHEET: 1 of 1 | PROJECT NO.: 20-1470 | DATE START: 11/19/2020 | DATE FINISH: 11/19/2020

CLIENT: University of Southern Maine
PROJECT: Proposed Center for the Arts
LOCATION: Bedford Street, Portland, Maine

Drilling Information

LOCATION: See Exploration Location Plan | ELEVATION (FT): 59' +/- | TOTAL DEPTH (FT): 3.5 | LOGGED BY: Patrick Otis
DRILLING CO.: S. W. Cole Explorations, LLC | DRILLER: Sam Shaw | DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Mobile Drill B-53 | AUGER ID/OD: 2 1/4 in./ 5 5/8 in. | SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic | HAMMER WEIGHT (lbs): 140 | CASING ID/OD: N/A /N/A | CORE BARREL:
HAMMER EFFICIENCY FACTOR: | HAMMER DROP (inch): 30
WATER LEVEL DEPTH (ft): No free water observed.
GENERAL NOTES:

ADD TO NOTES AND SYMBOLS: Water Level (at time of Drilling, ▽ At Completion of Drilling, ▼ After Drilling) | D = Split Spoon Sample, V = Thin Walled Tube Sample, R = Rock Core Sample, V = Field Vane Shear | Pen. = Penetration Length, Rec. = Recovery Length, kpf = Blows per Foot, mpf = Minute per Foot | WOR = Weight of Rods, WOH = Weight of Hammer, RQD = Rock Quality Designation, PID = Photoionization Detector | S_u = Field Vane Shear Strength, kips/sq ft, q_u = Unconfined Compressive Strength, kips/sq ft, Ø = Friction Angle (Estimated), N/A = Not Applicable

SAMPLE INFORMATION

Elev. (ft)	Depth (ft)	Casing Blow Cnt.	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blow Count / RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H.S. Depth	Remarks
55	0		1D	0-2	24/12	1-2-2-3			Loose, gray-brown SAND and SILT		
50	5		2D	5-7	24/16	6-11-12-12			Medium dense, gray-brown SAND and SILT, some gravel		

Bottom of Exploration at 8.5 feet
Auger Refusal - Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B- 9

BORING LOG — B-10

S.W.COLE ENGINEERING INC

BORING NO.: B-10 | SHEET: 1 of 1 | PROJECT NO.: 20-1470 | DATE START: 11/19/2020 | DATE FINISH: 11/19/2020

CLIENT: University of Southern Maine
PROJECT: Proposed Center for the Arts
LOCATION: Bedford Street, Portland, Maine

Drilling Information

LOCATION: See Exploration Location Plan | ELEVATION (FT): 60' +/- | TOTAL DEPTH (FT): 3.0 | LOGGED BY: Patrick Otis
DRILLING CO.: S. W. Cole Explorations, LLC | DRILLER: Matt Bussey | DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Mobile Drill B-53 | AUGER ID/OD: 2 1/4 in./ 5 5/8 in. | SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic | HAMMER WEIGHT (lbs): 140 | CASING ID/OD: N/A /N/A | CORE BARREL:
HAMMER EFFICIENCY FACTOR: | HAMMER DROP (inch): 30
WATER LEVEL DEPTH (ft): No free water observed.
GENERAL NOTES:

ADD TO NOTES AND SYMBOLS: Water Level (at time of Drilling, ▽ At Completion of Drilling, ▼ After Drilling) | D = Split Spoon Sample, V = Thin Walled Tube Sample, R = Rock Core Sample, V = Field Vane Shear | Pen. = Penetration Length, Rec. = Recovery Length, kpf = Blows per Foot, mpf = Minute per Foot | WOR = Weight of Rods, WOH = Weight of Hammer, RQD = Rock Quality Designation, PID = Photoionization Detector | S_u = Field Vane Shear Strength, kips/sq ft, q_u = Unconfined Compressive Strength, kips/sq ft, Ø = Friction Angle (Estimated), N/A = Not Applicable

SAMPLE INFORMATION

Elev. (ft)	Depth (ft)	Casing Blow Cnt.	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blow Count / RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H.S. Depth	Remarks
55	0		1D	0-2	24/12	1-1-1-2			Very loose, dark brown silty SAND (TOPSOIL)		
50	5		2D	5-7	24/24	13-13-14-16			Very loose, orange-brown silty SAND and SILT		
									Medium dense, gray-brown SAND and SILT		
									Medium dense, brown silty SAND; trace gravel with silt layers		
									Auger Into Probable bedrock		

Bottom of Exploration at 8.0 feet
Auger Refusal - Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-10

BORING LOG — B-11

S.W.COLE ENGINEERING INC

BORING NO.: B-11 | SHEET: 1 of 1 | PROJECT NO.: 20-1470 | DATE START: 11/19/2020 | DATE FINISH: 11/20/2020

CLIENT: University of Southern Maine
PROJECT: Proposed Center for the Arts
LOCATION: Bedford Street, Portland, Maine

Drilling Information

LOCATION: See Exploration Location Plan | ELEVATION (FT): 57.6' +/- | TOTAL DEPTH (FT): 7.2 | LOGGED BY: Patrick Otis
DRILLING CO.: S. W. Cole Explorations, LLC | DRILLER: Sam Shaw | DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Mobile Drill B-53 | AUGER ID/OD: 2 1/4 in./ 5 5/8 in. | SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic | HAMMER WEIGHT (lbs): 140 | CASING ID/OD: N/A /N/A | CORE BARREL:
HAMMER EFFICIENCY FACTOR: | HAMMER DROP (inch): 30
WATER LEVEL DEPTH (ft): No free water observed.
GENERAL NOTES:

ADD TO NOTES AND SYMBOLS: Water Level (at time of Drilling, ▽ At Completion of Drilling, ▼ After Drilling) | D = Split Spoon Sample, V = Thin Walled Tube Sample, R = Rock Core Sample, V = Field Vane Shear | Pen. = Penetration Length, Rec. = Recovery Length, kpf = Blows per Foot, mpf = Minute per Foot | WOR = Weight of Rods, WOH = Weight of Hammer, RQD = Rock Quality Designation, PID = Photoionization Detector | S_u = Field Vane Shear Strength, kips/sq ft, q_u = Unconfined Compressive Strength, kips/sq ft, Ø = Friction Angle (Estimated), N/A = Not Applicable

SAMPLE INFORMATION

Elev. (ft)	Depth (ft)	Casing Blow Cnt.	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blow Count / RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H.S. Depth	Remarks
55	0		1D	0-2	24/2	1-2-3-4			Very loose, dark brown silty SAND (TOPSOIL)		
50	5		2D	5-7	24/6	7-11-12-19			Medium dense, gray-brown SAND and SILT (REWORKED)		
									Medium dense, brown-gray silty SAND		

Bottom of Exploration at 7.2 feet
Auger Refusal - Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-11

BORING LOG — B-12

S.W.COLE ENGINEERING INC

BORING NO.: B-12 | SHEET: 1 of 1 | PROJECT NO.: 20-1470 | DATE START: 11/19/2020 | DATE FINISH: 11/19/2020

CLIENT: University of Southern Maine
PROJECT: Proposed Center for the Arts
LOCATION: Bedford Street, Portland, Maine

Drilling Information

LOCATION: See Exploration Location Plan | ELEVATION (FT): 56' +/- | TOTAL DEPTH (FT): 27.0 | LOGGED BY: Patrick Otis
DRILLING CO.: S. W. Cole Explorations, LLC | DRILLER: Sam Shaw | DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Mobile Drill B-53 | AUGER ID/OD: 2 1/4 in./ 5 5/8 in. | SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic | HAMMER WEIGHT (lbs): 140 | CASING ID/OD: N/A /N/A | CORE BARREL:
HAMMER EFFICIENCY FACTOR: | HAMMER DROP (inch): 30
WATER LEVEL DEPTH (ft): 9.1ft Soils wet below 9.1'
GENERAL NOTES:

ADD TO NOTES AND SYMBOLS: Water Level (at time of Drilling, ▽ At Completion of Drilling, ▼ After Drilling) | D = Split Spoon Sample, V = Thin Walled Tube Sample, R = Rock Core Sample, V = Field Vane Shear | Pen. = Penetration Length, Rec. = Recovery Length, kpf = Blows per Foot, mpf = Minute per Foot | WOR = Weight of Rods, WOH = Weight of Hammer, RQD = Rock Quality Designation, PID = Photoionization Detector | S_u = Field Vane Shear Strength, kips/sq ft, q_u = Unconfined Compressive Strength, kips/sq ft, Ø = Friction Angle (Estimated), N/A = Not Applicable

SAMPLE INFORMATION

Elev. (ft)	Depth (ft)	Casing Blow Cnt.	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blow Count / RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H.S. Depth	Remarks
55	0		1D	0-2	24/2	1-2-3-4			Loose, brown/ SAND and SILT with organics (TOPSOIL)		
50	5		2D	5-7	24/16	10-11-11-25			Medium dense, brown/ SAND, some gravel, some silt		
45	10		3D	10-12	24/13	11-14-11-14					
40	15		4D	15-17	24/12	5-7-10-19			Medium dense to dense, gray-brown sandy SILT, some gravel		
35	20		5D	20-21.5	18/15	8-13-16-20					
30	25		6D	25-27	24/15	13-16-15-19					

Bottom of Exploration at 27.0 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-12

BORING LOG — B-13

S.W.COLE ENGINEERING INC

BORING NO.: B-13 | SHEET: 1 of 1 | PROJECT NO.: 20-1470 | DATE START: 11/18/2020 | DATE FINISH: 11/18/2020

CLIENT: University of Southern Maine
PROJECT: Proposed Center for the Arts
LOCATION: Bedford Street, Portland, Maine

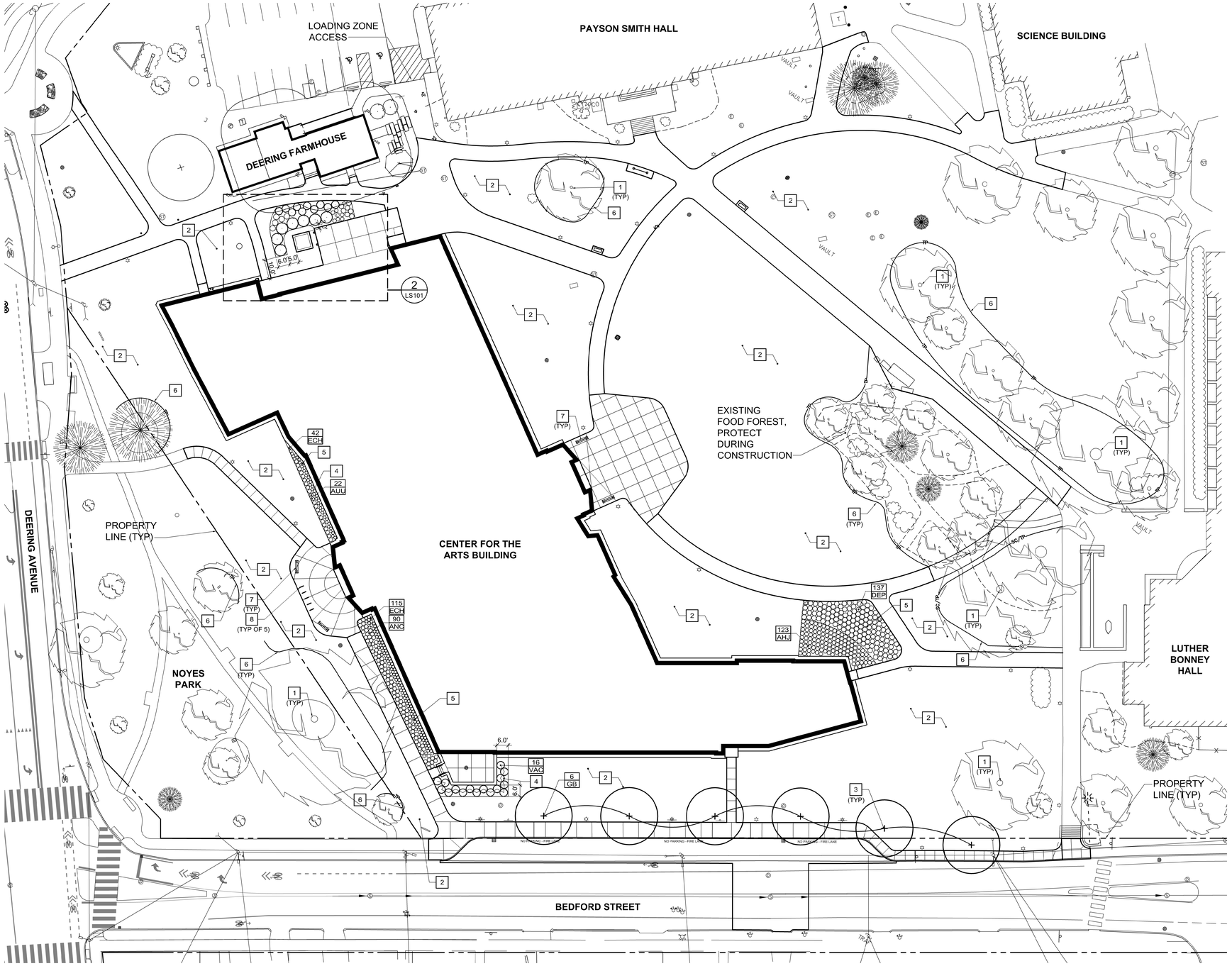
Drilling Information

LOCATION: See Exploration Location Plan | ELEVATION (FT): 58' +/- | TOTAL DEPTH (FT): 9.0 | LOGGED BY: Patrick Otis
DRILLING CO.: S. W. Cole Explorations, LLC | DRILLER: Sam Shaw | DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Mobile Drill B-53 | AUGER ID/OD: 2 1/4 in./ 5 5/8 in. | SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic | HAMMER WEIGHT (lbs): 140 | CASING ID/OD: N/A /N/A | CORE BARREL:
HAMMER EFFICIENCY FACTOR: | HAMMER DROP (inch): 30
WATER LEVEL DEPTH (ft): No free water observed.
GENERAL NOTES:

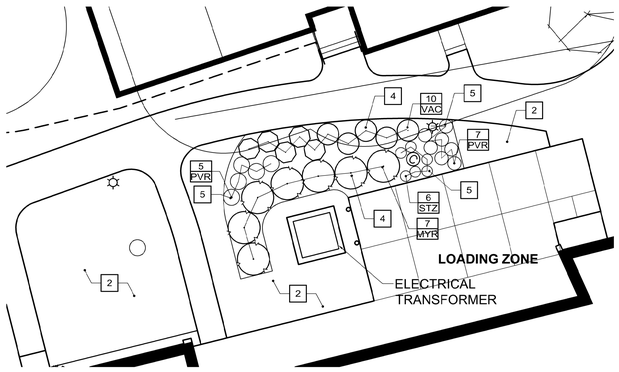
ADD TO NOTES AND SYMBOLS: Water Level (at time of Drilling, ▽ At Completion of Drilling, ▼ After Drilling) | D = Split Spoon Sample, V = Thin Walled Tube Sample, R = Rock Core Sample, V = Field Vane Shear | Pen. = Penetration Length, Rec. = Recovery Length, kpf = Blows per Foot, mpf = Minute per Foot | WOR = Weight of Rods, WOH = Weight of Hammer, RQD = Rock Quality Designation, PID = Photoionization Detector | S_u = Field Vane Shear Strength, kips/sq ft, q_u = Unconfined Compressive Strength, kips/sq ft, Ø = Friction Angle (Estimated), N/A = Not Applicable

SAMPLE INFORMATION

| Elev. (ft) | Depth (ft) | Casing Blow Cnt. | Sample No. | Sample Depth (ft) | Pen./ Rec. (in) | Blow Count / RQD | Field / Lab Test Data | Graphic Log | Sample Description & Classification



1 LS101 LANDSCAPE PLAN
SCALE: 1"=20'



2 LS101 LOADING AREA LANDSCAPE PLAN
SCALE: 1"=10'

PLANT LIST:

	SYM	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENT
TREES	GB	6	GINGKO BILOBA 'AUTUMN GOLD'	AUTUMN GOLD MAIDENHAIR TREE	2" CAL.	45' O.C.	
SHRUBS	AUU	22	ARCTOSTAPHYLOS VAR UVA-URSI	BEARBERRY	2 QT	24" O.C.	
	MYR	7	MYRICA PENNSYLVANICA	NORTHERN BAYBERRY	6'-7' B&B	AS SHOWN	
	VAC	26	VACCINIUM CORYMBOSUM 'NORTHLAND'	HIGH-LOW BLUEBERRY	18"-24" HT.	AS SHOWN	
PERENNIALS	ANC	90	ANENOME CANADENSIS	CANADIAN WINDFLOWER	2 QT	24" O.C.	
	AHJ	123	ANENOME X HYBRIDA 'HONORINE JOBERT'	HONORINE JOBERT WINDFLOWER	#1	24" O.C.	
	DEP	137	DENNSTAEDTIA PUNCTILOBA	HAYSCENTED FERN	2 QT	30" O.C.	
	ECH	157	ECHINACEA PURPUREA 'GREEN JEWEL'	GREEN JEWEL CONEFLOWER	#1	18" O.C.	
	PVR	12	PANICUM VIRGATUM 'ROTSTRAHLBUSCH'	ROTSTRAHLBUSCH SWITCHGRASS	2 GAL	36" O.C.	
	STZ	6	SCHIZACHYIRUM 'THE BLUES'	THE BLUES LITTLE BLUESTEM	2 GAL	18" O.C.	

KEYNOTES: (THIS SHEET ONLY)

1. PROTECT EXISTING TREE TO REMAIN.
2. TURFGRASS (SOD) ALL DISTURBED AREAS UNLESS INDICATED OTHERWISE.
3. TREE PLANTING. SEE DETAILS 1/L-501 AND 2/L501.
4. SHRUB PLANTING. SEE DETAIL 3/L-501.
5. PERENNIAL/GROUNDCOVER PLANTING. SEE DETAIL 4/L-501.
6. TREE PROTECTION FENCE. SEE DETAIL 5/L-501.
7. BENCH.
8. BICYCLE RACKS.

GRID NORTH (NAD83)

GRAPHIC SCALE
20' 10' 0 20' 40'
1"=20'
CHECK GRAPHIC SCALE BEFORE USING

UNIVERSITY OF SOUTHERN MAINE
CENTER FOR THE ARTS
111 Bedford Street, Portland, Maine
CBL: 114A A001001 (ZONE R5 W/ USM OVERLAY)
Client:
University of Southern Maine
P.O. Box 9300
Portland, ME 04104

pfeiffer — A PERKINS EASTMAN STUDIO
PFEIFFER
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LOS ANGELES, CA 90017
PHONE: 213.624.2775
FAX: 213.895.0923

OAK POINT ASSOCIATES architecture engineering planning
OAK POINT ASSOCIATES
231 MAIN STREET
BIDDEFORD, ME 04005
PHONE: 207.283.0193
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LANDSCAPE ARCHITECT/
CIVIL/ STRUCTURAL/ MEP ENGINEER
OAK POINT ASSOCIATES
231 MAIN STREET
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THEATRICAL:
THEATRE PROJECTS
47 WATER STREET
SOUTH NORWALK, CT 06854
PHONE: 203.299.0835

ACOUSTICS/ AUDIO-VISUAL:
JAFFE HOLDEN
114A WASHINGTON STREET
NORWALK, CT 06854
PHONE: 203.838.4167

LIGHTING:
CLINE BETTRIDGE BERNSTEIN
116 EAST 27TH STREET, 4TH FLOOR
NEW YORK, NY 10016
PHONE: 212.741.3280

COST CONSULTANT:
VENUE
226 5TH AVE N, SUITE 705
ST PETERSBURG, FL 33701
PHONE: 727.498.1091

SEAL:
REGISTERED LANDSCAPE ARCHITECT
12-15-20 22
ALLISON TOWNE DIMATTEO
No. 2405
STATE OF MAINE

FOR PERMITTING PURPOSES ONLY
NOT FOR CONSTRUCTION

ISSUE NAME:

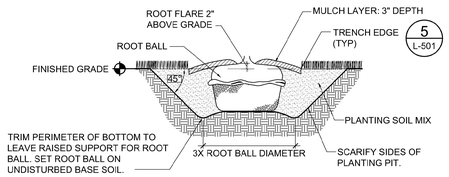
NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

LANDSCAPE PLAN

SCALE: As indicated

LS101

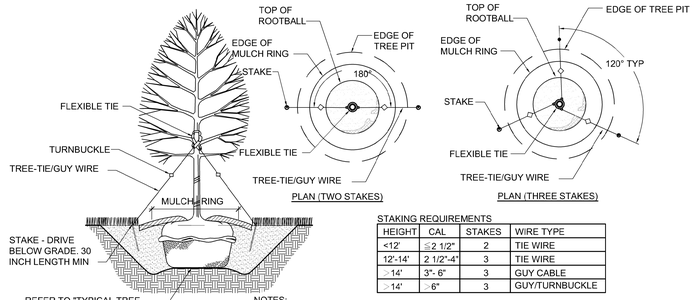
PFEIFFER PARTNERS PROJECT NUMBER: 6170.00



PLANTING PROCEDURE:

1. EXCAVATE CIRCULAR PLANTING PIT 3X THE DIAMETER OF ROOTBALL WITH SIDES SLOPING INWARD AT 45°ANGLE.
2. FILL EXCAVATIONS WITH WATER AND ALLOW TO PERCOLATE. NOTIFY ARCHITECT OF UNEXPECTED WATER SEEPAGE OR RETENTION OF WATER.
3. SET TREE WITH ROOT FLARE 2" ABOVE SURROUNDING FINISHED GRADE. DO NOT BREAK ROOTBALL.
4. REMOVE BURLAP, STRAPS, WIRE CAGE AND OTHER MATERIALS FROM TOP 1/4 OF ROOTBALL.
5. BACK FILL WITH PLANTING SOIL MIX IN LAYERS. TAMP LIGHTLY TO ELIMINATE VOIDS AND AIR POCKETS.
6. WATER THOROUGHLY WHEN ONE-HALF OF PLANTING PIT IS FILLED.
7. PLACE FERTILIZER TABLETS ONE INCH FROM ROOTBALL WHEN ONE-HALF OF PLANTING PIT IS FILLED.
8. PLACE REMAINDER OF FILL AND WATER THOROUGHLY.
9. CONSTRUCT TRENCH EDGE AND MULCH AS SPECIFIED. DO NOT PLACE MULCH WITHIN 3 INCHES OF TRUNK.
10. STABILIZE TREE AS SPECIFIED.

1 TYPICAL TREE ROOTBALL PIT
LS101 L-501 NOT TO SCALE

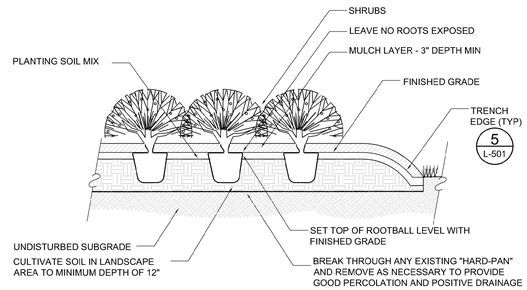


STAKING REQUIREMENTS

HEIGHT	CAL	STAKES	WIRE TYPE
<12'	≤ 2 1/2"	2	TIE WIRE
12'-14'	2 1/2"-4"	3	TIE WIRE
14'	3"- 6"	3	GUY CABLE
14'	6"	3	GUY/TURNBUCKLE

NOTES:
1. SET TREE PLUMB PRIOR TO STAKING.
2. ON MULTI-STEM TREES, ATTACH GUYS TO THE LARGEST TRUNK.
3. ON EVERGREEN TREES, ATTACH GUYS 1/2 WAY UP HEIGHT OF TREE.
4. REMOVE STAKING AND GUYING AFTER ONE YEAR.

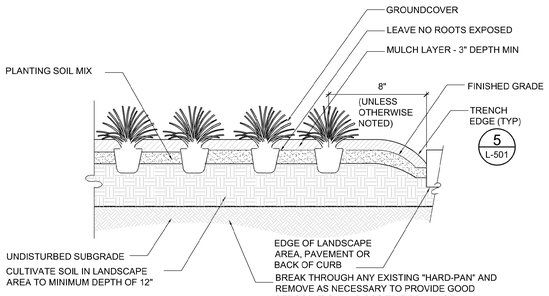
2 TREE STAKING AND GUYING
LS101 L-501 NOT TO SCALE



PLANTING PROCEDURE

1. LAY OUT BED AND OUTLINE WITH TRENCH EDGE. PLACE SOIL FROM EDGE WITHIN BED.
2. ROTOTILL BED TO 12" DEPTH. SPREAD 3" MIN. LAYER OF PLANTING SOIL MIX OVER BED. ROTOTILL SOIL MIX INTO TOP OF BED. INSTALL PLANTS AND MULCH. WATER THOROUGHLY.

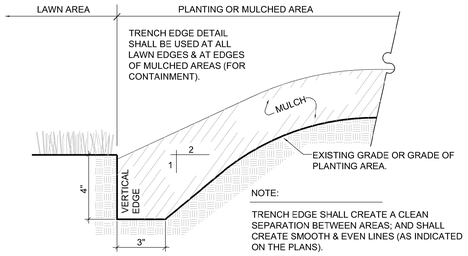
3 GROUP SHRUB PLANTING
LS101 L-501 NOT TO SCALE



PLANTING PROCEDURE

1. LAY OUT BED AND OUTLINE WITH TRENCH EDGE. PLACE SOIL FROM EDGE WITHIN BED.
2. ROTOTILL BED TO 12" DEPTH. SPREAD 3" MIN. LAYER OF PLANTING SOIL MIX OVER BED. ROTOTILL SOIL MIX INTO TOP OF BED. INSTALL PLANTS AND MULCH. WATER THOROUGHLY.

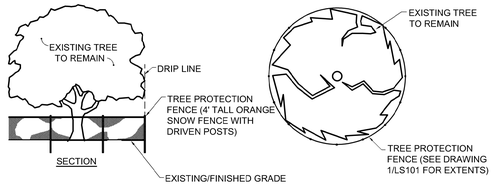
4 GROUNDCOVER/PERENNIAL PLANTING
LS101 L-501 NOT TO SCALE



NOTE:

TRENCH EDGE SHALL CREATE A CLEAN SEPARATION BETWEEN AREAS; AND SHALL CREATE SMOOTH & EVEN LINES (AS INDICATED ON THE PLANS).

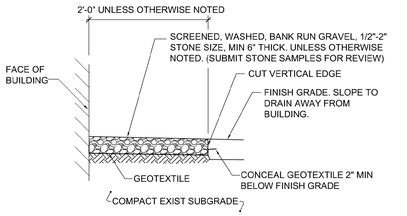
5 TRENCH EDGE - SECTION
L-501 L-501 NOT TO SCALE



TREE PROTECTION NOTES:

1. DO NOT STORE MATERIALS OR EQUIPMENT WITHIN TREE PROTECTION ZONES.
2. EXCAVATE ONLY BEYOND DRIP LINE OF TREE UNLESS INDICATED OTHERWISE ON DRAWINGS. PRUNE ROOTS IF EXPOSED.
3. DIRECT VEHICLE EXHAUST AWAY FROM TREE PROTECTION ZONES.
4. HAND EXCAVATE WITHIN TREE PROTECTION ZONES WHERE EXCAVATION IS INDICATED ON DRAWINGS.
5. REQUIRED ROOT CUTTING AND REMOVAL OF DEAD OR DAMAGED BRANCHES SHALL BE APPROVED BY THE CITY OF PORTLAND ARBORIST PRIOR TO BEING PERFORMED.

6 TREE PROTECTION FENCE DETAIL
CD101,CG101,LS101 L-501 NOT TO SCALE



7 STONE DRIP EDGE/MOW STRIP DETAIL
CS101,LS101 L-501 NOT TO SCALE

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SEAL:

LICENSED LANDSCAPE ARCHITECT 12-15-22 ALLISON TOWNE DIMATTEO No. 2403 STATE OF MAINE

FOR PERMITTING PURPOSES ONLY
NOT FOR CONSTRUCTION

ISSUE NAME:

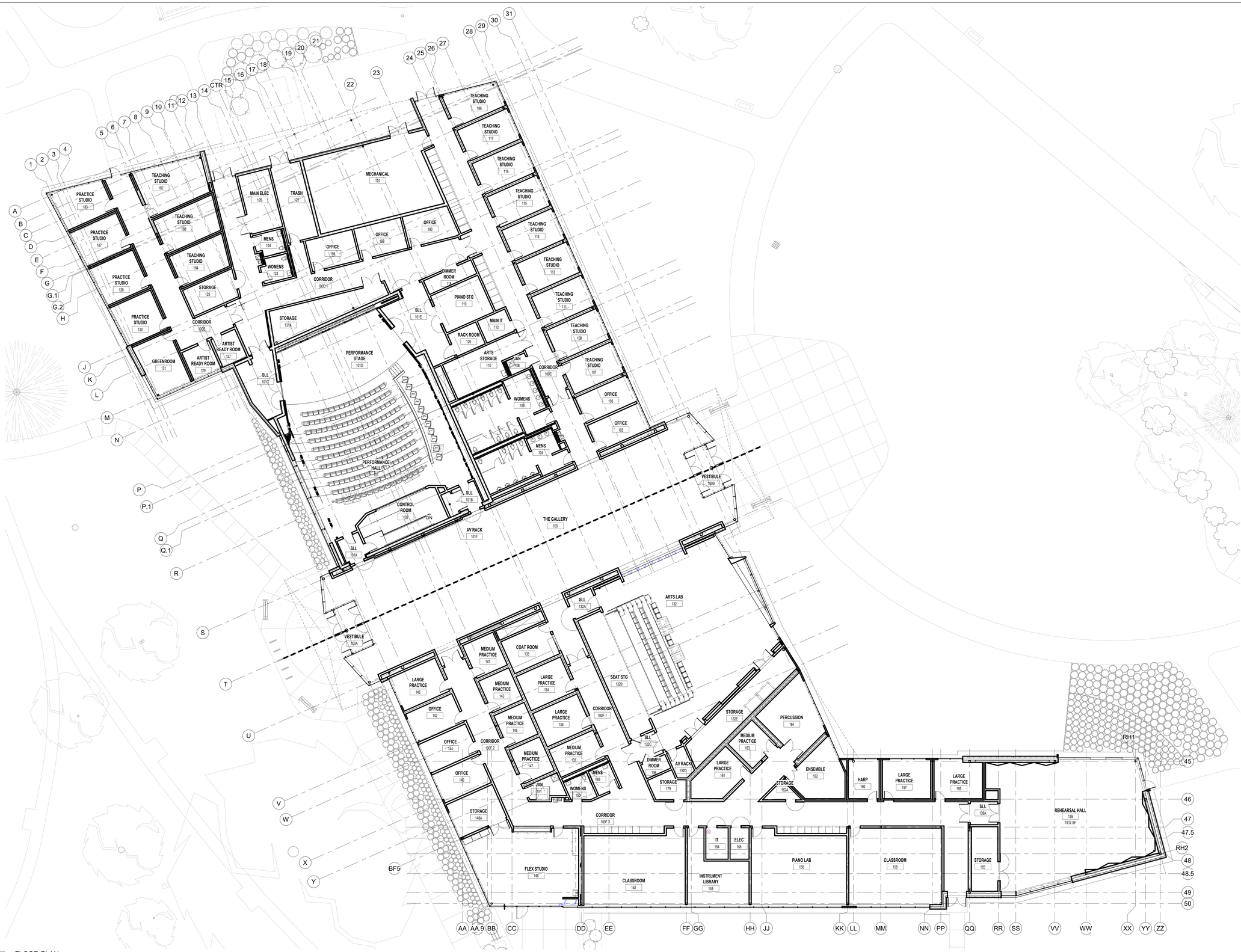
NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

LANDSCAPE DETAILS

SCALE: As indicated

L-501

PFEIFFER PARTNERS PROJECT NUMBER: 4170.02



1 FLOOR PLAN
3/32" = 1'-0"

GENERAL NOTES

1. ALL WALLS AND PARTITIONS SHOWN ARE FULL HEIGHT U.N.O.
2. INSULATE WALLS TO THE UNDERSIDE OF STRUCTURE, U.N.O.
3. ALL INTERIOR SURFACES ARE TO BE PAINTED U.N.O. REFER TO SHEET A661 FOR FINISH SCHEDULE.
4. EXPOSED STRUCTURE, DUCTWORK, PIPING, EQUIPMENT, ETC TO BE PAINTED, U.N.O.
5. REFER TO STRUCTURAL DRAWINGS FOR SHEAR WALL LOCATIONS.
6. USE MOISTURE RESISTANT GYPSUM BOARD AT WET LOCATIONS.
7. FOR ACCESSIBLE PLUMBING FIXTURES, REFER TO SHEET G004.
8. WHERE WALLS ARE INDICATED TO BE FIRE-RESISTANCE RATED, PROVIDE AN APPROVED THROUGH-PENETRATION FIRESTOP SYSTEM INSTALLED AND TESTED TO ASTM E814 OR UL1479.
9. DIMENSIONS ARE TO FACE OF FINISH OF SCHEDULED PARTITION U.N.O.
10. SEE FINISH SCHEDULE A661 FOR INTERIOR FINISHES. REFERENCE ACOUSTIC MATRIX IN PROJECT MANUAL FOR ADDITIONAL FINISH GUIDELINES
11. SEE ACOUSTIC NARRATIVE FOR DESIGN NOISE CRITERIA FOR SPACES.
12. SEE PROJECT MANUAL FOR SUPPLEMENTAL INFO NOT SHOWN ON DRAWINGS.

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SEAL:

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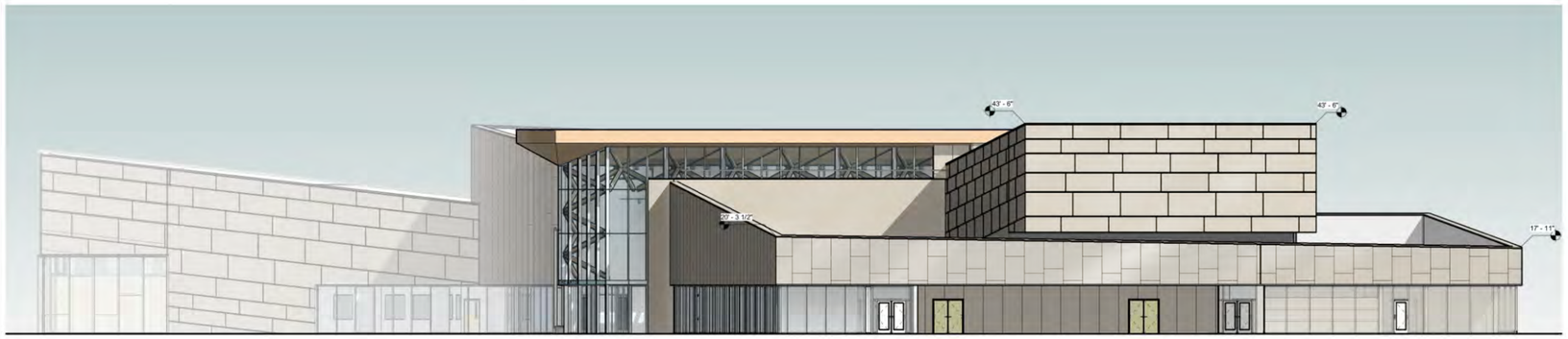
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

FLOOR PLAN

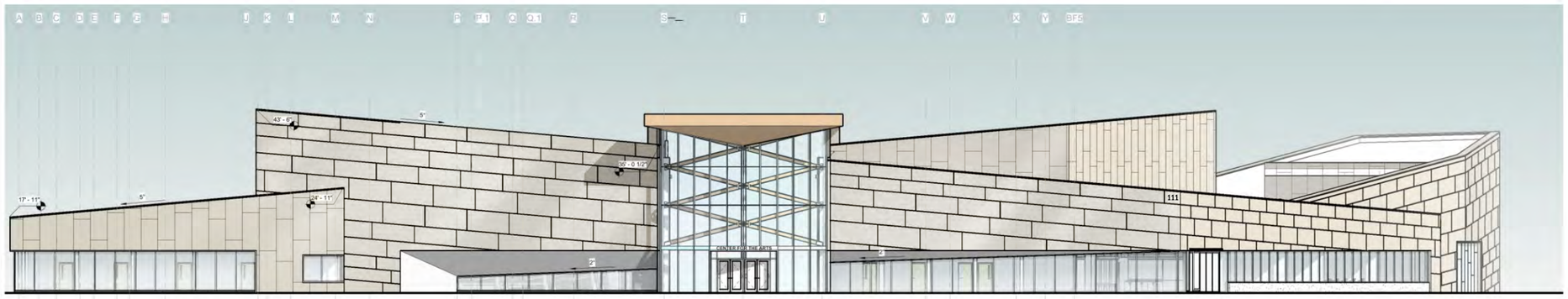
SCALE: As indicated

AA101

PFEIFFER PARTNERS PROJECT NUMBER: 6170.00

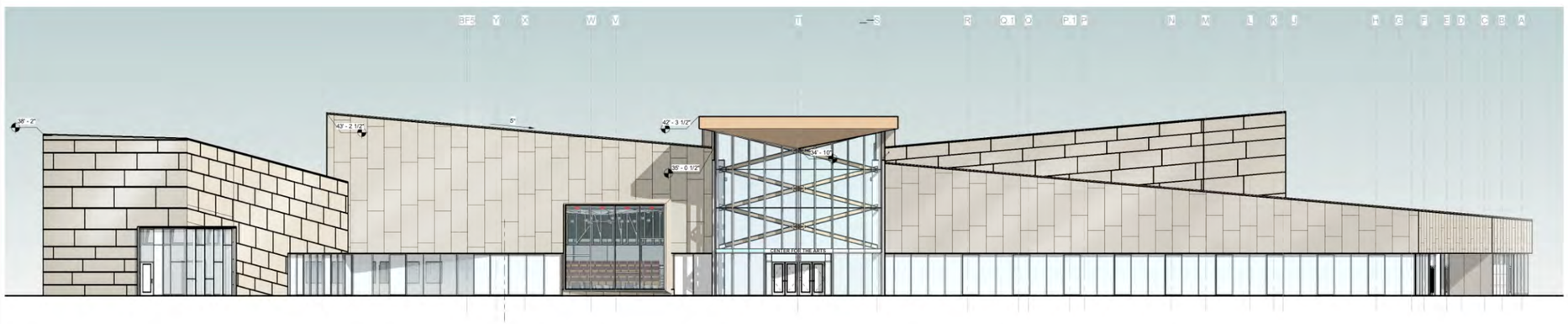


4 WEST ELEVATION
3/32" = 1'-0"

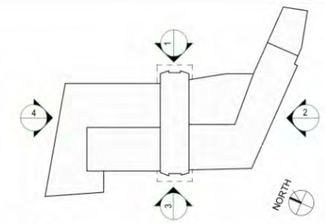


3 SOUTH ELEVATION
3/32" = 1'-0"

2 EAST ELEVATION
3/32" = 1'-0"



1 NORTH ELEVATION
3/32" = 1'-0"



KEYPLAN

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NO.	DESCRIPTION	DATE
1	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

EXTERIOR ELEVATIONS

SCALE: As indicated

AA201

PFEIFFER PROJECT NUMBER: 4370.02

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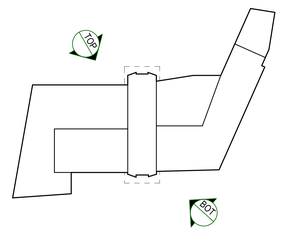
VIEW FROM CAMPUS GREEN

VIEW FROM NOYES PARK



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1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

RENDERED VIEWS

SCALE: As indicated

AA901

PFEIFFER PARTNERS PROJECT NUMBER: 6170.00

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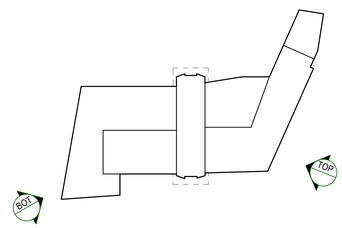
VIEW FROM BEDFORD STREET

VIEW FROM DEERING AVE



KEY PLAN

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CENTER FOR THE ARTS

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ISSUE NAME:

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RENDERED VIEWS

SCALE: As indicated

AA902

PFEIFFER PARTNERS PROJECT NUMBER: 6170.00

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1 - VIEW FROM BEDFORD STREET

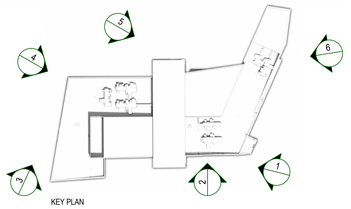
2 - VIEW FROM NOYES PARK

3 - VIEW FROM DEERING AVE WALKWAY

4 - VIEW FROM FARMHOUSE PATHWAY

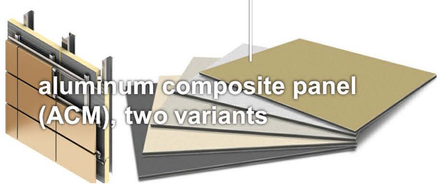
5 - VIEW FROM CAMPUS GREEN

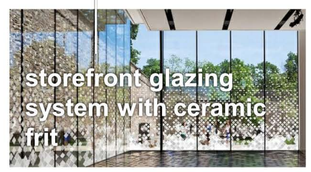
6 - VIEW FROM BEDFORD STREET



KEY PLAN

ROOFTOP HVAC VISIBILITY STUDIES





BUILDING MATERIALS DIAGRAM

UNIVERSITY OF SOUTHERN MAINE
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ISSUE NAME:

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RENDERED VIEWS

SCALE: As indicated

AA903

PFEIFFER PARTNERS PROJECT NUMBER: 6170.00

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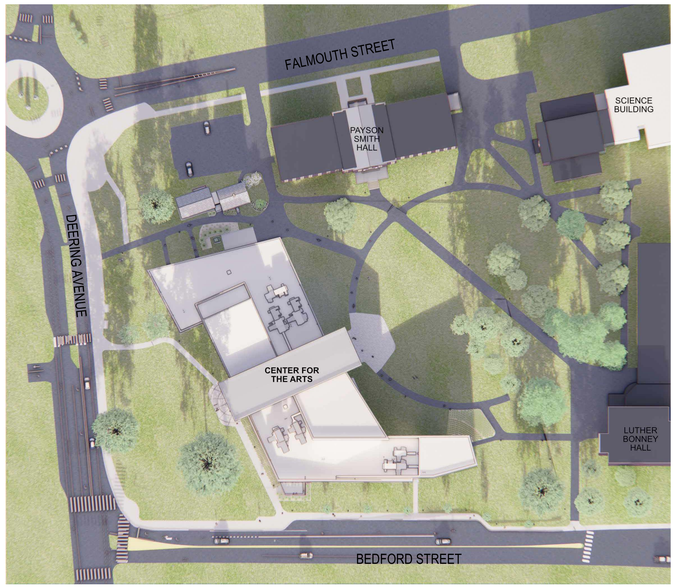
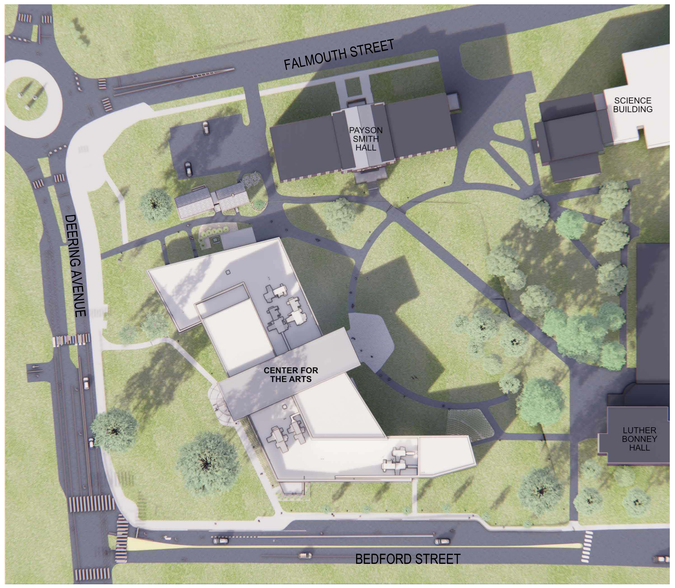
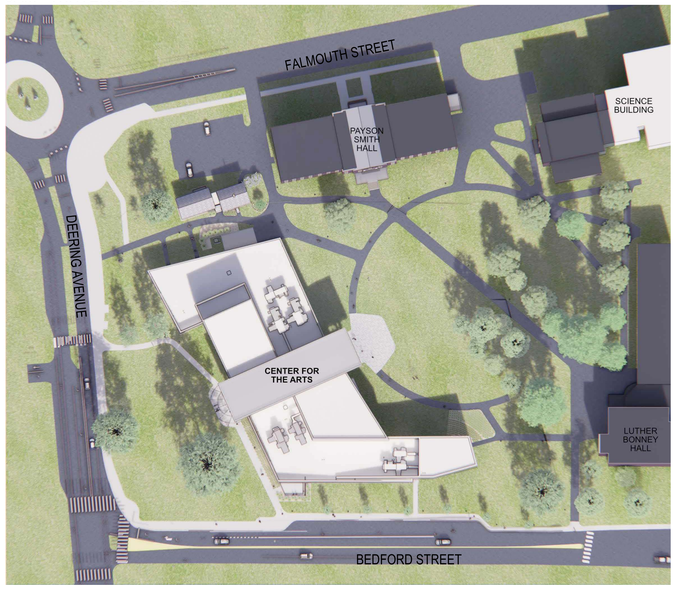


9AM - WINTER SOLSTICE

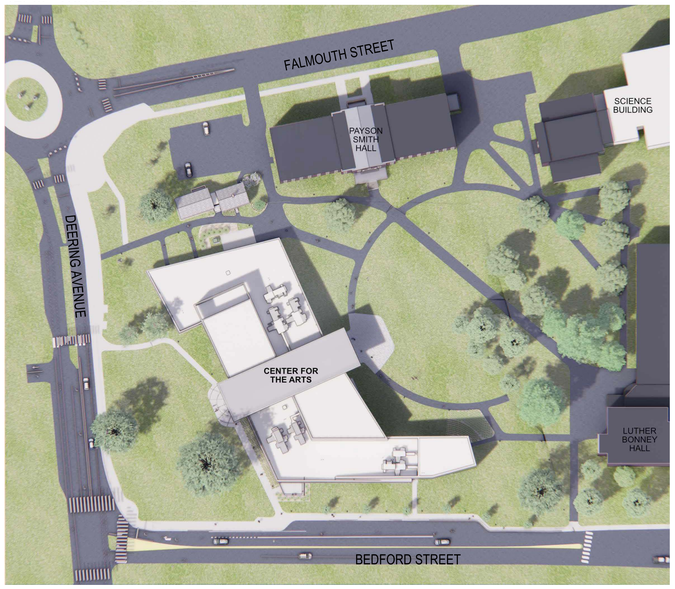


12PM - WINTER SOLSTICE

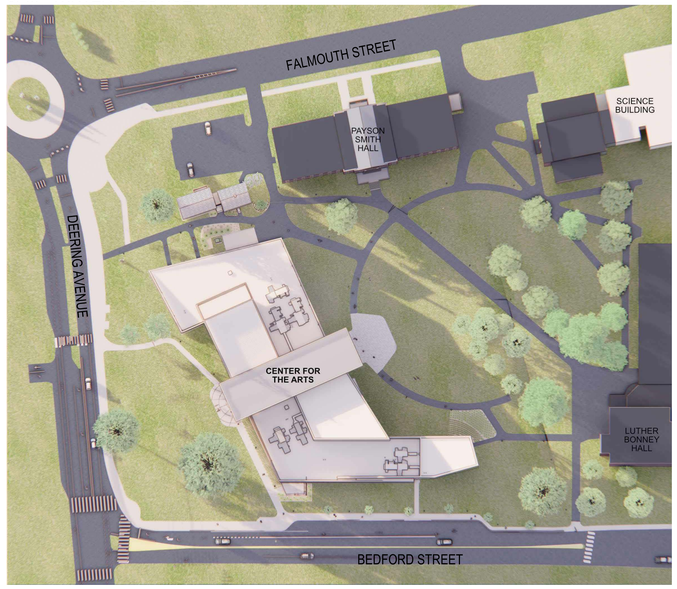
5PM - WINTER SOLSTICE



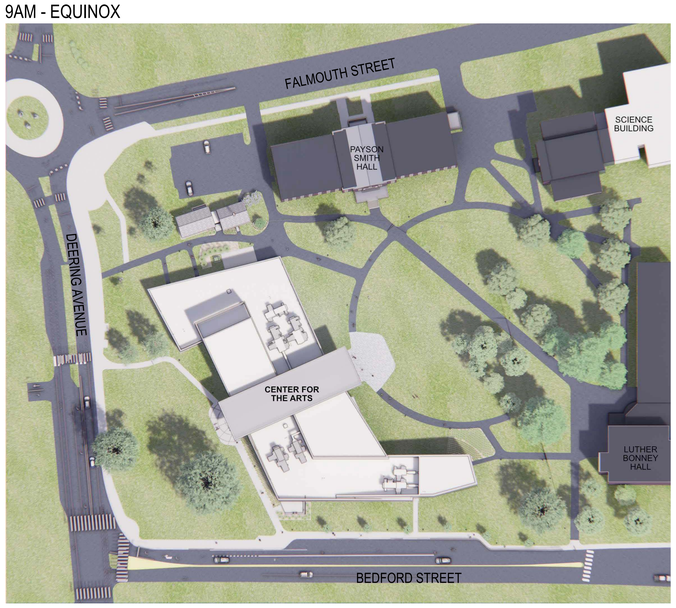
9AM - EQUINOX



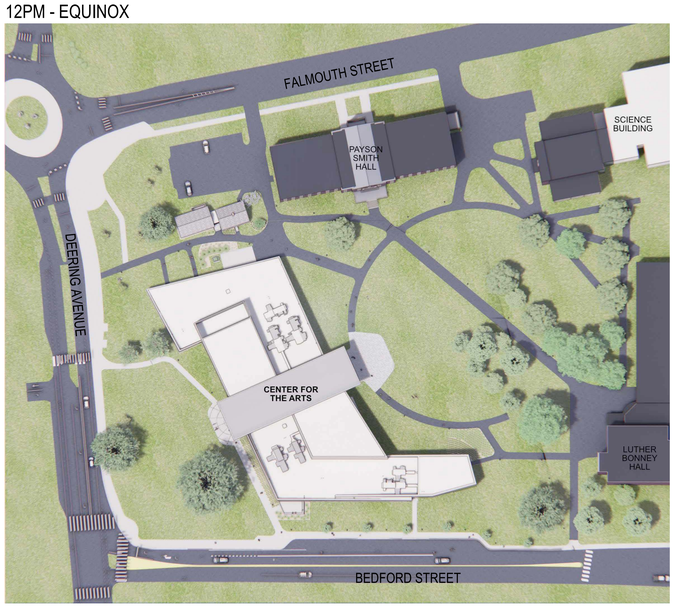
12PM - EQUINOX



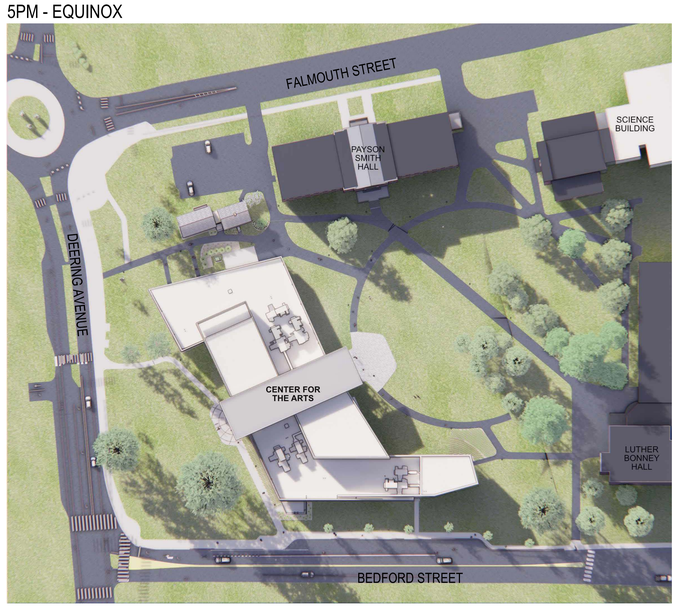
5PM - EQUINOX



9AM - SUMMER SOLSTICE



12PM - SUMMER SOLSTICE



5PM - SUMMER SOLSTICE

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226 5TH AVE N, SUITE 705
ST PETERSBURG, FL 33701
PHONE: 727.498.1091

SEAL:

ISSUE NAME:

NO.	DESCRIPTION	DATE
1.	SITE PLAN REVIEW/ SITE LOCATION OF DEVELOPMENT	12/15/2022

SOLAR STUDIES

SCALE: 3" = 1'-0"

AA904

PFEIFFER PARTNERS PROJECT NUMBER: 6170.00

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12/14/2022 12:38:53 AM

PLANNING BOARD REPORT
PORTLAND, MAINE

185 Commercial Street
Major Site Plan Application
PL-002265-2022
185 Commercial LLC.

Submitted to:	Portland Planning Board	**Prepared By:**	Austen Torres Davis
Public Hearing Date:	February 28, 2023	**Date:**	February 24, 2023

I. INTRODUCTION

185 Commercial LLC has submitted a Major Site Plan application to facilitate the construction of a new six-story mixed-use building with four residential and two commercial units, to replace an existing surface parking lot located at 185 Commercial Street. This project is zoned B-3 Downtown Business and is located within the Old Port Historic District.

The 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 268 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the February 17 and 21, 2023 editions of the Portland Press Herald.

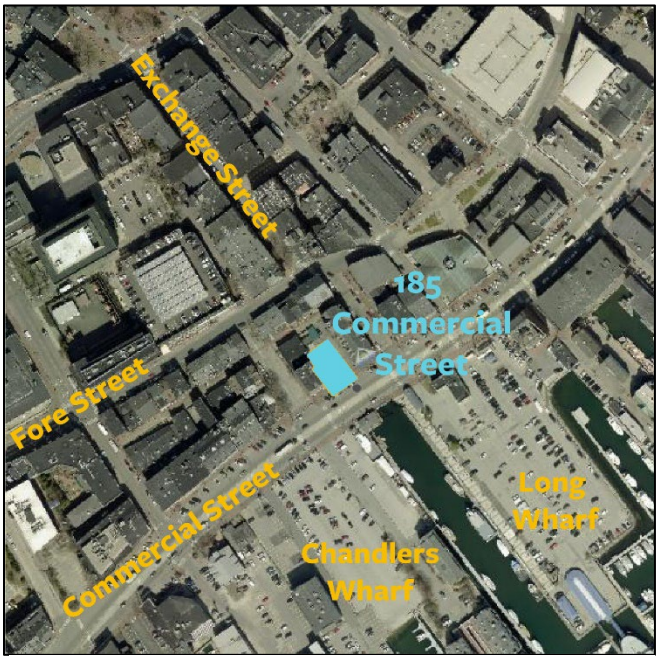


Figure 1. 185 Commercial Street in Neighborhood Context

The Planning Board held a workshop on February 14, 2023.

Applicant: 185 Commercial Street, LLC.
Applicant Team: Steve Bushey, Gorrill Palmer Consulting Engineers.

II. PROJECT ACTIONS

Applicant's Proposal	Applicable Standards
Major Site Plan	Land Use Code Sec. 8.2 Downtown Entertainment Overlay Standards; Land Use Code Sec. 8.8 Pedestrian Activities District Overlay, Land Use Code Sec. 14.6 Site Plan Review Standards

III. PROJECT DATA

Existing Zoning	B-3 Downtown Business
Lot Size	4,319 sf
Disturbed Area	4,319 sf
Existing Use	Surface Parking Lot
Proposed Use	Mixed-use: Ground Floor Commercial with Multifamily Apartment Units Above

SUBJECT	*Existing*	*Proposed*	*Net Change*
Impervious Surface Area	4,319 sf	4,319 sf	+0 sf
Building Footprint	0 sf	4,319 sf	+4,319 sf
Building Floor Area	0 sf	11,049 sf	+11,049 sf
Residential Units	0	4	+4
Residential Floor Area	0	11,049	+11,049
Commercial Units	0	2	+2
Commercial Floor Area	0	5,440 sf	+5,440
Parking Spaces	0	0	+0
Bicycle parking Spaces	0	2	+2

IV. BACKGROUND AND EXISTING CONDITIONS

Site Conditions

The subject property at 185 Commercial Street is a mid-block parcel occupied by an existing surface parking lot for public use, located across from Chandler's Wharf and Long Wharf on the north side of Commercial Street. The surrounding area is generally characterized by intensive mixed-use development, with residential, maritime and a variety of commercial uses.

Figure 2. 185 Commercial Street, Existing Conditions

Though no public transportation exists along Commercial Street in the vicinity of the site, South Portland Bus Routes 21, 24A, and 24B, are nearby along York and Union Streets, while GP Metro Route 8 is accessible on nearby Middle Street. These routes are approximately 860 and 745 feet from the site respectively.

V. SEPTEMBER 27, 2022 WORKSHOP SUMMARY

A Planning Board Workshop was held on February 14, 2023. Board deliberation at the workshop included questions regarding the total residential unit count, clarification of rights of any abutters, including Amigos Restaurant to utilize the site, support for the preservation of the existing Pin-Oak street tree on Commercial Street, and a request that the applicant consider additional improvements to the alleyway connecting Commercial Street and Wharf Street. The applicant, in both the course of the workshop, and as part of a subsequent submission of updated plans and materials, has since responded to this feedback.

VI. PROPOSED DEVELOPMENT

The applicant proposes to develop a six-story mixed-use building totaling approximately 11,049 square feet in floor area, with four residential units intended to be apartments for rent, as well as both a ground-floor and second-floor commercial space. As there are fewer than 10 residential units being proposed, the City's Inclusionary Zoning ordinance does not apply to this development. The proposed building would rise to a maximum height of approximately 65 feet. Information on the location of HVAC and other mechanical equipment is forthcoming.

The first two floors would be occupied by retail space, while the upper four floors are proposed to have one residential unit each. No parking spaces are being provided, nor are they required based upon the development's proximity to public transportation. To meet eligibility criteria for this parking exemption, the applicant has provided a transportation demand management (TDM) plan.

Associated site improvements proposed in connection with the new building include a rebuilt sidewalk to be constructed of brick with granite curbing, and the preservation of one existing street tree.

Figure 3. Site Rendering

VI. RIGHT, TITLE AND INTEREST AND FINANCIAL/TECHNICAL CAPACITY

The owner of the property is 185 Commercial LLC, a Maine-based limited liability company. The applicant has submitted a Statement of Financial Capacity letter from their financial institution, NBT Bank, as demonstration of their financial capacity (Attachment F). A Statement of Technical Capacity has been provided by the applicant's representative, Gorrill-Palmer Consulting Engineers, which lists the consultant team, including civil engineers, architects, surveyors, geotechnical, and construction management (Attachment G).

VII. ZONING ANALYSIS

Dimensional Use Requirements

185 Commercial Street (parcel 032 U003001), is located in the B-3 Downtown Business zone. The B-3 dimensional standards are described in Table 7-E of the Land Use Code. Multi-family dwellings and Retail are listed as permitted uses in the B-3 zone as described in Table 6-C of the Land Use Code.

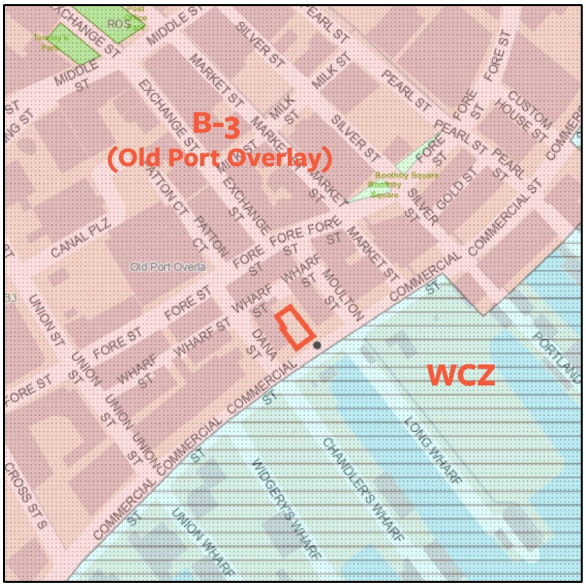


Figure 4. 185 Commercial Street in R-6 Zone Context

Per Article 19, Table 19-A, the minimum off-street parking requirement is calculated as one space per dwelling unit, as well as one space per 200 square feet of first floor area in excess of 2,000 square feet. However, per categorical exemptions to off-street parking specified in Table 19-B, no off-street parking is required for sites within ¼ mile of fixed route transit service. In order to take advantage of this provision, developments of greater than 10,000 square feet are further required to provide a TDM Plan.

As no vehicular parking spaces are proposed for a development of 11,049 square feet, the applicant was required to provide a TDM plan, which was submitted following the February 14th workshop. The applicant also proposes to provide two bicycle parking spaces in the adjacent alleyway.

The following table shows the dimensional requirements of the B-3 zone which are met by this proposal:

Standard	*B-3 Zoning Requirement*	*185 Commercial Street*
Minimum Lot Area	N/A	4,319 square feet
Minimum Street Frontage	15 feet	48.82 feet
Maximum Front Setback	5 Feet	0.5 Feet
Maximum Lot Coverage	N/A (25% of lot area for portions of structures exceeding 125 ft. in height)	45.98%
Maximum Structure Height	65 feet	65 feet
Maximum Impervious Area	100%	100%
Minimum Off-Street Parking	0	0
Minimum Off-Street Bicycle Storage	2 Spaces (per 5 units)	2

VIII. DEVELOPMENT REVIEW

A. DOWNTOWN ENTERTAINMENT OVERLAY STANDARDS (Section 8.2.5)

The proposed development has been reviewed by Staff for conformance with the relevant review standards of Portland's Land Use Code. Staff comments are listed below.

a) Separate Business Entities

The proposed project includes two spaces used for commercial activity described as retail, one on the first floor and another on the second floor. As the site is not intended to have two or more entertainment businesses operating on site, this standard is not applicable.

B. PEDESTRIAN ACTIVITIES DISTRICT OVERLAY (Section 8.8.1)

The proposed development has been reviewed by Staff for conformance with the relevant review standards of Portland's Land Use Code. Staff comments are listed below.

a) Permitted Uses

Being within the PAD Overlay, at least 75% of the proposed structure must be occupied by the proposed retail space, while the minimum floor area of the ground floor space must be 75% of the frontage multiplied by a depth of 20 feet.

With street frontage of 49.3 feet, the required retail frontage is 36.9 feet, and the floor area required is 739.5 square feet. With approximately 37 feet of retail street frontage proposed on Commercial Street, the building as designed meets the intent of this standard.

C. SITE PLAN REVIEW STANDARDS (Section 14.6)

The proposed development has been reviewed by Staff for conformance with the relevant review standards of Portland's site plan ordinance and other applicable regulations. Staff comments are listed below.

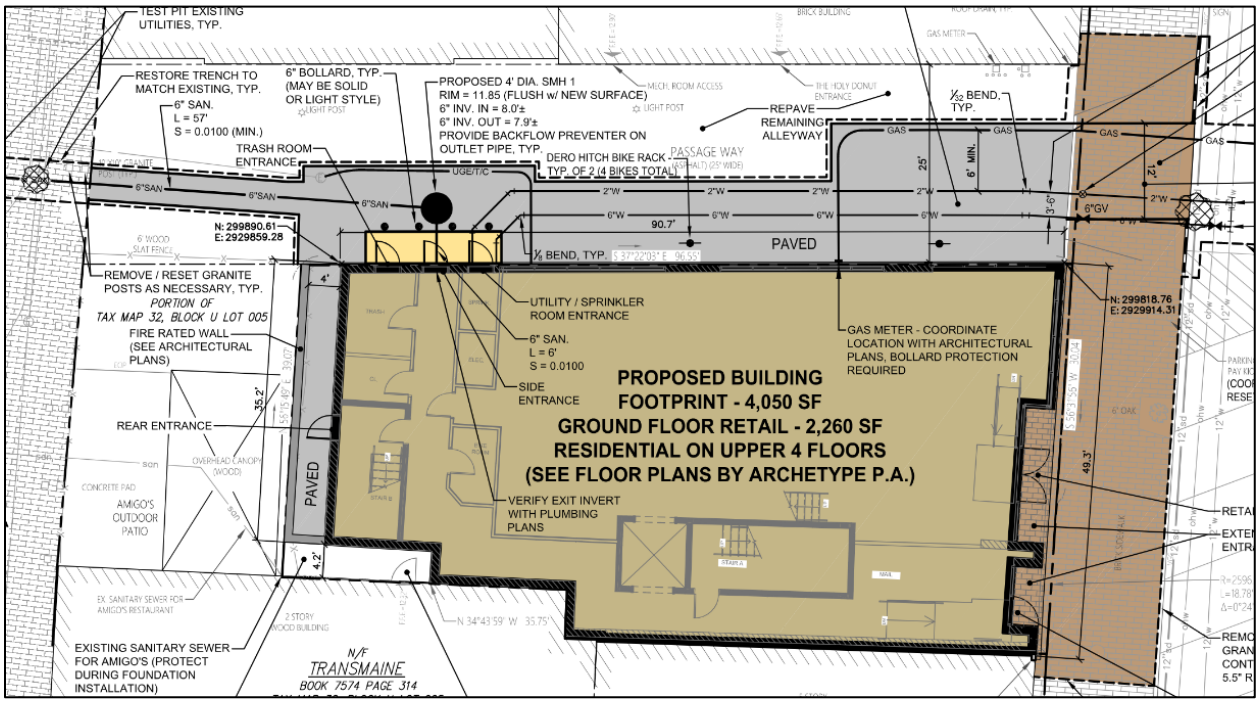


Figure 5. Site Plan of 185 Commercial Street

a) Transportation Standards

1. Impact on Surrounding Street Systems

The proposed project is located on Commercial Street, which is a high-volume arterial street. The applicant is proposing no parking spaces for this four-unit residential and commercial mixed-use building. The proposed project is consistent with neighboring sites and buildings along Commercial Street. The site is in a walkable, urban area accessible to public transit and it is not anticipated to adversely affect surrounding street systems.

Staff response: This standard is considered met.

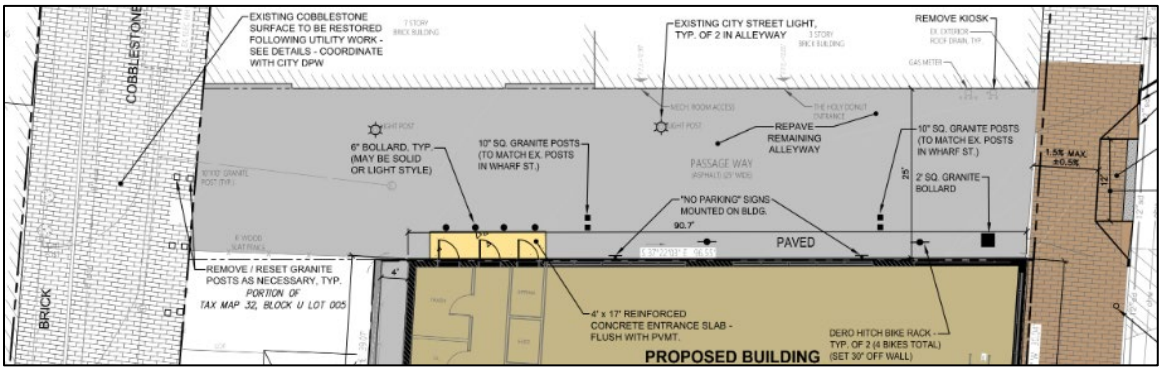


Figure 6. Alleyway Detail

2. Access and Circulation

The applicant proposes a complete buildout of the site with no new curb-cuts or vehicular access other than from the public right-of-way of Commercial Street. New sidewalk and curbs would be built as part of this project.

Along the eastern edge of the building an existing alleyway runs between Commercial and Wharf Streets. The applicant has provided right, title, and interest over this alleyway. To account for this since the Workshop, the scope of the proposed site improvements was expanded to include the entirety of the alleyway, including improvements to material use, bike parking, and lighting. The applicant proposes to rebuild the brick sidewalk along Commercial Street, and repave the asphalt throughout the adjacent alleyway. In response to Board feedback at the February 14th workshop, staff recommend the use of an alternative material such as brick, pavers or cobblestone within the alleyway in order to enhance this space and visually tie the alleyway to Wharf Street. Staff are also requesting that the applicant establish a public access easement encompassing the alleyway to permit general pedestrian movement through this space.

Staff response: This standard has been met.

3. Public Transit Access

All residential developments consisting of 20 or more dwelling units shall provide a transit shelter adjacent to or within the public right-of-way along its frontage. The proposed mixed-use project provides a total of six residential units, therefore this standard is not applicable.

4. Parking: Vehicle and Bicycle

This development proposes no parking spaces to be used by residents or the commercial space, with no changes to on-street parking. This amount is equivalent to the zero parking spaces which are required for this development per zoning. The applicant is required to provide two bicycle parking spaces per five units, therefore they're required to provide two bicycle parking spaces.

In order to qualify for the transit-proximate categorical exemption to off-street parking specified in Table 19-B, the applicant has submitted a TDM plan to meet standards.

Staff response: This standard has been met.

b) Environmental Quality Standards

1. Preservation of Significant Natural Features

This is an urban infill site; the lot currently consists of 100% impervious surface currently used for surface parking. As such, the site is devoid of significant natural features as defined by Section 14.6.2.

Staff response: This standard has been met.

2. Landscaping and Landscape Preservation

The applicant initially proposed to remove one street tree to facilitate this development, though in response to staff and Planning Board recommendation, this tree is now proposed to be preserved. Based on the unit count of four-units, three additional street trees are required.

As site constraints prevent the applicant from planting the required number of street trees along their frontage, they may utilize a street tree alternative as described in the City's Technical Manual Section 4.6.4 to meet the requirement. Alternatives include planting trees in nearby rights-of-way, or paying $400-per-tree to be replaced into the City of Portland Tree Fund.

Staff Response: Planning and Urban Development staff have coordinated with The City of Portland Forestry Division and the Department of Public Works, and have determined that the existing Pin-Oak tree should be preserved. To meet this standard, a payment of $1,200 ($400 x 3 trees) shall be paid into the City of Portland Tree Fund. Regarding the Pin-Oak tree, the applicant has stated that they will work with City staff to attempt to preserve the tree during the course of construction, and will incorporate protective measurements as part of the construction management plan.

3. Water Quality, Storm Water Management and Erosion Control

The applicant has submitted a wastewater capacity authorization as well as ability-to-serve confirmation from the Portland Water District. Ability-to-serve confirmation from Central Maine Power is forthcoming.

Comments from Senior Water Resources Engineer Justin Pellarin are as follows:

- *The applicant is proposing to make a connection into the Commercial Street storm drain system. This system is tidally influenced and is known to regularly surcharge with tidal water and stormwater. The applicant should install a backflow preventer down stream of DMH-1 to prevent tidal and stormwater surcharges into the private drainage system.*
- *The proposed connection to the Commercial Street storm drain must be made with a manhole per requirements listed in Section 2 of the Technical Manual.*
- *DPW would point out that the proposed building FFE is being set to 12.00, which only would allow for about 18"-24" of flood ponding depth in the Commercial street right of way before flooding of the proposed building's first floor would occur during a street flooding event. We would suggest that the applicant consider raising the building FFE to provide increased resiliency to Commercial Street flooding which occurs frequently and only stands to become worse as a result of climate change.*

Staff Response: In order to meet this standard the applicant shall address the above comments and update plans to the satisfaction of DPW water resources reviewers.

c) Public Infrastructure and Community Safety Standards

1. Consistency with City Master Plans

This development is consistent with the goals and policies outlined in Commercial Street Operations and Master Plan. In order to meet the intent of the Commercial Street Operations and Master Plan, the development is required to meet landscape and lighting standard of the Technical Manual. Staff have determined that there is adequate lighting along Commercial Street and the applicant is not required to provide added street lighting. Additionally, Staff find that, though the existing light poles in the alleyway do not meet current Technical Manual standards, they fit within a broader context of lighting in the area of Wharf Street that uses the same light poles.

Staff Response: This standard has been met.

2. Public Safety and Fire Prevention (CPTED and Fire)

The Crime Prevention through Environmental Design (CPTED) standards in the site plan ordinance addresses 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 proposed project incorporates ground level retail with windows fronting Commercial Street and wrapping the corner of the building providing natural surveillance and placing activity where individuals become part of the natural surveillance.

The site is subject to Municipal Street Lighting Standards of the Technical Manual (Section 10). At the time of the Workshop staff noted that this development must meet standards of Figures X-6A and X-6B, as well as X-8A and X8B (Attachment 4). Upon further review, no added street lighting is needed along Commercial Street, and staff find that the existing light poles in the alleyway should be repaired rather than replaced.

Staff Response: In order to meet this standard, the applicant shall provide lighting and photometrics information.

3. Availability and Adequate Capacity of Public Utilities

The Applicant has provided ability-to-serve confirmation from the Portland Water District, as well as documentation of Wastewater Capacity Authorization from the Department of Public Works.

Staff Response: In order to meet this standard, the applicant shall provide ability-to-serve confirmation from Central Maine Power for review by Planning and Urban Development, and DPW staff.

d) Site Design Standards

1. Massing, Ventilation and Wind Impact

The new building proposed is not anticipated to impact any adjacent structures as it relates to bulk or diminution of available light and air to abutting properties. The building does not differ substantially from adjacent and nearby structures regarding massing so negative impacts are not anticipated. The proposed building rises up to a height of approximately 65 feet, which is permitted in the B-3 zone. Additionally, this project was reviewed and approved by the City of Portland Historic Preservation Board, which approved the building's design and appropriateness in its context.

Staff Response: This standard has been met.

2. Shadows

As an infill development that conforms to dimensional standards and setbacks, negative impacts regarding shadows are not anticipated; additionally, the development site is not proximate to any parkland.

Staff Response: This standard has been met.

3. Snow and Ice Loading

The applicant's current plans show 100% buildout of the owned parcel. As such, snow is not anticipated to create negative impacts on site. The applicant has provided information that snow removal from the alleyway will be performed by the applicant's property manager, with all snow removed for offsite disposal.

Staff Response: This standard has been met.

4. View Corridors

Not applicable.

5. Historic Resources

The development is located within the Waterfront (Old Port) Historic District and underwent review by the Historic Preservation Board (Application # HPBR-001916-2022). Over the course of three Historic Preservation Board Workshops and two Public Hearings, the building design evolved significantly. Historic Preservation staff noted that the north side of Commercial Street is one of the most architecturally cohesive in the city, with a mostly-continuous row of similarly-scaled and architecturally related structures. The Historic Preservation Board approved the proposed design on September 7, 2022 and subsequently issued a Certificate of Appropriateness (Attachment 4).

Staff Response: This standard has been met.

6. Exterior Lighting

Applicants shall submit lighting specifications and cut sheets, and must also submit a photometrics plan to show compliance with lighting standards.

Staff Response: In order to meet this standard, the applicant shall provide lighting and photometrics information.

7. Noise and Vibration

All heating, ventilation and air conditioning equipment (HVAC), air handling units (AHU), emergency generators, and similar equipment will be required to meet state and federal emissions requirements.

Staff Response: The applicant has noted that all HVAC and AHU equipment will be roof-mounted and screened with enclosures. Staff request that renderings be updated to show the location of this equipment and how it will be shielded from view, to be included in final submissions.

8. Signage and Wayfinding

No signage or wayfinding is proposed in this development.

9. Zoning Related Design Standards

As this development is located within a historic District, a Historic Preservation review was conducted according to the City of Portland Historic Preservation Ordinance.

The Historic Preservation Board approved the proposed design on September 7, 2022 (Application # HPBR-001916-2022). Findings from Historic Preservation Staff and the Historic Preservation Board are attached (Attachment 4).

Staff Response: This standard has been met.

IX. PUBLIC COMMENT

At the time of writing this report, the Planning and Urban Development Department has received two public comment from Greater Portland Landmarks indicating support for this development.

X. 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 six-story, mixed-use residential and commercial infill structure at 185 Commercial Street meets the applicable standards of Portland's Land Use Code.

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 February 28, 2023 for application #PL-002265-2022 at 185 Commercial 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

1. The site plan set shall be finalized to the satisfaction of the Planning Authority and the Department of Public Works and include a lighting and photometrics plan.
2. The site plan set shall be finalized to the satisfaction of the Planning Authority and the Department of Public Works, addressing the stormwater and erosion and sedimentation control comments of DPW water resources.
3. The site plan and drawing set shall be finalized to the satisfaction of the Planning Authority and the Department of Public Works and include HVAC and AHU configuration.
4. The site plan set shall be finalized to the satisfaction of the Planning Authority and the Department of Public Works to include any improvements being proposed to the adjacent alleyway.
5. The applicant shall provide verification of adequate utility capacity from Central Maine Power.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

6. The applicant shall contribute to the tree fund in the amount of $400 for three street trees totaling $1,200.

XII. ATTACHMENTS

PLANNING BOARD REPORT ATTACHMENTS

1. Preliminary Site Plan Review Comments
2. Secondary – Pre-Workshop Site Plan Review Comments
3. Final – Pre-Public Hearing Site Plan Review Comments
4. Historic Preservation Memo (9-7-22)
5. Historic Preservation Certificate of Appropriateness

APPLICANT'S SUBMITTAL

A. Project Narrative
B. Major Site Plan Checklist
C. Right, Title, and Interest
D. Zoning Assessment
E. Waiver Requests
F. Financial Capacity
G. Technical Capability
H. Wastewater Capacity Application
I. Wastewater Capacity Authorization
J. Environmental Standards Assessment
K. Public Infrastructure & Community Safety Standards Assessment
L. Site Design Standards Assessment
M. Transportation Standards Assessment
N. Response to Preliminary Site Plan Review Comments
O. Response to Secondary Site Plan Review Comments
P. PWD Ability-to-serve Determination
Q. Transportation Demand Management Plan

PLANS

Plan 1 – Cover Sheet
Plan 2 – General Notes
Plan 3 – Boundary and Existing Conditions Survey
Plan 4 – Existing Conditions and Removals Plan
Plan 5 – Proposed Site and Utility Plan
Plan 6 – Proposed Grading Plan
Plan 7 – Site Details 1
Plan 8 – Site Details 2
Plan 9 – Architectural Elevations
Plan 10 – Architectural Renderings
Plan 11 – Wall Section at Masonry wall

PUBLIC COMMENT

Pc1. Ian Stevenson; Greater Portland Landmarks
Pc2. Ian Stevenson; Greater Portland Landmarks

Planning and Urban Development Department

Subject: Site Plan Review Comments – 185 Commercial Street.

Written by: Austen Torres Davis, Planner

Date Written: January 5, 2023

Dear Steve Bushey,

The proposed Mixed Use Development and associated site improvements located at 185 Commercial Street (PL-002235-2022) was reviewed against Chapter 14 of the City of Portland Land Use Code, as well as the City of Portland Technical Manual. Please find below, comments from Planning & Urban Development Department staff and site plan peer-reviewers.

General Comments from Planning & Urban Development Department

- Per Land Use Code Section 14.6.2 (B. and C.), site development shall be designed to incorporate, limit disturbance to, and limit removal of existing trees, and all development subject to required zoning setbacks shall include a minimum of one shade tree or six plantings per 30 linear feet of all frontages as measured along the property line.
  Information is sought as to whether the existing 6" Oak tree will be preserved or replaced.
- Per Technical Manual Section 4.6.1., a minimum of one tree per unit, planted in the City right-of-way is required. However, as site constraints preclude this, contribution for each required street tree may be made into the City of Portland's Tree Fund.
  As there exists one tree adjacent to the development site, this contribution would equal $2,000 ($400 x 5 trees).
- Per *TABLE 19-A*, two bicycle parking spaces are required per five units. Bicycle parking may be located within a public right-of-way where site conditions cannot reasonably accommodate interior bike parking, or where a high-turnover of short-term bike parking usage is expected.
  If not provided inside the structure, a bike rack should be provided meeting the standards of Technical Manual Section 1.12.

Comments from Zoning Administration

- The applicant needs to provide right, title and interest to use and occupy any part of the 25′ wide passageway to the east side of the property. Note 9 on the survey says: Ownership of passageway shown hereon is undetermined.
- Under Table 19-A, 13 off-street parking spaces are required - one for the retail space on the first floor, 6 for the retail space on the second floor and 6 for the six dwelling units. Table 19-B offers some exceptions to the off-street parking requirements, including for transit-proximate development. To use this exemption the applicant would need to provide a Transportation Demand Management plan.

- The maximum height for this property is 65′. The applicant needs to provide scalable elevations that demonstrate that the building is not exceeding the maximum height.

Transportation Comments from Department of Public Works

- The applicant shall provide information as to how the project will comply with the City's street lighting standards in Section 10 of the Technical Manual.
- The applicant shall review and confirm that all proposed Site details and Landscape details meet the requirements of the recently approved technical manual update.
- The applicant shall confirm they have RTI or proof of ownership to utilize the alley for placement of utilities and the proposed access pad.
- The applicants shall confirm with the City Arborist that the existing tree, proposed for removal on the plans, is suitable for removal.
- What is proposed for the existing curb cut location? Applicant shall review modification of existing curb cut to maximize on street parking.
- A note to replace striping in the sawcut area needs to be added to the plans.
- The limits of sidewalk to remain or to be replaced is not clear.
    - The brick sidewalk along the Commercial Street frontage shall be reconstructed in accordance with the City's Sidewalk and Driveway Apron Material Policy.
    - The proposed brick sidewalk cross slope shall not exceed 2% at the property line. If the existing sidewalk grades are not compliant at the property line, then the limits of sidewalk replacement shall be extended to include a 5 foot minimum transition zone from the proposed 2% to the existing sidewalk slope.
    - The sidewalk material shall be continued through the alley's apron at grade with the proposed sidewalk and not in excess of 2% cross-slope. If the existing sidewalk grades are not compliant at the limits of the alley, then the limits of sidewalk replacement shall be extended to include a 5 foot minimum transition zone from the proposed 2% to the existing sidewalk slope.
- The applicant shall verify the condition of the existing curb and curb reveal height. If the existing top of curb does not have a continuous slope the existing curb shall be reset. Any fluctuation should be reflected in the curb reveal (min of 5.5″ reveal) if the slope of the pavement gutter is not consistent.
- The applicant shall provide a repair detail for the Wharf Street granite pavers.
- Who owns the street lights in the alley?

Water Resources Comments from Department of Public Works

- The applicant is required to submit a formal wastewater capacity application to water resources engineering for review and approval.
- The applicant shall relocate DMH-1 to private property outside the City's right of way.
- A formal ESC plan should be included in the set.

City Staff Comments | 2.8.2023 | PL-002235-2022 | 185 Commercial Street
Planner: Austen Torres Davis (austentd@portlandmaine.gov)

Dear Steve Bushey,
The proposed Mixed Use Development and associated site improvements located at 185 Commercial Street (PL-002235-2022) was reviewed against Chapter 14 of the City of Portland Land Use Code, as well as the City of Portland Technical Manual. Additional review criteria include Land Use Code Sec. 8.2 Downtown Entertainment Overlay Standards, and Land Use Code Sec. 8.8 Pedestrian Activities District Overlay.

Please find below, comments from Planning & Urban Development Department staff and site plan peer-reviewers.

GENERAL

- As the applicant has established RTI over the adjacent alleyway, *Passageway No.3 as noted in the provided documentation,* the scope of work for application PL-002235-2022 should be expanded to include this area. Site plans should show the property owned by the applicant, as well as expand the site improvements.
- Staff request information related to snow removal from the adjacent alleyway.
- Though no lighting is currently proposed, the frontage along Commercial Street must meet lighting standards of the Technical Manual. Two pertinent lighting standards have been attached at the end of this comment sheet. A photometrics plan should be provided for any exterior lighting.
- The applicant has noted that HVAC equipment will be roof-mounted and screened from view. Staff request that renderings be updated so that potential impacts can be reviewed.
- After further review, it is Staff's position that the existing street tree in the public right-of-way should be preserved.

ZONING

- Staff request the applicant provide a plan that shows the proposed grade at the 4 corners of the building. From that, the average grade will be determined and will need to be shown on the elevation. With the T.O.S being approximately 63'11", any part of the building above that may not be occupiable space and only rooftop appurtenances as defined in section 7.5.1(G) can be erected above the maximum height of 65'.

DPW

- Staff request updated plans addressing preliminary site plan review comments.

TRANSPORTATION

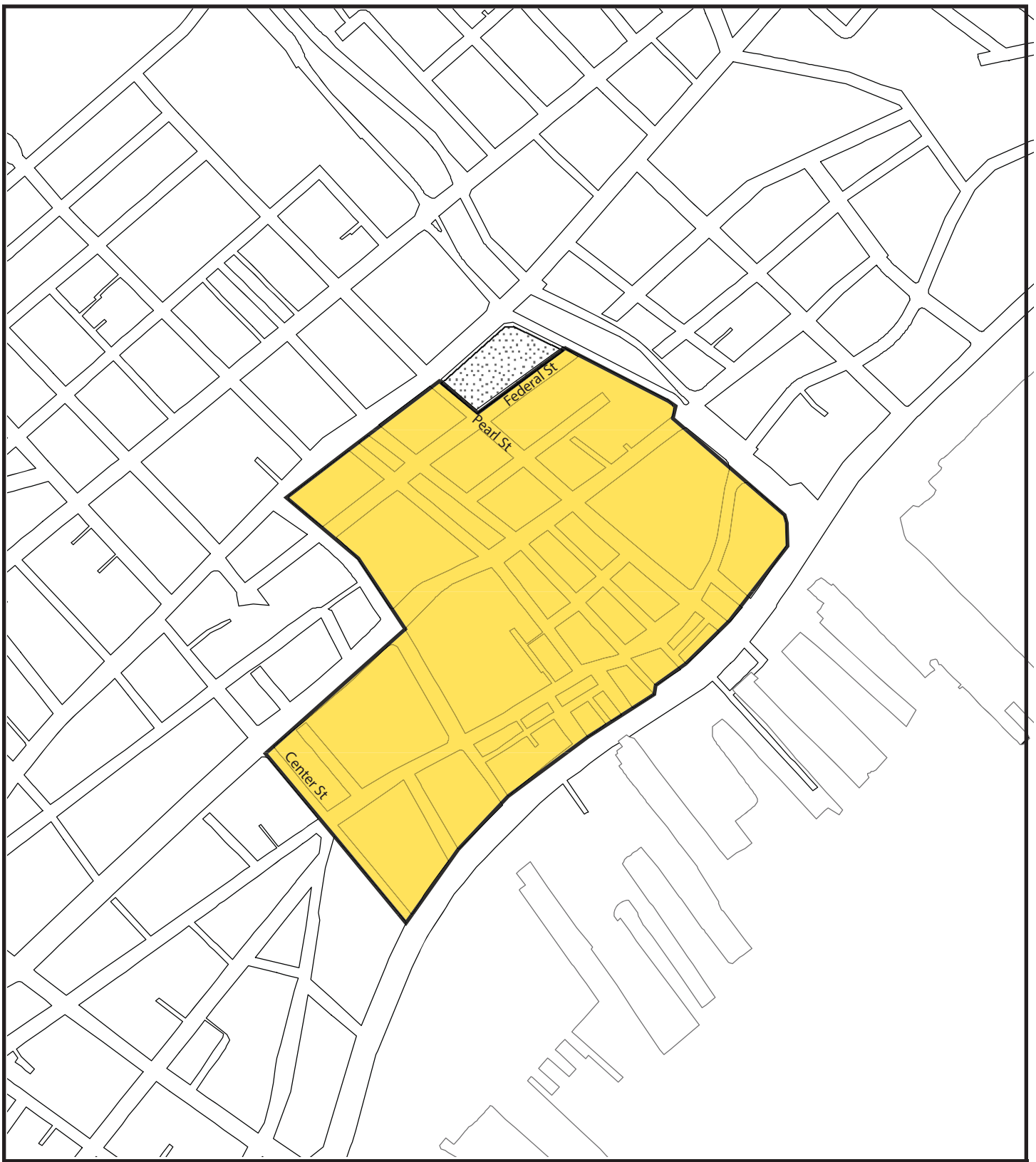
- Application materials note that the existing driveway apron will be matched, though this apron does not meet current driveway standards. The driveway apron should be updated to current standards.

WATER QUALITY, STORMWATER, & INFRASTRUCTURE

- The Applicant is required to provide a detailed Stormwater Management Report

LANDSCAPING & ENVIRONMENTAL QUALITY

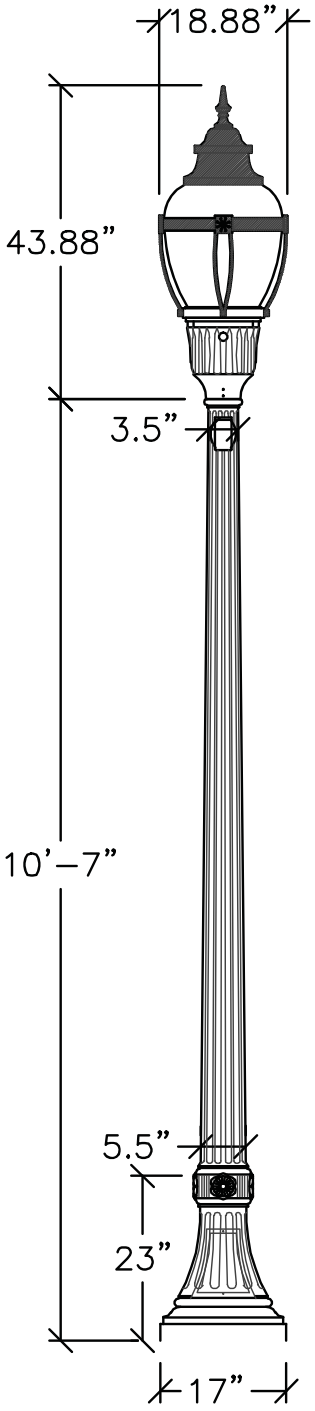
- Very few trees along Commercial Street survive long enough to get to the size of the existing Pin Oak street tree. This tree would preferably preserved, while the remainder of required trees could be paid for as an in-lieu fee paid into the tree fund.
- The existing street tree shall not be removed without consultation with Planning and Urban Development, Forestry, and Department of Public Works Staff. Please consult with staff on net steps.



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**		

PORTLAND | me

Street & Sidewalk Lighting
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.

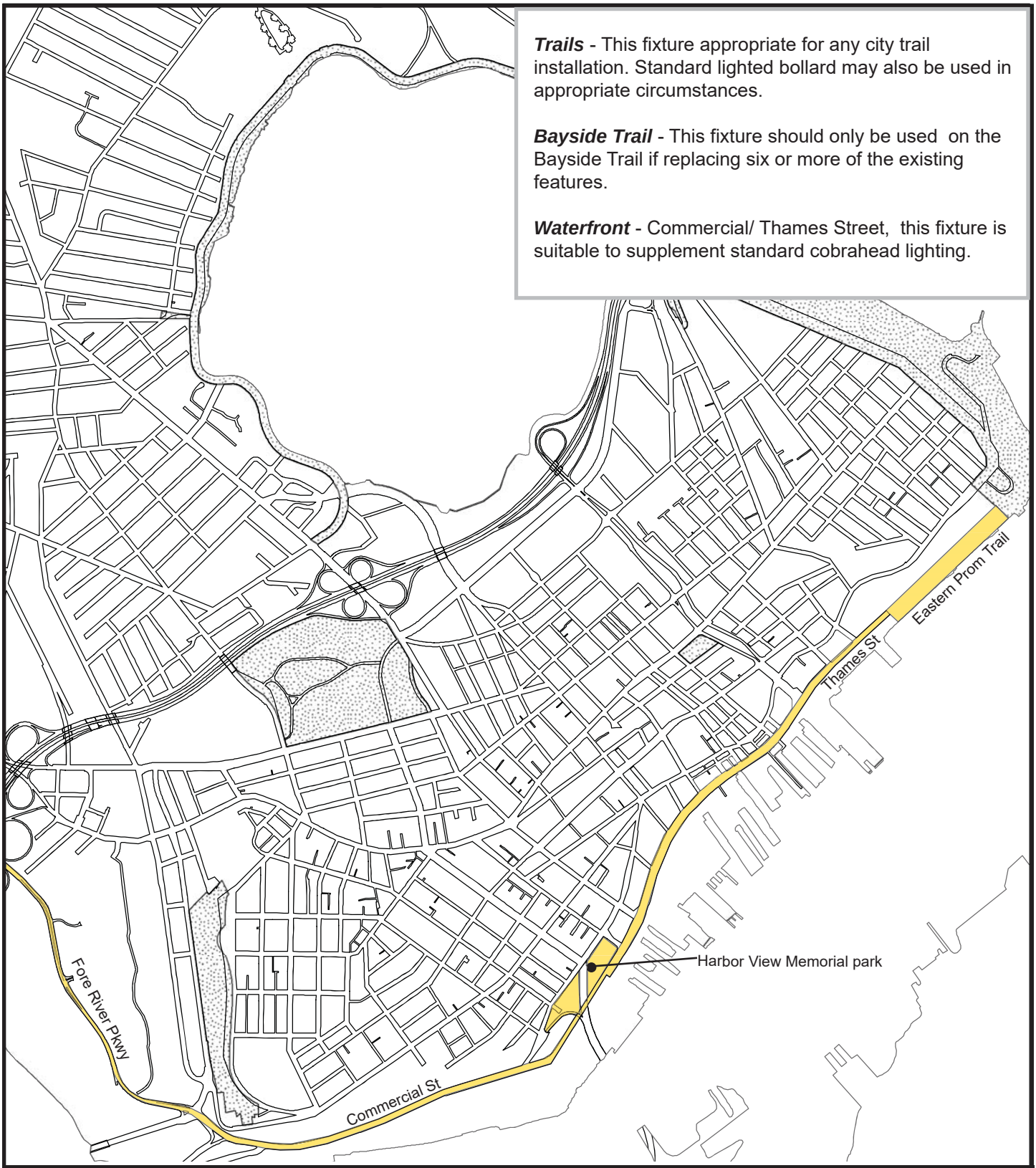
Spacing: 60’ - 80’ on center (staggered pattern both sides of street)

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-6B
Revised Date:	**OLD PORT**		

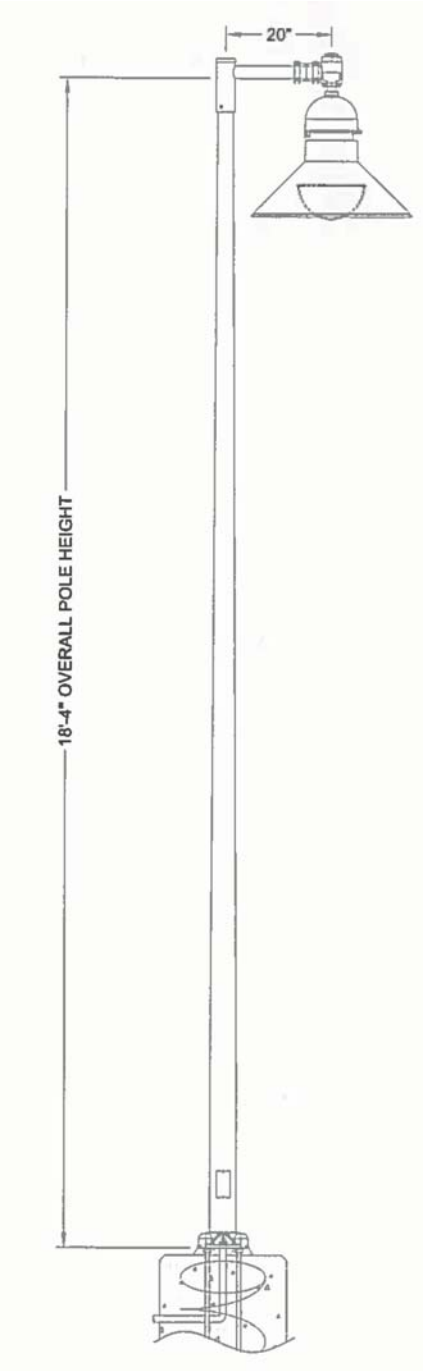
Trails - This fixture appropriate for any city trail installation. Standard lighted bollard may also be used in appropriate circumstances.

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.



Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**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.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-8B
Revised Date:	**TRAILS / WATERFRONT (COMMERCIAL/THAMES STREET)**		

Att. 3

Austen Davis <austentd@portlandmaine.gov>

185 Commercial St (PL-002235-2022) - Pre-Public Hearing Comments

8 messages

Austen Davis <austentd@portlandmaine.gov> Thu, Feb 23, 2023 at 2:18 PM
To: Steve Bushey <sbushey@gorrillpalmer.com>

Hey Steve,

Here are some of my colleagues' review comments for the materials submitted yesterday.
The most pressing concern would be to include the entirety of the alleyway in site plans, showing the proposed improvements. I see that the comment response letter mentions the driveway materials but the site plan should be expanded to show all improvements.

Here are other comments:

- Zoning: The applicant has provided an average grade and a statement that Archetype has indicated that with this average grade that the building will be below 65'. They have not submitted revised elevation plans to show this. If elevations are not provided now showing the height based on the average grade, they will need to show it on the building plans that are submitted with the permit.
- Traffic / Circulation: We request more information and detail for the driveway reconstruction. There is not enough 'detail' in the site plan nor grading plan to have any plausible expectation that it would be done correctly. We don't want the sidewalk to ramp down to street level for the driveway but keep the sidewalk to the extent practicable at the same elevation for at least 8'+ of the 12'-13' wide sidewalk. A portion of the driveway would ramp up to the sidewalk elevation. Please see previous DPW comments.
- The site plan shows the correct orientation of the bike racks. However, the bike rack detail shows an 'alternative orientation' which we don't want. Additionally, the Planning Board mentioned expanding the number of bike racks. this is not required but would be preferred.
- Some outstanding concerns remain related to ability-to-serve, provision of a Stormwater Management Report, Erosion and Sedimentation Control Report, and lighting and Photometrics. We have determined there is not a need for lighting along Commercial as there is adequate lighting in the area, and as the light fixtures in the alley fit within a surrounding theme these would not have to be updated according to the most recent Technical Manual Standards I sent with our last round of comments.
- Staff have numerous concerns related to the Construction Management Plan, though as this will not be addressed at the Planning Board Meeting, we can coordinate further between your team and city-staff.

Let me know if you have any questions or concerns.

Best wishes,
Austen

--
Austen Torres Davis
Planner
Planning & Urban Development Department

389 Congress Street
Portland, Maine 04101
austentd@portlandmaine.gov | (207) 874-8632
planning & urban development

Steve Bushey <sbushey@gorrillpalmer.com> Thu, Feb 23, 2023 at 2:39 PM
To: Austen Davis <austentd@portlandmaine.gov>

HI Austen,

Quick reply:

- Archetype will have their latest elevation showing the building height to me tomorrow morning.
- I'm working on an enlargement of the alleyway that may help explain the extent of improvements and the Commercial Street sidewalk reconstruction to assure the max crossslope of 2% is provided for at least 8' etc.
- You have the wastewater reply from Brad Roland. I should have the PWD determination letter tomorrow and will forward upon receipt.
- I can probably put together a quick memo related to Stormwater and erosion control. We have Erosion control notes on sheet C-1.1 and E&S measures shown on C-4.0. there's not a lot to do since the site is 100% impervious pavement already. Will send to you tomorrow so you may be able to check that box.

Does this work for you?

Stephen Bushey| Senior Associate

GORRILL PALMER

300 Southborough Drive, Suite 200 | South Portland, ME 04106

207.772.2515 x286 (office) | 207.756.9359 (mobile)

www.gorrillpalmer.com

From: Austen Davis <austentd@portlandmaine.gov>
Sent: Thursday, February 23, 2023 2:19 PM
To: Steve Bushey <sbushey@gorrillpalmer.com>
Subject: 185 Commercial St (PL-002235-2022) - Pre-Public Hearing Comments

Hey Steve,

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- Staff have numerous concerns related to the Construction Management Plan, though as this will not be addressed at the Planning Board Meeting, we can coordinate further between your team and city-staff.

Let me know if you have any questions or concerns.

Best wishes,
Austen

--

Austen Torres Davis
Planner
Planning & Urban Development Department

389 Congress Street
Portland, Maine 04101
austentd@portlandmaine.gov | (207) 874-8632

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

Steve Bushey <sbushey@gorrillpalmer.com> Thu, Feb 23, 2023 at 2:41 PM
To: Austen Davis <austentd@portlandmaine.gov>

Austen,

I pressed send too quickly and just found that PWD has issued the attached determination letter for 185 Commercial Street. For your records.

Stephen Bushey| Senior Associate

GORRILL PALMER

300 Southborough Drive, Suite 200 | South Portland, ME 04106

207.772.2515 x286 (office) | 207.756.9359 (mobile)

www.gorrillpalmer.com

From: Austen Davis <austentd@portlandmaine.gov>
Sent: Thursday, February 23, 2023 2:19 PM
To: Steve Bushey <sbushey@gorrillpalmer.com>
Subject: 185 Commercial St (PL-002235-2022) - Pre-Public Hearing Comments

Hey Steve,

[Quoted text hidden]

525352-185 Commercial Street PO - Ability to Serve Determination.pdf
126K

Austen Davis <austentd@portlandmaine.gov> Thu, Feb 23, 2023 at 3:20 PM
To: Steve Bushey <sbushey@gorrillpalmer.com>

Hey Steve,

That all sounds great, thanks for the quick response.
Just heads up on timeline, I typically have to get my reports in by noon on Fridays so they can be published in the Planning Board agenda.

Thankfully most if this is administrative review stuff and the Planning Board didn't have specific concerns in the workshop.

I'll be in the office tomorrow if you need to call about anything.

Best wishes,
Austen
[Quoted text hidden]
[Quoted text hidden]

planning & urban development

Steve Bushey <sbushey@gorrillpalmer.com> Thu, Feb 23, 2023 at 4:10 PM
To: Austen Davis <austentd@portlandmaine.gov>

Ok thanks

I'm shooting to have you something in the am so you can have a bit of time before wrapping up the report.

[Quoted text hidden]

Austen Davis <austentd@portlandmaine.gov> Fri, Feb 24, 2023 at 10:27 AM
To: Steve Bushey <sbushey@gorrillpalmer.com>

Thanks Steve,

One more thing:
Some of my colleagues were wondering if this owner would be open to establishing a public-access easement for the Alleyway?
In reading the RTI it seems there are no easements in place but let me know if I am wrong.

We can chat on the phone in a bit if you want to talk over the easement.

Best wishes,
Austen
[Quoted text hidden]
[Quoted text hidden]
planning & urban development

Steve Bushey <sbushey@gorrillpalmer.com> Fri, Feb 24, 2023 at 10:30 AM
To: Austen Davis <austentd@portlandmaine.gov>

I can run it up the flag pole with the owner. He's out of town today but I'd suggest it be a topic for the PB meeting.

[Quoted text hidden]

Austen Davis <austentd@portlandmaine.gov> Fri, Feb 24, 2023 at 10:49 AM
To: Steve Bushey <sbushey@gorrillpalmer.com>

That sounds good,

Let me know whenever new materials are uploaded and I will get everything finalized in the packet we send to the Planning Board.

Thanks Steve,
Austen
[Quoted text hidden]
[Quoted text hidden]
planning & urban development

STAFF MEMORANDUM
HISTORIC PRESERVATION PROGRAM
PLANNING AND URBAN DEVELOPMENT

TO: Chair Pollard and Members of the Historic Preservation Board
FROM: Evan R. Schueckler, Historic Preservation Program Manager
DATE: September 1, 2022
RE: 185 Commercial Street – Public Hearing – New Construction
PROJECT ID: HPBR-001916-2022
MEETING: September 7, 2022

Owner: 185 Commercial Street LLC
Jonathan Cohen, Principal
Architect: Katherine Lermond, Archetype Architects

A sign announcing the Historic Preservation Board's meeting on September 7, 2022 was posted at the property on August 25, 2022. A legal ad was published in the Portland Press Herald on August 26 and August 27, 2022, and 35 notices were sent to neighboring property owners within 100 feet of the subject property.

PROJECT SCOPE

Construct new 21,000 square foot, 65' tall, six-story mixed-use structure on vacant lot along Commercial Street. Retail is proposed for the first and second floors with a total of five housing units proposed for third through sixth floors. Building to be clad in aluminum curtain wall system with granite cornice details at front elevation and clad in brick with granite details at east and rear elevation. West elevation to abut adjacent historic building at 1 Dana Street. The applicant is proposing two options for the articulation of the front façade.

SUMMARY OF HISTORIC CONTEXT

The subject lot, which is currently a surface parking lot, is located on the inland side of Commercial Street, mid-block between Moulton and Dana Streets. The proposed structure will immediately abut a historic five-story commercial block at 1 Dana Street. A 25'-wide passage will be maintained between the new structure and its neighbor to the east at 175-179 Commercial Street/4 Moulton Street. The proposed building would extend relatively deep into its lot, but does not extend to Wharf Street. A small-scale rear addition to a Dana Street building separates the rear of the proposed structure from Wharf Street. Given the presence of this low addition, the rear elevation of the proposed six-story building will be readily visible from Wharf, at least for the foreseeable future.

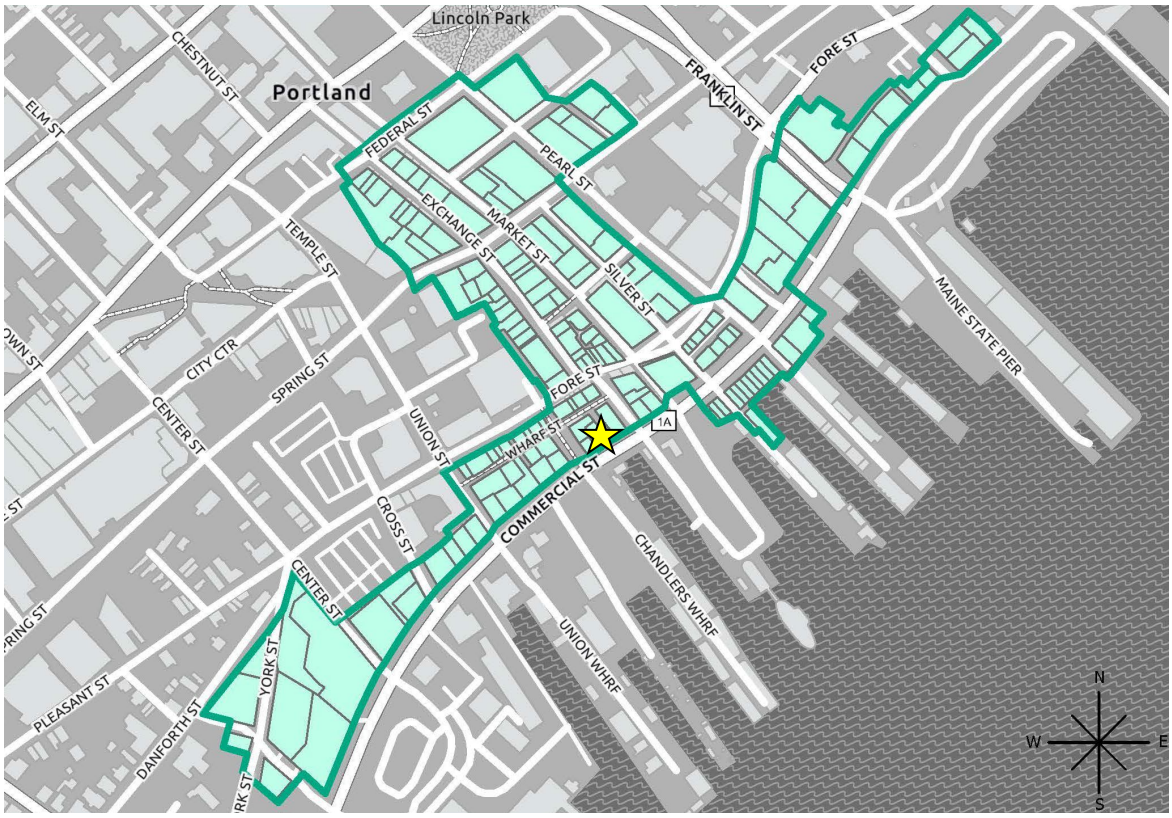


Figure 1: Map of the Waterfront (Old Port) Historic District showing location of 185 Commercial Street with yellow star.

The Historic Preservation Board has reviewed a number of new Commercial Street developments in the recent past and has therefore spent a considerable time reviewing and discussing the prevailing development patterns that define much of this iconic streetscape. Following is a description of Commercial Street's prevailing development pattern and visual character.

General Context

The north side of Commercial Street is one of the most architecturally cohesive in the city, exhibiting an almost continuous row of similarly-scaled and architecturally related commercial structures that stretch along the inland side of Commercial Street from the Galt Block east of Franklin Street to the recently completed hotels and residential developments west of Foundry Lane and extending to High Street. Although there are some exceptions, the inland side of Commercial Street is noteworthy for its consistency.

Starting in 1850, the land downhill from Fore Street was filled to create the mile-long, 100'-wide Commercial Street to accommodate tracks for the recently arrived railroad along with the traffic, business blocks, and warehouses of an expanding economy. The fact that Commercial Street was almost fully developed within a very brief time period and that many of its structures were built for the same general function accounts for its striking uniformity of scale, materials and architectural expression. Given this architectural unity and the compelling streetscape that results from it, it is important that Commercial Street's salient building characteristics be studied and

reinforced in any new development.

While most of the existing structures on the north side of Commercial were built shortly after the street was created in 1850, a number were built later. These include the Porteous Warehouse of 1902 between Center St. and Foundry Lane and the Workingmen's Club of 1904 at the east end of Commercial. These later structures built upon and reinforced the building patterns and characteristics that were established by the earlier warehouses that lined the street, resulting in a highly consistent development pattern that unifies the street. The same is true for recent developments, like the W.L. Blake addition at the corner of Commercial and Custom House Street, the Courtyard Marriot built immediately west of Foundry Lane, and the Canopy Hotel built at the corner of Commercial and Center Street. Through the Historic Preservation Board's design review process, care has been taken to ensure that new structures reinforce the strongly consistent building patterns and characteristics that unify Commercial Street while being true to their own construction era.

The photographs below, of historic warehouses and newer construction, illustrate the prevailing development character of the street.

Figure 2: A section of Commercial Street east of Dana as it appeared in 1924 and circa 2010.

Figure 3: A typical block.

Figure 4: 1902 Porteous warehouse in foreground and new construction beyond.

Figure 5: Examples of infill approved under Historic Preservation Ordinance Standards.

Following are key unifying characteristics of the Commercial Street streetscape as it exists today:

Scale and Form

- Building heights generally range from 3-5 stories, with a few buildings rising to 6 stories.
- Overall simplicity of massing, clarity of form, and a single volume.
- Roof forms are typically flat or gambrel, with few exceptions.

Composition of Principal Facades

- Traditional composition of base/middle/top.
- Cohesive facade, where architectural details contribute to one overall, consistent design expression.
- Defined building base, typically executed in granite, which is clearly distinguished from upper floors. A strong, continuous horizontal datum is established by the intermediate frieze and cornice located above the storefronts of abutting buildings.
- Very regular fenestration, typically consisting of individual punched window openings.

- Windows are generally of vertical proportions.
- Presence of a defined roof cornice.
- Consistent and limited material palette.

Variety of Architectural Detail

- Notwithstanding Commercial Street's generally uniform scale and massing and overall cohesiveness/simplicity of architectural expression, individual buildings exhibit considerable richness and variety in terms of architectural detail. Architectural detail is provided through corbelling of brick, the presence of projecting and recessed elements (although restrained within a cohesive mass rather than pronounced), decorative cornices, alternating bay treatments, granite detailing, etc. Observing the various ways in which granite alone is employed on building facades, one sees a wide range of surface treatments and detailing. This lends textural and architectural interest to the street.

Relationship to the street:

- With few exceptions, the entire width of each block is developed with wall-to-wall buildings. On a few blocks, individual buildings with large footprints fill the entire width of the block. More often, individual, smaller-footprint buildings are joined by party walls. This creates a strong continuous street wall, interrupted only by intersecting side streets or alleys. The few gaps in this continuous street wall pattern are the result of demolition and use of the resulting empty lots for surface parking.
- Buildings are oriented with their principal facades facing Commercial Street, with no setback from the sidewalk.
- The flatness and unusual breadth of Commercial Street, together with its broad sweeping curve as one travels from one end to the other, make possible expansive views of the continuous street wall on the inland side of the street. This condition affords broad visibility of each structure that lines the street and allows one to appreciate the relationship between individual buildings.

Immediate Project Context

Recognizing Commercial Street's generally cohesive architectural character, it should be noted that the proposed development's immediate context is a bit more eclectic. To the east of the proposed development, and separated by a narrow passageway, is the 1885 Guptill Block, a three-story brick commercial structure with a hip roof. Its comparatively diminutive scale and atypical roof form make it relatively unique among the commercial blocks that now line the street. On the west side and immediately abutting the proposed building is the 1853 John C. Brooks Block, a five-story, flat-roof Italianate commercial structure. The fifth-story multi-paned glass rooftop addition was built in the 1980's before the preservation ordinance was adopted and includes a recessed break in the center for a deck. The addition significantly impacts the historic character of the building. Even more distracting is the solid brick party wall that directly abuts the east elevation of this rooftop addition and extends above its roofline. (It appears that the requirement for a firewall was not anticipated when the rooftop addition was designed.) Also in the immediate vicinity is a six-story brick structure at 10 Moulton Street built in 1987. (The rear elevation of 10 Moulton will face the east elevation of the proposed development, separated by the narrow passageway.) This

brick building is simple in form, appropriately scaled and picks up on a number of the key characteristics of surrounding historic structures, while being a clear product of its own time.

PREVIOUS REVIEW BY HISTORIC PRESERVATION BOARD

Figure 6: Rendering of proposal from March 16 workshop.

Figure 7: Rendering of proposal from May 5 workshop.

Figure 8: Rendering of proposal from June 15 workshop with accordion windows open (right) and closed (left).

July 20, 2022, Public Hearing:

Figure 9: Rendering of proposal from July 20 Public Hearing with accordion windows open (right) and closed (left).

At the July 20 Public Hearing, the Board reviewed the above design for final approval. However, during Board deliberations, it was found that while the application had improved further in compliance with the Standards for New Construction, several Board Members still had significant reservations about the compatibility and appropriateness of the design. In the end, the Board voted unanimously to table the item for future consideration, recommending that the applicant further develop the project with Historic Preservation staff. Board discussion and concerns centered on the following:

- *Bifurcation/lack of cohesion of the front façade*: Several Board members expressed concern at the use of two wall systems/material palettes for different portions of the front façade, finding that it left the overall structure less contextual given the typical unity of design across individual building facades on commercial street. While some Board members continued to find that such extensive use of glass on commercial street is not contextual

others continued to express an openness towards it. Generally, the Board members called for a greater unity across the building façade. In response, the applicant did express openness to an all-glass façade, but also had questions about whether the façade needed to be made flat or could still have a shift in the wall plane, specifically with the projecting element above the residential entry. Some members of the Board expressed that a taut/flat façade might be ideal, but more importantly the elevation needed a singular treatment.

- *Connection between masonry and glass at front façade*: Related to the above discussion, several Board members pointed to the juncture between the glass curtain wall and the masonry of the residential entry element, finding the lack of alignment or interrelatedness awkward. There was some question of whether the dark metal cornice of the masonry element could be aligned with the spandrel panels of the curtain wall in order to better tie the elements together.
- *Relationship of second story masonry sills to first floor cornice at areas of masonry*: Several Board members also suggested that eliminating the sills of the windows at the second floor and having them rest on the first-floor cornice could help simplify the design while drawing from a condition found throughout the district.
- *Success of the accordion window system in minimizing the impact of the recessed balconies and alternate solutions*: Several Board members also asked whether the proposed accordion window system was effective in minimizing the appearance of the balconies on the front façade, or whether a simple glass railing might result in a better overall effect. There was discussion of whether full-height accordion windows could eliminate the horizontal mullion or if large double-hung windows might be more effective. The applicant offered to give further study to this solution, but felt that such solutions would all necessitate additional complexity at the balconies such as requiring an exterior railing or an additional shift in plane at the front elevation, respectively. The applicant also communicated that they would be open to eliminating the accordion windows, given they were added to address Board concerns with the open balconies.

STAFF COMMENTS

Since the Public Hearing was tabled, staff have met with the applicant several times to discuss Board comments and how they might be addressed. The applicant has since made several changes to the design in order to address the Board's concerns.

Figure 10: Rendering of current proposal, Option A with accordion windows open (right) and closed (left).

The most significant change in the design is at the residential entrance element, which has been redesigned to use the same curtain wall system as the rest of the front façade. This change has significantly unified the front façade, providing a singular wall system at the upper stories. However, staff still found that the shift in wall plane at the residential entrance element was out of character with the historic context, where the buildings tend to have relatively flat façades with subtle articulations of the façade contained within the unified mass. Based on this feedback, the applicant developed an Option B for the Board's consideration.

Figure 11: Rendering of current proposal, Option B with accordion windows open (right) and closed (left).

Option B, again utilizes an all-glass front façade, but it subtly alters the relationship of the residential entry element by pulling the fifth-floor balcony railing outwards to be in line with its outermost wall. Staff found that this change provides a stronger horizontal cap to the glass façade, and in some ways reverses the relationship between the residential entry element and the main mass from one where the former projects to one where the later is recessed. Staff also felt that the resulting cantilever of the fifth-floor balcony and at the south east corner of the structure also reinforced the design choice to "break the corner" at the first floor, carrying it further up the structure. Staff found that this relationship and the inclusion of a stronger

horizontal cap were more contextual, though still utilizing a much more contemporary wall system.

Staff would encourage the Board to discuss whether Option A or B is most successful as a contemporary design while maintaining compatibility with the historic context of Commercial Street.

In addition to the changes at the front façade, the applicant has eliminated the second-story window sills at the east elevation and lowered them to rest on the first-floor cornice, matching a condition commonly found along commercial street.

Regarding the accordion window system at the front façade balconies, the applicant has not adjusted that system. They feel that they have identified the operable window system that would best accomplish the goal of allowing the balconies to be open during the warmer months, but provide a more solid front façade during colder months. Paired with this, the owner has agreed to implement rules for residents requiring that the balconies be closed when not in use. After discussion with the applicant regarding other options for enclosing the balconies, staff support their conclusion that this may be the simplest and most effective solution. However; staff would encourage the Board to discuss further whether the accordion glazing system, when closed, is more compatible than a simple glass railing. The applicant has expressed their openness to eliminating the accordion windows, and staff feel that could be accomplished through a conditional approval.

ANALYSIS OF APPLICABLE REVIEW STANDARDS

Standards for Review of New Construction, 17.8.3:

Standard A. Scale and Form	
1. Height The proposed height shall be visually compatible with surrounding structures when viewed from any street or open space and in compliance with any design guidelines.	
Standard Met?	**Staff Comments**
Yes	While the overall structure is slightly taller than typical of Commercial Street, it is within the range of heights found on the street and the front façade is set to a typical height of four stories, matching the immediately adjacent structure to the west.
2. Width The width of a building shall be visually compatible with surrounding structures when viewed from any street or open space and in compliance with any design guidelines.	
Standard Met?	**Staff Comments**
Yes	The width of the proposed structure is compatible with the surrounding context being within the range of widths typically seen.

3. Proportion of principal facades The relationship of the width to the height of the principal elevations shall be visually compatible with structures, public ways, and open spaces to which it is visually related.	
Standard Met?	**Staff Comments**
Yes	The proposed structure has a generally horizontal façade, as is typical of other structures on commercial street.
4. Roof shapes The roof shape of a structure shall be visually compatible with the structures to which it is visually related.	
Standard Met?	**Staff Comments**
Yes	The proposed structure has a flat roof, as is found on many historic structures along commercial street and within the Old Port Historic District.
5. Scale of a structure The size and mass of structures in relation to open spaces, windows, door openings, porches, and balconies shall be visually compatible with the structures, public ways, and places to which they are visually related.	
Standard Met?	**Staff Comments**
Yes	The overall scale of the proposed structure is compatible with those seen in the surrounding context. The structure is somewhat deeper than typical; however, this will be minimally perceptible from Commercial Street and will aid in the enclosing of the adjacent alleyway.

Standard B. Composition of Principle Facades	
1. Proportion of openings The relationship of the width to height of windows and doors shall be visually compatible with structures, public ways, and places to which the building is visually related.	
Standard Met?	**Staff Comments**
Yes	The proportions of the proposed windows are vertically oriented as are typical of other structures along Commercial Street.
2. Rhythm of solids to voids in facades The relationship of solids to voids in the façade of a structure shall be visually compatible with structures, public ways, and places to which it is visually related.	
Standard Met?	**Staff Comments**
For Board Discussion	At the front elevation, the proposed structure has significantly more void than is typical of the surrounding context, being a primarily glass façade. However, the regular rhythm of the windows, reinforced by the vertical mullions and spandrel panels, echoes the pattern of the surrounding structures. Additionally, the side elevation utilizes a significant amount of masonry in a pattern of solid and void much more typical of the context.

3. Rhythm of entrance porch and other projections The relationship of entrances and other projections to sidewalks shall be visually compatible with the structures, public ways, and places to which they are visually related.	
Standard Met?	**Staff Comments**
Yes	The proposed entrances are from almost directly off the sidewalk, with only a slight setback within the façade, as is typical of the context.
4. Relationship of materials The relationship of the color and texture of materials (other than paint color) of the facade shall be visually compatible with the predominant materials used in the structures to which they are visually related.	
Standard Met?	**Staff Comments**
For Board Discussion	The applicant is using granite at the base to reinforce a predominant pattern within the district. However, the upper stories of the front façade are all glass and metal. While glass and metal are found in the district, they are typically used much more sparingly than at the proposed façade. The side elevation utilizes a much more typical material palette of brick and granite.

Standard C. Relationship to Street	
1. Walls of continuity Facades and site structures, such as masonry walls, fences, and landscape masses, shall, when it is a characteristic of the area, form cohesive walls of enclosure along a street to ensure visual compatibility with the structures, public ways, and places to which such elements are visually related.	
Standard Met?	**Staff Comments**
Yes	The proposed structure is built to the lot line, immediately along the sidewalk reinforcing the strong street wall of Commercial Street.
2. Rhythm of spacing and structures on streets The relationship of a structure or object to the open space between it and adjoining structures or objects shall be visually compatible with the structures, objects, public ways, and places to which it is visually related	
Standard Met?	**Staff Comments**
Yes	The proposes structure is built utilizing an existing party wall to the west while retaining an existing alleyway to the east, allowing the neighbor to the east to retain the design of its historic side façade.
3. Directional expression of principal elevation A structure shall be visually compatible with the structures, public ways, and places to which it is visually related in its directional character, whether this be vertical character, horizontal character, or nondirectional character.	
Standard Met?	**Staff Comments**
Yes	The proposed structure reinforces the typical horizontal expression of Commercial Street.

Standard D. Other Standards	
1. Compatible use Every reasonable effort shall be made to provide a compatible use for a property which requires minimal alteration to the character defining features of the structure, object, or site and its environment or to use a property for its originally intended purpose.	
Standard Met?	**Staff Comments**
Yes	The proposed mix-use of the new structure is typical of uses throughout the context and will not require incompatible alterations to the surrounding historic district.

4. Contemporary design Contemporary design for additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant cultural, historical, architectural, or archaeological materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the size, scale, material, and character of the property, neighborhood and environment.	
Standard Met?	**Staff Comments**
Yes	The proposed structure is decidedly contemporary in its design, especially at the front elevation where it utilizes a greater degree of glass and metal than traditionally found throughout the context. Additionally, the structure incorporates features such as the "broken corner" which is achievable through modern construction techniques and makes those techniques evident.

MOTION FOR CONSIDERATION

I move to APPROVE application HPBR-001916-2022, Option ___ for NEW CONSTRUCTION at 185 COMMERCIAL STREET on the basis of submitted documentation, plans, and specifications; information provided in the staff memo; and findings by the Historic Preservation Board that the project meets Standards for Review of New Construction 17.8.3-A.1-5, B.1-4, C.1-3, & D.1 & 4.

ATTACHMENTS

1. Applicant Summary, Renderings, and Drawings

Planning and Urban Development
Historic Preservation Program

City of portland

September 30, 2022

185 Commercial Street, LLC
Jonathan Cohen, Principal

Re: 185 Commercial Street, New Construction HPBR-001916-2022

Dear Mr. Cohen,

The Historic Preservation Office has approved your application for a Certificate of Appropriateness Option B for construction of a new six-story mixed-use project of approximately 21,000 square feet at 185 Commercial Street. Approval was based on the application materials reviewed by the Historic Preservation Board on September 7, 2022, except as modified by the following condition of approval:

- That the detailing for the accordion balcony windows be worked out with staff

All work shall be carried out as shown on the materials reviewed by the Historic Preservation Board on September 7, 2022, except as to comply with the condition above. Changes to the approved plans or specifications, and any additional work that may be undertaken must be reviewed and approved by this office prior to construction, alteration, or demolition. If, during the course of completing the approved work, conditions are encountered which prevent completing the approved work, or which require additional or alternative work, you must apply for and receive a Certificate of Appropriateness or Non-Applicability PRIOR to undertaking additional or alternative work.

This Certificate is granted upon condition that the work authorized herein is commenced within twelve (12) months after the date of issuance. If the work authorized by this Certificate is not commenced within twelve (12) months after the date of issuance or if such work is suspended in significant part for a period of one year after the time the work is commenced, such Certificate shall expire and be of no further effect; provided that, for cause, one or more extensions of time for periods not exceeding ninety (90) days each may be allowed in writing by the Department.

Sincerely,

Evan R. Schueckler
Historic Preservation Program Manager

389 Congress Street, Portland, Maine 04101 | 207.874.8726 | evans@portlandmaine.gov

GORRILL PALMER

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

October 4, 2022

Ms. Christine Grimando -Director
City of Portland Planning & Urban Development
389 Congress Street, 4th Floor
Portland, ME 04101

Subject: 185 Commercial Street - Major Site Plan Application
Mixed use development

Dear Christine:

On behalf of **185 Commercial Street LLC,** Gorrill Palmer is submitting application materials for a Major Site Plan Application, for a new mixed-use building at 185 Commercial Street. The proposal is to construct a new six-story building to contain ground level/2nd floor retail space with up to 6 dwelling units on the upper floors. According to the boundary survey by VHB the site is 4,319 SF in size. The site is presently a private For Pay, paved parking lot; however, it is understood that the site may have contained structure(s) in the past. It is unknown when the last building may have been demolished. The development includes greater than three dwelling units therefore the proposal qualifies for a Major Site Plan approval from the Planning Board in accordance with Table 14-A of the ReCode. We attended a Pre application meeting with City staff on April 20, 2022. Archetype has also made several appearances before the Historic Preservation Committee, who have now granted an approval to the proposal.

Existing Conditions

The existing site is located at 185 Commercial Street and is a paved parking area containing less than fifteen parking spaces. The site frontage is open along the Commercial Street except for a wood guardrail. The site is accessed off a shared alleyway passing from Commercial Street to Wharf Street. The Holy Donut store lies east of the site and Fetch, pet supply store is west of the site. The site is located in the B-3 zone as identified to the right.

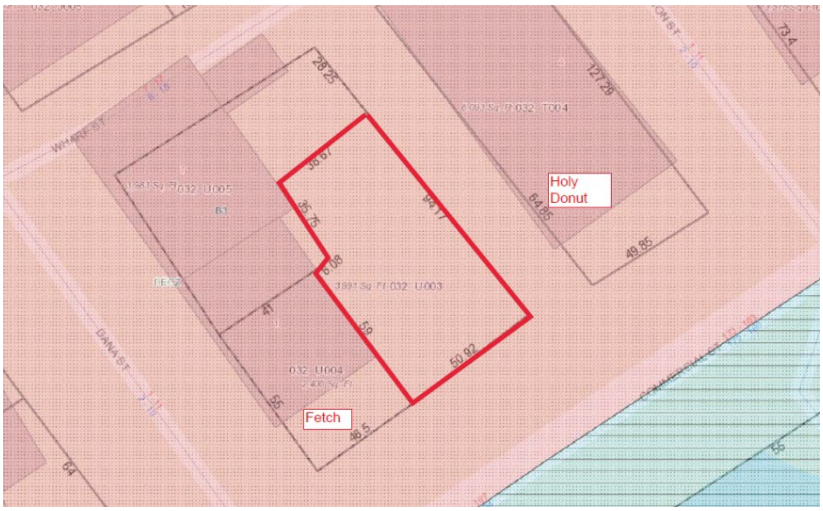


Fig 1 ***(Zoning Excerpt)***

According to City records, underground utilities in Commercial and Wharf Streets include water, gas, and sewer. Underground power and communications lines are located in Wharf Street and the Alleyway. The proposed building will occupy nearly all of the lot and contain ground level access along the Commercial Street sidewalk access. Separate entries to the retail space and the residential space will be provided. The residential space will also have entry access at the rear of the building. The construction will require coordination with the abutting building owners at 195 Commercial Street and 9 Dana Street (Amigos). The construction will involve reconstruction of brick sidewalk along Commercial Street and repaving of the some of the site and the adjacent alleyway. Portions of Wharf Street may also require restoration due to proposed utility connections.

Nearby land uses include retail spaces in both buildings to the sides of this site.

Fig 2 Existing Street View from Commercial Street

Proposed Development

The proposed building will involve a tenant mix as follows:

Level	Tenant/Use	Area (SF)	Land Use category
1	Retail (possibly specialty jeweler)	2,229	retail
2	Retail	3,210	retail
Three thru 6	Residential	3,254 per floor	Residential
	Total	**20,000 SF +/-**	

Preliminary floor plans and site renderings accompany this submission.

Traffic/parking

The site has been previously developed as a for pay public parking lot for up to fifteen vehicles. The parking will be eliminated as part of the project. Tenants of the building will be required to secure parking in nearby parking facilities including, but not limited to, Fisherman's Wharf, The Gateway terminal garage, Fore Street parking garage, or Custom House Garage. Retail visitors will use nearby on-street parking or the garages as is typical for the downtown area. The project is not expected to generate new traffic above the existing traffic generated by the parking lot. Tenants at the adjacent building east of the site will continue to be able to use the alleyway for access to their building. The owner is coordinating with the abutting landowners for the continuation of access and related use benefitting their sites.

Utilities

The proposed project will involve new utility connections that are described as follows:

- The building will be sprinkled and contain a domestic water service, both to be extended from a 12" water main in Commercial Street. The Fire Dept connection will be located at the front of the building.
- A domestic sewer connection is proposed to tie into an existing 8" sewer line in Wharf Street since that line is closer than the interceptor sewer in Commercial Street. Access to the Commercial Street Interceptor also involves various utility crossings and excavation in Commercial Street which is considered to be challenging and cost prohibitive.
- The building will be served by Natural gas coming from Commercial Street.
- There is underground power in Wharf Street. The design team is currently coordinating with CMP and the communications providers on these services.

Consistency with Master Plan

On Portland's Future Land Use Plan, 185 Commercial Street remains located Mixed Use/Commercial/Office zone and is located near an enhanced Priority Corridor (Commercial Street). Priority Corridors are "*major arterials that often see heavy vehicular traffic, but also have the capacity to improve mobility by capitalizing on their potential for increased walking, bicycling, and transit use. Priority corridors can also serve as areas of additional mixed-use, higher density growth to take advantage of the transit benefits and services that well-designed, diverse corridors can offer.*" Located on Commercial Street the site is within a Downtown waterfront area that is maintaining a robust level of activity and development. This site is an ideal location for a building with ground level retail and residential above. We believe the proposed uses go hand in hand as complimentary uses to the surrounding businesses and land use an envisioned in the Comprehensive plan and current zoning.

In accordance with the Major Site plan General Document Checklist, we offer the following information:

General Documents

1. **Project Description** – New mixed use building construction with greater than three dwelling units, located in the B-3 zoning District. See description above.
2. **Completed Checklist** – See upload to Eplan
3. **Evidence of Right, Title and Interest**. The site is owned by 185 Commercial Street LLC per Deed recorded at the CCRD Book 38690, page 187, a copy of which is attached to this submission document.
4. **Zoning Assessment** – see attached. Located in B-3 zone
5. **Site plan Standards Assessment** – see attached and information below.
6. **Summary of Existing and/or proposed easements or covenants** – not applicable
7. **Waiver Request** – none requested.
8. **Evidence of financial and Technical Capacity** – The applicant has retained Archetype PA, Gorrill Palmer Consulting Engineers, and Penobscot Construction to assist with the design and construction of the proposed project. A letter from a financial institution accompanies this application.

Transportation

9. **Impact on Surrounding Street system** – no impact. Redevelopment of an existing parking lot with no new onsite parking provided. The site use is not expected to create or aggravate any existing or proposed hazard or safety concern on Commercial Street. The site access conditions are consistent with the neighboring sites on both sides of the street.
10. **Access and Circulation** – The site and building are accessible from at least three sides with ample access for emergency vehicles and site tenants. The elevator will be sized to allow for a stretcher and emergency personnel. The building entrances off the Commercial Street sidewalk will be flush to existing grade and this will require shallow interior ramps and steps up to the proposed finish floor elevation of 12.0' (NGVD29), per the City's building code requirements. The rear access route from the adjacent Amigo's restaurant will be rerouted thru their site and a screen wall is intended to separate Amigo's from the rear of the proposed building.
11. **Public transit** – Not applicable
12. **Off-Street Parking** – No parking is provided onsite. Two Dero Bike Hitches will be provided on the site. The site is fully paved or otherwise is building.

13. **Transportation Demand Management** – Not applicable

Environmental

14. **Preservation of Significant Natural Features** – Not applicable
15. **Landscape Preservation** – There is one existing street tree that will be impacted by the construction of the building. The applicant is also requesting that if the tree needs to be replaced that it be relocated along the sidewalk to avoid placement directly in front of the retail façade, if possible. The design team can coordinate with Jeff Tarling on this item during the review process.
16. **Site landscaping and Buffers** – Not applicable
17. **Water Quality, Stormwater Management and Erosion control** – The site is fully paved/concrete in the current condition. The surface will change to roof top. The roof drains will tie into the existing drainage system consisting of a 12" drain pipe along the Commercial Street frontage. There is no expected change in overall site drainage however, the elimination of parking will improve water quality. The existing downspout on the adjacent building at 191 Commercial Street will also be tied into the new building foundation drain, thus eliminating water that currently spills out onto the brick sidewalk. Typical erosion control measures including stabilized construction entrance and sediment sacks at nearby catch basins will be employed during the construction to minimize sediment transport into the drainage systems.

Public Infrastructure and Safety

18. **Consistency with City Master Plans** – See Above
19. **Public Safety and Fire Prevention** – The new building will have a full sprinkler system and Fire Department Connection along the Commercial Street Façade. The nearest fire hydrant is located at the corner of Dana Street and Commercial Street, less than one hundred feet from the building.
20. **Availability and Adequacy of Public Utilities** – see above

Site Design

21. **Massing, Ventilations and Wind Impact** – not applicable – See Archetype renderings for further information on the building.
22. **Shadows** – Not applicable
23. **Snow and Ice Loading** – the building is primarily a flat roof. Snow and Ice will not fall onto adjacent properties.
24. **View Corridors** – Not applicable
25. **Historic Resources** – The site has undergone HP review and approval.

26. **Exterior Lighting** – The applicant proposes to replace a light head on an existing pole in the alleyway. There are currently two pole lights in the alleyway. There is a cobra head light on the utility pole at the corner of Moulton Street and Commercial Street.

27. **Noise and Vibration** – Not applicable- roof top equipment will be screened and dampened as necessary to satisfy City noise and vibration standards.

28. **Signage and Wayfinding** – All tenant signage to be permitted separately by the tenants.

29. **Zone Related Design Standards** – The development satisfies ReCode 14.6.4.I.1.a for the B-3 where the design shall support the development of a dense, Mixed-use neighborhood with an attractive, safe, and convenient street-level pedestrian environment.

Fig 3 Existing Alleyway October 2022

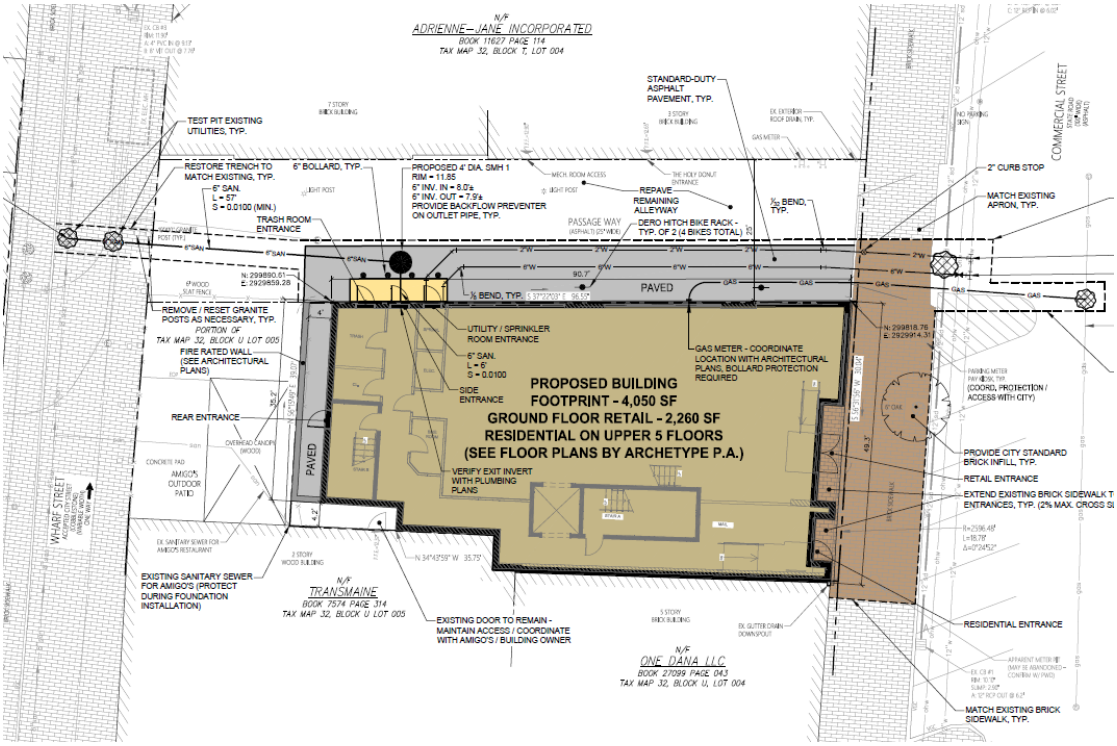


Fig 4 Proposed Site plan – 185 Commercial Street

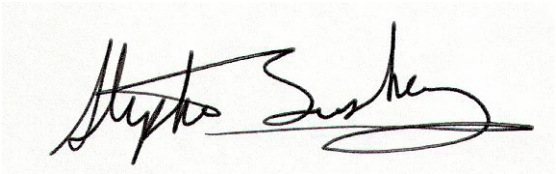
Fig 5 – Rendering from Commercial Street NE

Fig 6 – Rendering from Commercial Street SE

We trust the supporting application materials are acceptable and we look forward to the Planning Authority's prompt review and scheduling of a workshop with the Planning Board.

Sincerely,

GORRILL-PALMER



Stephen Bushey, PE
Senior Associate
Phone: 207-772-2515 x286
sbushey@gorrillpalmer.com

Attachments

c: Jon Cohen, 185 Commercial Street
Katherine Lermond, Archetype

U:\3972 - 185 Commercial Street Mixed Use - Portland\P Applications\Local\2022.10.04 app_185 Commercial site plan cover letter

CITY OF PORTLAND
Planning & Urban Development Department

MAJOR SITE PLAN
GENERAL DOCUMENT AND DRAWINGS CHECKLIST

Please submit each document as a separate PDF file.
Please confirm by electronically checking the boxes in the left-hand column.

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

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

GENERAL APPLICATION DOCUMENTS	
Yes **NA**	**Project Description** ● Cover letter with detailed project description
Yes **NA**	**Completed Checklist** (this document)
Yes **NA**	**Evidence of Right, Title, and Interest** ● Deeds, leases, or purchase and sales agreements
Yes **NA**	**Evidence of State or Federal Approvals** ● Permits or letters of non-jurisdiction, if applicable
Yes **NA**	**Zoning Assessment** (see Zoning Assessment Table) Summary of compliance with use and dimensional standards of the land use code
Yes **NA**	**Site Plan Standards Assessment** (see Section 14.6 of the land use code) • Summary of project compliance with site plan standards of the land use code
Yes **NA**	**Summary of Existing and/or Proposed Easements or Covenants, applicable.** ● Evidence of existing easements and any proposed easements, covenants, public or private rights-of-way
Yes **NA**	**Waiver Requests** (see Waiver Table) ● Written request for waiver describing request and compliance with applicable waiver standards
Yes **NA**	**Financial Capability** ● Letter or evidence from a financial institution or third party verifying financial capacity to undertake project
Yes **NA**	**Technical Capability** ● Evidence of technical capability of applicant and consultants – resumes and/or examples of past projects

MAJOR SITE PLAN
STANDARDS AND SUBMISSION CHECKLIST

Provide assessment of compliance with standards and include supplemental documentation, as applicable.
Please submit each document as a separate PDF file.

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

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

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

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

MAJOR SITE PLAN
DRAWINGS CHECKLIST

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

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

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

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

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

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

Existing Conditions Plan with the following:

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

Proposed Site Plan with the following:

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

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

UTILITY PLAN including:

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

GRADING AND DRAINAGE PLAN including:

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

LANDSCAPE PLAN including:

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

ARCHITECTURAL PLANS AND RENDERINGS including:

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

CONSTRUCTION MANAGEMENT PLAN including:

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

OTHER

- Details and cross-sections, as necessary

ZONING ANALYSIS Relevant Zone(s) B-3

All Projects:

	Required	Proposed
Lot Size	-	4319
Area Per Dwelling Unit	-	
Minimum Street Frontage	15 ft	48.82 ft
Front Yard Minimum		
Front Yard Maximum	5 ft	0.5 ft.
Rear Yard		
Yard Right		
Yard Left		
Side Street Setback		
Step Back		
Maximum Lot Coverage	100%	100%
Minimum Lot Coverage		
Maximum Height	65 ft	65 ft
Open Space		
Maximum Impervious Area	100%	100%
Pavement Setback		
Floor Area Ratio		
Off Street Parking Spaces	0	0
Loading Bays		
Other 1		
Other 2		
Other 3		

Planned Residential Unit Developments (PRUD) Requirements

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

Affordable Housing Density Bonuses (if applicable)

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

CITY OF PORTLAND
Planning & Urban Development Department

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

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

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

GENERAL APPLICATION DOCUMENTS	
Yes NA	**Project Description** ● Cover letter with detailed project description
Yes NA	**Completed Checklist** (this document)
Yes NA	**Evidence of Right, Title, and Interest** ● Deeds, leases, or purchase and sales agreements
Yes NA	**Evidence of State or Federal Approvals** ● Permits or letters of non-jurisdiction, if applicable
Yes NA	**Zoning Assessment** (see Zoning Assessment Table) Summary of compliance with use and dimensional standards of the land use code
Yes NA	**Site Plan Standards Assessment** (see Section 14.6 of the land use code) • Summary of project compliance with site plan standards of the land use code
Yes NA	**Summary of Existing and/or Proposed Easements or Covenants, applicable.** ● Evidence of existing easements and any proposed easements, covenants, public or private rights-of-way
Yes NA	**Waiver Requests** (see Waiver Table) ● Written request for waiver describing request and compliance with applicable waiver standards
Yes NA	**Financial Capability** ● Letter or evidence from a financial institution or third party verifying financial capacity to undertake project
Yes NA	**Technical Capability** ● Evidence of technical capability of applicant and consultants – resumes and/or examples of past projects

MAJOR SITE PLAN
STANDARDS AND SUBMISSION CHECKLIST

Provide assessment of compliance with standards and include supplemental documentation, as applicable.
Please submit each document as a separate PDF file.

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

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

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

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

MAJOR SITE PLAN
DRAWINGS CHECKLIST

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

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

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

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

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

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

Existing Conditions Plan with the following:

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

Proposed Site Plan with the following:

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

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

UTILITY PLAN including:

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

GRADING AND DRAINAGE PLAN including:

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

LANDSCAPE PLAN including:

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

ARCHITECTURAL PLANS AND RENDERINGS including:

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

CONSTRUCTION MANAGEMENT PLAN including:

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

OTHER

- Details and cross-sections, as necessary

Att. C

MAINE REAL ESTATE TAX-Paid

QUITCLAIM DEED WITH COVENANT

DLN: 1002140163662

COMPARK, LLC, a Maine limited liability company with a mailing address of 336 Danforth Street, Portland, ME 041020 ("Grantor"), for consideration paid, grants to **185 COMMERCIAL STREET LLC**, a Maine limited liability company with a mailing address of 865 Spring Street, Westbrook, ME 04092 ("Grantee"), with Quitclaim Covenant, a certain lot or parcel of land, together with the improvements thereon, situated in the City of Portland, County of Cumberland, State of Maine, described in Exhibit A attached hereto and made a part hereon.

For Grantor's source of title, reference is made to Quitclaim Deed granted by John O. Robertson to Compark, LLC, dated July 14, 2021 and recorded in the Cumberland County Registry of Deeds in Book 27934, Page 198.

IN WITNESS WHEREOF, ComPark, LLC has caused this instrument to be executed by John O. Robertson, its Manager thereunto duly authorized, as of this 22nd day of SEPTEMBER, 2021.

COMPARK, LLC

By: _____
John O. Robertson, Manager

State of Maine
Cumberland County

SEP 22, 2021

Personally appeared the above named John O. Robertson, Manager of ComPark, LLC, as aforesaid and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said limited liability company.

_____
Notary Public

_____
Print Name: GEORGE F. BURNS
Commission Expiration: ATTORNEY

DOC :68505 BK:38690 PG:188
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
09/23/2021, 11:42:51A
Register of Deeds Jessica M. Spaulding E-RECORDED

EXHIBIT A

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

Beginning at the intersection of the westerly side of Commercial Street and a passageway; thence northwesterly by line of said passageway ninety-four (94) feet and two (2) inches, more or less, to land formerly belonging to one Fox; thence by the line of said Fox land southwesterly thirty-eight (38) feet and eight (8) inches, more or less, to land conveyed to Edward P. Oxnard by Frederick Oxnard by deed dated December 8, 1894 and recorded in the Cumberland County Registry of Deeds in Book 621, Page 171; thence southeasterly by said last mentioned land thirty-five (35) feet and nine (9) inches, more or less, to the most easterly corner of a lot of land conveyed by said Edward P. Oxnard and others to E. Corey & Co. by deed dated February 25, 1919 and recorded in said Registry of Deeds in Book 1018, Page 323 and in Book 1017, Page 186; thence at right angles westerly along said Corey land six (6) feet and one (1) inch, more or less, to an iron bolt, now or formerly situated at the corner of a wooden building, which bolt is mentioned in said deeds of Edward P. Oxnard et al. To E. Corey & Co.; thence southeasterly by land of E. Corey & Co., now or formerly, fifty-nine (59) feet, more or less, to the northwesterly side of said Commercial Street; thence northeasterly by the line of said Commercial Street fifty (50) feet and eleven (11) inches, more or less, to the point of beginning.

Together will all right, title and interest, in and to, the passageway adjoining the premises above described.

Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

ZONING ANALYSIS Relevant Zone(s) B-3

All Projects:

	Required	Proposed
Lot Size	-	4319
Area Per Dwelling Unit	-	
Minimum Street Frontage	15 ft	48.82 ft
Front Yard Minimum		
Front Yard Maximum	5 ft	0.5 ft.
Rear Yard		
Yard Right		
Yard Left		
Side Street Setback		
Step Back		
Maximum Lot Coverage	100%	100%
Minimum Lot Coverage		
Maximum Height	65 ft	65 ft
Open Space		
Maximum Impervious Area	100%	100%
Pavement Setback		
Floor Area Ratio		
Off Street Parking Spaces	0	0
Loading Bays		
Other 1		
Other 2		
Other 3		

Planned Residential Unit Developments (PRUD) Requirements

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

Affordable Housing Density Bonuses (if applicable)

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

Standard to be Waived: Cite Ordinance or Technical Manual Standard	**Cite Standard Language:** Cite specific language of applicable Ordinance or Technical Manual Standard	**Waiver Being Sought:** Describe waiver being sought. Ex. – We are requesting a two-way parking lot drive aisle width of 20' feet.	**Justification for Waiver:** Address specific waiver criteria, if applicable, and document reasons for the waiver request.

September 30, 2022

City of Portland
389 Congress Street
Portland, ME 04101

Re: 185 Commercial Street, Portland, Maine

To Whom It May Concern:

NBT Bank, N.A. has a strong relationship with Jonathan Cohen and 185 Commercial Street OZ LLC who are customers in good standing of the Bank. We enjoy a great relationship with Mr. Cohen, having completed numerous successful projects together over the past several years. Jonathan Cohen has both the experience and the financial capacity to complete the subject project. Should there be any questions on this matter, please do not hesitate to contact me at (207) 229-7100 or via e-mail at jdeering@nbtbank.com.

Sincerely,

Jeremiah C. Deering
Senior Vice President
Regional Commercial Banking
Manager

TECHNICAL CAPABILITY

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

Civil Engineer	Stephen Bushey, P.E. Gorrill-Palmer Consulting Engineers 707 Sable Oaks Drive South Portland, Maine 04106 (207) 772-2515 sbushey@gorrillpalmer.com
Architect	Katherine Lermond Archetype Architects Union Wharf Portland, ME 04101 katherine@archetypepa.com
Surveyor	VHB Dan Oakes 500 Southborough Drive Suite 105B South Portland, ME 04106 doakes@vhb.com
Geotechnical	Summit Geoengineering Bill Peterlein PE 210 Maine Avenue Farmingdale, maine 04344 bpeterlein@summitgeoeng.com
Construction Management	Penobscot Construction Clay Maker cmaker@penobscotgc.com

The team of consultants retained by developer has expertise and experience in the design of similar commercial projects. Resumes of key personnel for development team can be provided upon request.

The Applicant also has significant experience in the design, permitting, development and management of large institutional projects as evidenced by their projects at 1 Hancock Street and 100 Fore Street among others.

GORRILL PALMER

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

February 6, 2023

Mr. Brad Roland, PE
City of Portland Public Works
212 Canco Road -Suite B
Portland, Maine 04103

Subject: 185 Commercial Street
Mixed Use development with 6 residential units
Request for Ability to Serve Letter

Dear Brad:

185 Commercial Street LLC (Applicant) has retained Gorrill Palmer to prepare plans and permit applications for the proposed development of a new building containing a ground level retail store and 6 residential units above at the vacant parking lot on 185 Commercial Street. The project site is located on the following according to the City of Portland's Tax Map:

Tax Map 32 block U lot 003

We would like to verify the City's wastewater division has ability to provide wastewater capacity for the project and to determine any impact fees. We are proposing to connect to the 8" sanitary service main in Wharf Street via a new 6" service line out the rear of the building. We are proposing to connect to the existing water main in Commercial Street.

The projected water use/wastewater disposal, for the remaining space is summarized below using the State of Maine Subsurface Wastewater Disposal Rules and typical City of Portland information:

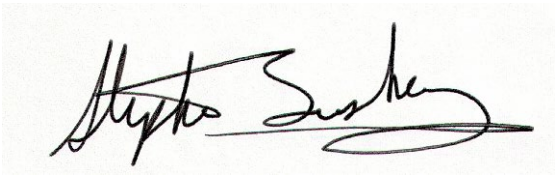
Flow Demand		
Use	**Design Flow (GPD)**	**Peak Daily Design Flow (GPD)**
6 units 10 employees in retail store (no public restroom)	180 gpd/multiple bedrooms 12 gpd/employee	1,080 gpd 120 gpd Total = 1,200 gpd

Based on this amount of flow, we trust that the existing wastewater systems have adequate capacity to serve this project. We are in the process of completing a Major Site Plan Application for a submission to City Planning Staff and we would appreciate your confirmation of site conditions.

If you have any questions on the information submitted, please contact our office.

Regards,

GORRILL PALMER



Stephen R. Bushey, P.E.
Senior Associate
Phone: (207) 772-2515
sbushey@gorrillpalmer.com

Attachment

C: Austin Torres Davis

U:\3972 - 185 Commercial Street Mixed Use - Portland\H Utilities\Sewer\abs_ww_roland_02.06.2023

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Department of Public Services,
55 Portland Street,
Portland, Maine 04101-2991

Bradley Roland, P.E.
Water Resources Division

Date: February 6 2023

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

Site Address: 185 Commercial Street

Chart Block Lot Number: Tax Map 32/Lot U-003

Proposed Use: Grd floor retail and 6 Residential Units
Previous Use: Field
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.

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

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

2. Please, Submit Contact Information.

City Planner's Name: Austin Torres Davis Phone: _____
Owner/Developer Name: 185 Commercial Street LLC Attn: Jon Cohen
Owner/Developer Address: 865 Spring Street WEstbrook Maine 04092
Phone: 207-879-7800 Fax: _____ E-mail: jcohen@a-d-w.biz
Engineering Consultant Name: Stephen Bushey, P.E.
Engineering Consultant Address: Gorrill Palmer 300 Southborough Drive - Suite #200, So. Portland, ME 04106
Phone: 207-772-2515 Fax: _____ E-mail: sbushey@gorrillpalmer.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 1,200 GPD
Peaking Factor/ Peak Times: Not Applicable
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)* XSUBSURFACE WASTEWATER DISPOSAL RULES

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

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values: Not Applicable

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: Not Applicable 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.

---

6 units at 180 gpd/unit = 1,080 gpd plus
10 employees at 12 gpd = 120 gpd
total = 1200 gpd

Department of Public Works
Mike Murray
Acting Director

Date: 2023-02-21
Re: Wastewater Capacity Authorization
Address: 185 Commercial Street
Applicant: 185 Commercial Street LLC
Planner: Austen Davis

Estimate of Anticipated Wastewater Flows				
Development	**Unit Size**	**Number of Units**	**Gallons per Day per Unit**	**Total Gallons per Day**
Existing Flow to Remain				
Vacant				
Proposed Flow				
Employees at place of employment with no showers	# Employees	10	12 GPD/Employee	120
Multiple Family Dwelling Units	2-Bedroom	6	180	1080
Net Change				**+ 1,200**
*Values based on STATE OF MAINE: SUBSURFACE WASTEWATER DISPOSAL RULES, most recent edition				

Comments:
The Department of Public Works, which includes the Water Resource Division, have reviewed and determined that the downstream sewers from the project address have the capacity to convey the estimated dry weather wastewater flows which will be generated from this development.

You are reminded that the sewers you are proposing to connect into convey both sanitary and stormwater (Combined Sewer) and therefore a backflow preventer is suggested.

If the City can be of further assistance, please contact me at all 874-8840 or brad@portlandmaine.gov
Sincerely,

Bradley A. Roland, P.E.,
Senior Project Engineer

ENVIRONMENTAL

14.6.2 (A) Preservation of Significant Natural Features – Not applicable

14.6.2 (B) Landscape Preservation – There is one existing street tree that will be impacted by the construction of the building. The applicant is also requesting that if the tree needs to be replaced that it be relocated along the sidewalk to avoid placement directly in front of the retail façade, if possible. The design team can coordinate with Jeff Tarling on this item during the review process.

14.6.2 (C) Site landscaping and Buffers – Not applicable

14.6.2 (D) Water Quality, Stormwater Management and Erosion control – The site is fully paved/concrete in the current condition. The surface will change to roof top. The roof drains will tie into the existing drainage system consisting of a 12" drain pipe along the Commercial Street frontage. There is no expected change in overall site drainage however, the elimination of parking will improve water quality. The existing downspout on the adjacent building at 191 Commercial Street will also be tied into the new building foundation drain, thus eliminating water that currently spills out onto the brick sidewalk. Typical erosion control measures including stabilized construction entrance and sediment sacks at nearby catch basins will be employed during the construction to minimize sediment transport into the drainage systems.

PUBLIC INFRASTRUCTURE AND COMMUNITY SAFETY

14.6.3.A Consistency with City Master Plans – On Portland's Future Land Use Plan, 185 Commercial Street remains located Mixed Use/Commercial/Office zone and is located near an enhanced Priority Corridor (Commercial Street). Priority Corridors are "*major arterials that often see heavy vehicular traffic, but also have the capacity to improve mobility by capitalizing on their potential for increased walking, bicycling, and transit use. Priority corridors can also serve as areas of additional mixed-use, higher density growth to take advantage of the transit benefits and services that well-designed, diverse corridors can offer.*" Located on Commercial Street the site is within a Downtown waterfront area that is maintaining a robust level of activity and development. This site is an ideal location for a building with ground level retail and residential above. We believe the proposed uses go hand in hand as complimentary uses to the surrounding businesses and land use an envisioned in the Comprehensive plan and current zoning.

14.6.3 (B) Public Safety and Fire Prevention – The new building will have a full sprinkler system and Fire Department Connection along the Commercial Street Façade. The nearest fire hydrant is located at the corner of Dana Street and Commercial Street, less than one hundred feet from the building.

14.6.3 (C) Availability and Adequacy of Public Utilities – The proposed project will involve new utility connections that are described as follows:

- The building will be sprinkled and contain a domestic water service, both to be extended from a 12" water main in Commercial Street. The Fire Dept connection will be located at the front of the building.
- A domestic sewer connection is proposed to tie into an existing 8" sewer line in Wharf Street since that line is closer than the interceptor sewer in Commercial Street. Access to the Commercial Street Interceptor also involves various utility crossings and excavation in Commercial Street which is considered to be challenging and cost prohibitive.
- The building will be served by Natural gas coming from Commercial Street.
- There is underground power in Wharf Street. The design team is currently coordinating with CMP and the communications providers on these services.

SITE DESIGN

14.6.4 (A) Massing, Ventilations and Wind Impact – not applicable – See Archetype renderings for further information on the building.

14.6.4 (B) Shadows – Not applicable

14.6.4 (C) Snow and Ice Loading – the building is primarily a flat roof. Snow and Ice will not fall onto adjacent properties.

14.6.4 (D) View Corridors – Not applicable

14.6.4 (E) Historic Resources – The site has undergone HP review and approval.

14.6.4 (F) Exterior Lighting – The applicant proposes to replace a light head on an existing pole in the alleyway. There are currently two pole lights in the alleyway. There is a cobra head light on the utility pole at the corner of Moulton Street and Commercial Street.

14.6.4 (G) Noise and Vibration – Not applicable- roof top equipment will be screened and dampened as necessary to satisfy City noise and vibration standards.

14.6.4 (H) Signage and Wayfinding – All tenant signage to be permitted separately by the tenants.

14.6.4 (I) Zone Related Design Standards – The development satisfies ReCode 14.6.4.I.1.a for the B-3 where the design shall support the development of a dense, Mixed-use neighborhood with an attractive, safe, and convenient street-level pedestrian environment.

Fig 3 Existing Alleyway October 2022

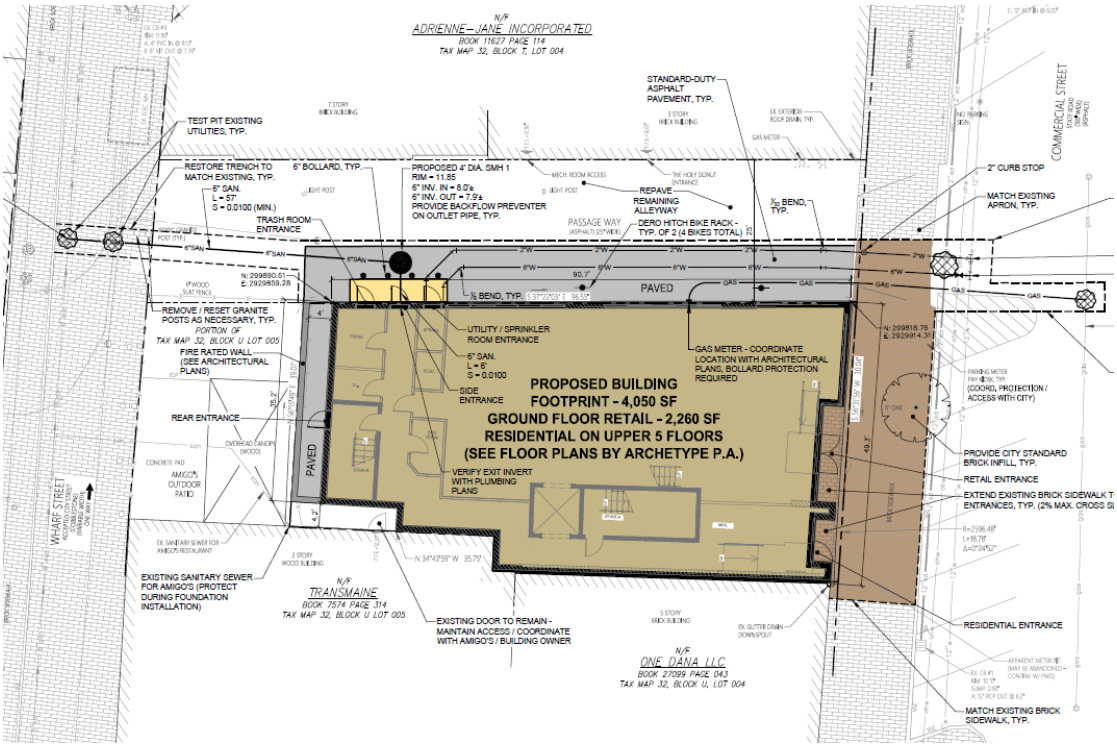


Fig 4 Proposed Site plan – 185 Commercial Street

TRANSPORTATION

14.6.1(A) **Impact on Surrounding Street system** – no impact. Redevelopment of an existing parking lot with no new onsite parking provided. The site use is not expected to create or aggravate any existing or proposed hazard or safety concern on Commercial Street. The site access conditions are consistent with the neighboring sites on both sides of the street.

14.6.1(B) **Access and Circulation** – The site and building are accessible from at least three sides with ample access for emergency vehicles and site tenants. The elevator will be sized to allow for a stretcher and emergency personnel. The building entrances off the Commercial Street sidewalk will be flush to existing grade and this will require shallow interior ramps and steps up to the proposed finish floor elevation of 12.0' (NGVD29), per the City's building code requirements. The rear access route from the adjacent Amigo's restaurant will be rerouted thru their site and a screen wall is intended to separate Amigo's from the rear of the proposed building.

14.6.1(C) **Public transit** – Not applicable

14.6.1(D) **Off-Street Parking** – No parking is provided onsite. Two Dero Bike Hitches will be provided on the site. The site is fully paved or otherwise is building.

14.6.1 (E) **Traffic Demand Management** - Not applicable

GORRILL PALMER

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

February 6, 2023

Mr. Austin Torres Davis, Planner
Planning & Urban Development Department
389 Congress Street
Portland, Maine 04101

Subject: Major Site Plan, Master Development Plan Amendment
Project ID – PL-002235-2022
185 Commercial Street
185 Commercial Street LLC, Applicant
Letter of Response #1– Response to Staff comments

Dear Austin:

On behalf of **185 Commercial Street LLC (Applicant)**, our office is pleased to provide the following responses to staff review comments provided within an email and memo dated January 5, 2023, and your email dated February 3, 2023. For ease of review, we have repeated all of the staff comments in *italics* and provide our responses in **bold** as follows:

General Comments from Planning & Urban Development Department

1. *Per Land Use Code Section 14.6.2 (B. and C), site development shall be designed to incorporate, limit disturbance to, and limit removal of existing trees, and all development subject to required zoning setbacks shall include a minimum of one shade tree or six plantings per 30 linear feet of all frontages as measured along the property line. Information is sought as to whether the existing 6" Oak tree will be preserved or replaced.*

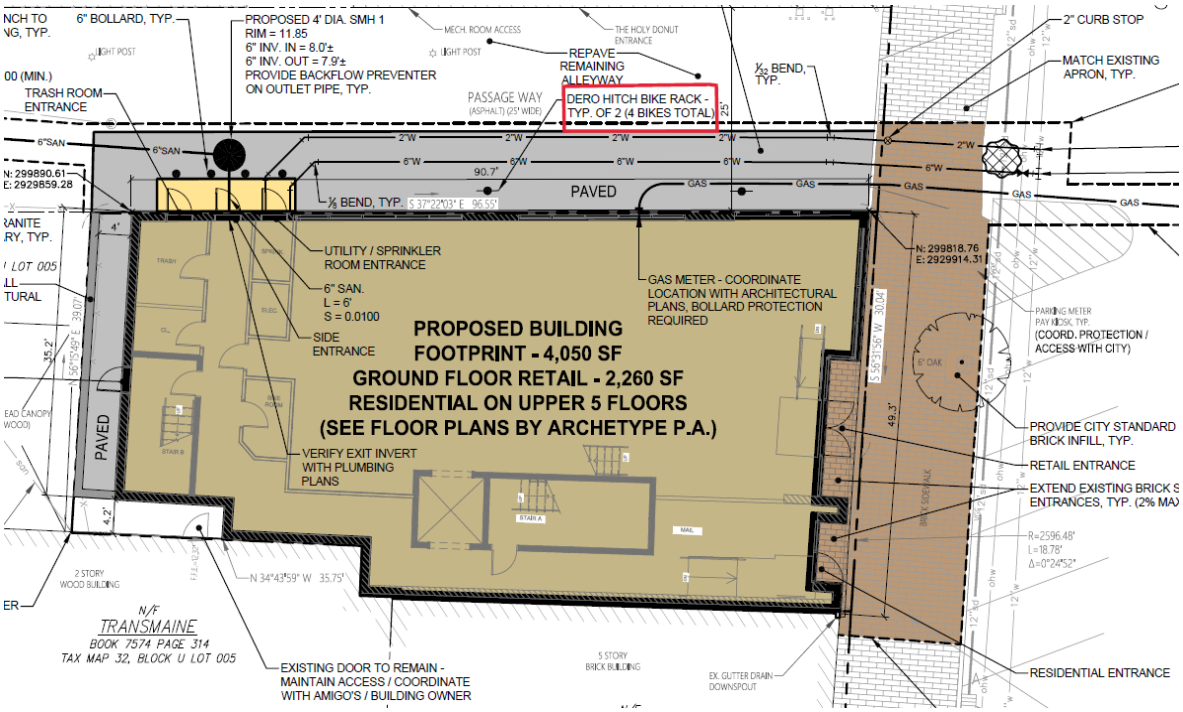
   Response: The applicant prefers to remove/replace the existing Oak Tree as it will fall immediately in front of the ground level retail façade and storefront glazing. We are amenable to discussing with the City Arborist as to possible new locations and/or street tree contribution.

2. *Per Technical Manual Section 4.6.1., a minimum of one tree per unit, planted in the City right-of-way is required. However, as site constraints preclude this, contribution for each required street tree may be made into the City of Portland's Tree Fund. As there exists one tree adjacent to the development site, this contribution would equal $2,000 ($400 x 5 trees).*

   Response: The applicant is amenable to the Tree Fund contribution as a condition of approval.

3. *Per TABLE 19-A, two bicycle parking spaces are required per five units. Bicycle parking may be located within a public right-of-way where site conditions cannot reasonably accommodate interior bike parking, or where a high turnover of short-term bike parking usage is expected. If not provided inside the structure, a bike rack should be provided meeting the standards of Technical Manual Section 1.12.*

Response: The proposed site plan contains two Dero hitches for up to four bicycles located along the east side of the building. There may also be some interior storage space for the residential units in the building.



Comments from Zoning Administration

1. *The applicant needs to provide right, title and interest to use and occupy any part of the 25' wide passageway to the east side of the property. Note 9 on the survey says: Ownership of passageway shown hereon is undetermined.*

Response: Attached is a copy of the 185 Commercial Street LLC deed, which expressly includes "all right, title and interest in and to the passageway adjoining the premises above described." Additionally, see the attached two court judgments conveying all ownership interests held by the 140+ heirs of passageway owners to 185 Commercial St's predecessor, Compark.

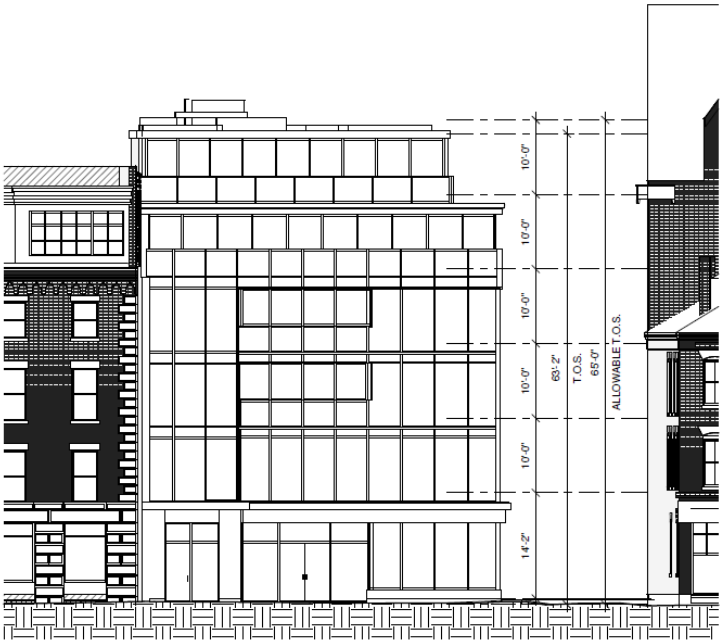
2. *Under Table 19-A, 13 off-street parking spaces are required - one for the retail space on the first floor, 6 for the retail space on the second floor and 6 for the six dwelling units. Table 19-B offers some exceptions*

to the off-street parking requirements, including for transit-proximate development. To use this exemption the applicant would need to provide a Transportation Demand Management plan.

Response: The development team is putting together a TDM plan for the site recognizing that the proposed building will be less than ¼ mile distance from the METRO Route 8 bus route along Middle Street and over to Casco Bay Lines. The site is also approximately 2,000 LF from the Gateway Parking Garage that is under common ownership. The applicant's intent is for the residential tenants to obtain their own parking within any of the assorted nearby parking garages including the Gateway Garage in the vicinity of the property.

3. *The maximum height for this property is 65'. The applicant needs to provide scalable elevations that demonstrate that the building is not exceeding the maximum height.*

Response: See the attached façade elevations from Archetype Architects depicting the building height. The floor-to-floor height is 63'-2" and based on surrounding grade the overall height is measured as 63'-11". The allowable height in the B-3 zone is 65'. The Historic Committee reviewed the building height and found it to be acceptable.



1 Commercial street elevation
3/32" = 1'-0"

Transportation Comments from Department of Public Works

1. *The applicant shall provide information as to how the project will comply with the City's street lighting standards in Section 10 of the Technical Manual.*

   Response: The Technical Manual suggest the installation of a decorative fixture as identified on Figure X-8B. We've reached out to Kevin Thomas of DPW to ascertain more information on the installation of this fixture since it is unclear that there is an existing circuit or similar lighting in the project vicinity that can be coordinated with. We'd ask planning for more specifics as to what the City is seeking for decorative lighting on the street, given the existing conditions and lack of other decorative lighting on the street in the area of the site. The proposal does not include any new lighting since the alleyway currently contains two light standards and there are overhead cobra lights on the utility poles on the corners of Moulton/Commercial and Dana/Commercial. Ambient lighting from surrounding uses provides coverage for the site.

2. *The applicant shall review and confirm that all proposed Site details and Landscape details meet the requirements of the recently approved technical manual update.*

   Response: We are in the process of assuring that site details reflect compliance with the latest City standards. The final plans to be uploaded following the workshop meeting with the Planning Board will reflect these updates.

3. *The applicant shall confirm they have RTI or proof of ownership to utilize the alley for placement of utilities and the proposed access pad.*

   Response: See previous response and the attached evidence of RTI for the alleyway.

4. *The applicants shall confirm with the City Arborist that the existing tree, proposed for removal on the plans, is suitable for removal.*

   Response: We have reached out Parks and Recreation for their input on the tree removal.

5. *What is proposed for the existing curb cut location? Applicant shall review modification of existing curb cut to maximize on street parking.*

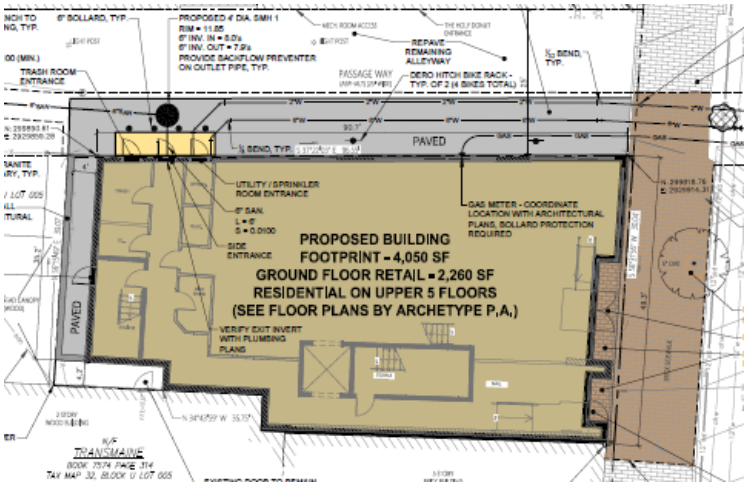
Response: The plan calls for no changes to the existing curb opening as the opening should be remain unchanged based on the current access needs and use. The Holy Donut retail store uses the alleyway for vehicular access. We are accessing the need to maintain this sidewalk apron with the applicant and will report further once a determination is made.

6. *A note to replace striping in the sawcut area needs to be added to the plans.*

Response: A note will be added to the plans and will be evidenced when final plans are uploaded following the Planning Board workshop.

7. *The limits of sidewalk to remain or to be replaced is not clear.*
   a. The brick sidewalk along the Commercial Street frontage shall be reconstructed in accordance with the City's Sidewalk and Driveway Apron Material Policy.
   b. The proposed brick sidewalk cross slope shall not exceed 2% at the property line. If the existing sidewalk grades are not compliant at the property line, then the limits of sidewalk replacement shall be extended to include a 5-foot minimum transition zone from the proposed 2% to the existing sidewalk slope.
   c. The sidewalk material shall be continued through the alley's apron at grade with the proposed sidewalk and not in excess of 2% cross-slope. If the existing sidewalk grades are not compliant at the limits of the alley, then the limits of sidewalk replacement shall be extended to include a 5-foot minimum transition zone from the proposed 2% to the existing sidewalk slope.

Response: The site plan identifies the sidewalk replacement as colored in the figure to the right. The ability to maintain a 2% max crossslope should be readily achievable. The updated plans will show the replacement of the sidewalk thru the alley's apron entrance.

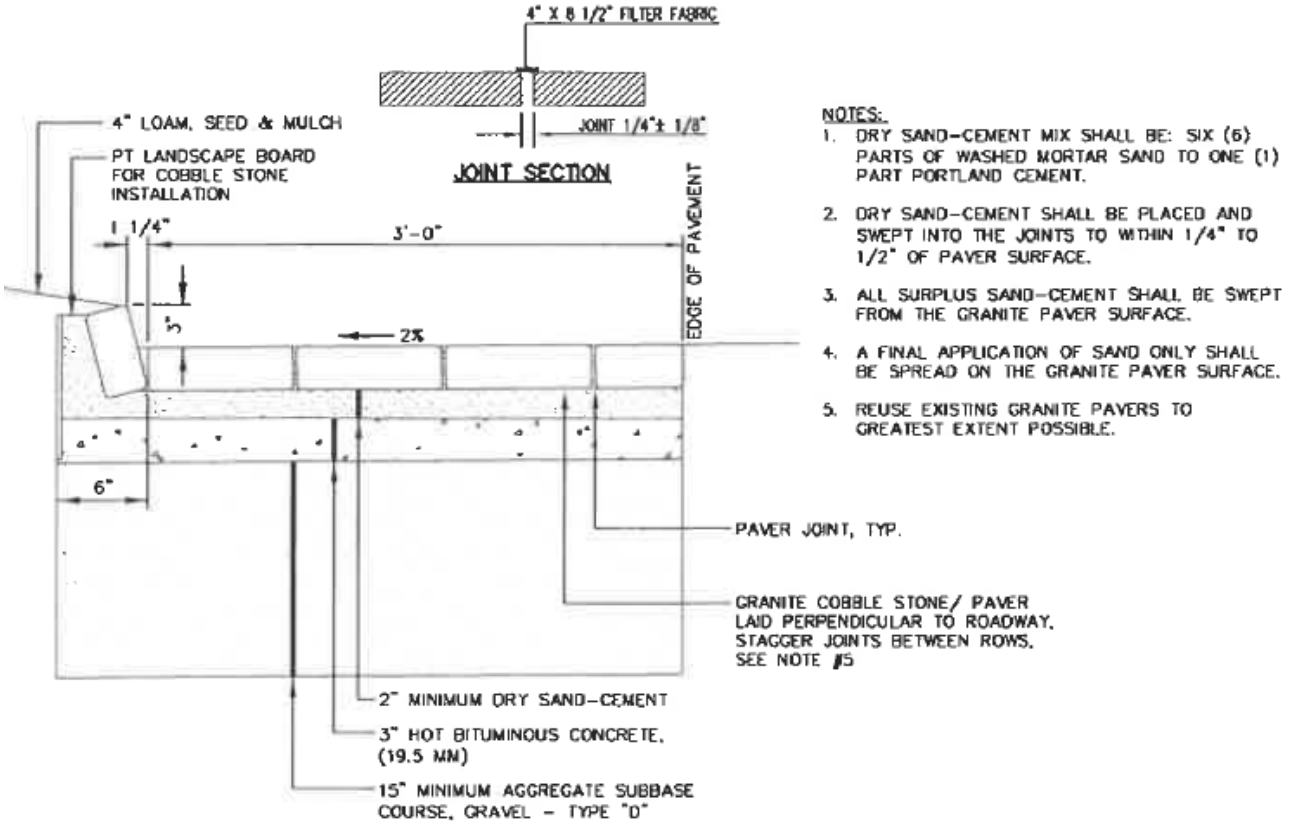


8. *The applicant shall verify the condition of the existing curb and curb reveal height. If the existing top of curb does not have a continuous slope the existing curb shall be reset. Any fluctuation should be reflected in the curb reveal (min of 5.5" reveal) if the slope of the pavement gutter is not consistent.*

Response: We are in the process of verifying curb conditions and the updated plans will reflect the removal/reset limits and grades to satisfy compliance with the City Technical standards.

9. *The applicant shall provide a repair detail for the Wharf Street granite pavers.*

Response: A detail for resetting granite pavers as may be disturbed during the utility work will be provided in the final plan submission to be uploaded after the PB workshop. The detail below has been previously used on City projects and we are checking with DPW on any changes they may want with this detail.



COBBLE STONE GUTTER SECTION
NOT TO SCALE

10. *Who owns the street lights in the alley?*

Response: We understand the applicant owns the lights in the alley. The plan is to repair one of the lights which is currently missing a light fixture top.

Water Resources Comments from the Department of Public Works

1. *The applicant is required to submit a formal wastewater capacity application to water resources engineering for review and approval.*

   Response: The attached letter and wastewater capacity application have been forwarded to Brad Roland in DPW

2. *The applicant shall relocate DMH-1 to private property outside the City's right of way.*

   Response: DMH 1 will be moved to inside the alleyway.

3. *A formal ESC plan should be included in the set.*

   Response: Drawing C-4.0 contains some information on needed erosion controls during construction. Additional Erosion control notes are shown on C-1.1. We intend to provide additional information on the final plans to assure ample information is provided to the contractor.

Additional Comments via email on February 3, 2023

1. *In addition to the previously noted concerns, we are requesting information on lighting/photometrics.*

   Response: The project is not contemplating any new exterior lighting. Once a determination is made as to the need for a City standard decorative light on Commercial Street we can verify more about the lighting. The existing lights in the alleyway are relatively modest in scale, appearance and light coverage.

2. *Additionally, we also hope you can provide an ability to serve confirmation from the Portland Water District, Central Maine Power, as well as the submission of documentation of Wastewater Capacity Authorization from the Department of Public Works.*

   Response: We have contacted each utility and await their reply.

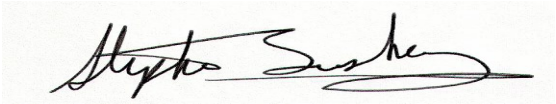
3. *We also request clarification on the location of this equipment and how it will be shielded from view should be included in final submissions.*

Response: Any equipment will be roof mounted and screened within enclosures. Additional information on the enclosure measures will be provided prior to the public hearing.

We look forward the Planning Board workshop next week. Please find the attached information for your records.

Sincerely,

GORRILL-PALMER



Stephen Bushey, PE
Senior Associate
Phone: 207-772-2515 x286
sbushey@gorrillpalmer.com

Attachments:

c: Jon Cohen 185 Commercial LLC
Katherine Lermond – Archetype

U:\3972 - 185 Commercial Street Mixed Use - Portland\P Applications\Local\LOR #1\LOR#1_davis_02.06.23

MAINE REAL ESTATE TAX-Paid

QUITCLAIM DEED WITH COVENANT

DLN: 1002140163662

COMPARK, LLC, a Maine limited liability company with a mailing address of 336 Danforth Street, Portland, ME 041020 ("Grantor"), for consideration paid, grants to **185 COMMERCIAL STREET LLC**, a Maine limited liability company with a mailing address of 865 Spring Street, Westbrook, ME 04092 ("Grantee"), with Quitclaim Covenant, a certain lot or parcel of land, together with the improvements thereon, situated in the City of Portland, County of Cumberland, State of Maine, described in Exhibit A attached hereto and made a part hereon.

For Grantor's source of title, reference is made to Quitclaim Deed granted by John O. Robertson to Compark, LLC, dated July 14, 2021 and recorded in the Cumberland County Registry of Deeds in Book 27934, Page 198.

IN WITNESS WHEREOF, ComPark, LLC has caused this instrument to be executed by John O. Robertson, its Manager thereunto duly authorized, as of this 22nd day of SEPTEMBER, 2021.

COMPARK, LLC

By: _____
John O. Robertson, Manager

State of Maine
Cumberland County

SEP 22, 2021

Personally appeared the above named John O. Robertson, Manager of ComPark, LLC, as aforesaid and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said limited liability company.

_____
Notary Public

_____
Print Name: GEORGE F. BURNS
Commission Expiration: ATTORNEY

DOC :68505 BK:38690 PG:188
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
09/23/2021, 11:42:51A
Register of Deeds Jessica M. Spaulding E-RECORDED

EXHIBIT A

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

Beginning at the intersection of the westerly side of Commercial Street and a passageway; thence northwesterly by line of said passageway ninety-four (94) feet and two (2) inches, more or less, to land formerly belonging to one Fox; thence by the line of said Fox land southwesterly thirty-eight (38) feet and eight (8) inches, more or less, to land conveyed to Edward P. Oxnard by Frederick Oxnard by deed dated December 8, 1894 and recorded in the Cumberland County Registry of Deeds in Book 621, Page 171; thence southeasterly by said last mentioned land thirty-five (35) feet and nine (9) inches, more or less, to the most easterly corner of a lot of land conveyed by said Edward P. Oxnard and others to E. Corey & Co. by deed dated February 25, 1919 and recorded in said Registry of Deeds in Book 1018, Page 323 and in Book 1017, Page 186; thence at right angles westerly along said Corey land six (6) feet and one (1) inch, more or less, to an iron bolt, now or formerly situated at the corner of a wooden building, which bolt is mentioned in said deeds of Edward P. Oxnard et al. To E. Corey & Co.; thence southeasterly by land of E. Corey & Co., now or formerly, fifty-nine (59) feet, more or less, to the northwesterly side of said Commercial Street; thence northeasterly by the line of said Commercial Street fifty (50) feet and eleven (11) inches, more or less, to the point of beginning.

Together will all right, title and interest, in and to, the passageway adjoining the premises above described.

MCV

STATE OF MAINE
CUMBERLAND, ss.

SUPERIOR COURT
CIVIL ACTION
DOCKET NO. RE-17-147

COMPARK, LLC

Plaintiff,

v.

THOMAS FLETCHER OXNARD, et al.,

Defendants,

and

TRANSMAINE, ADRIENNE-JANE, INC., and PEOPLE'S UNITED BANK,

Parties-in-Interest.

DEFAULT JUDGMENT

(Title to Real Estate is Involved)

Upon consideration of Plaintiff's Motion of Entry of Default Judgment Against Nonresponsive Parties, and the entire record herein,* the Court hereby finds:

1. The Court has jurisdiction over this matter.

2. The Property at issue is described as Passageway No. 3 (the "Passageway") in the deed dated August 12, 1822 and recorded at the Cumberland County Registry of Deeds in Book 93, Page 281, and is identified on Portland Tax Map E10NW as the vacant space between Lot 32-T004 to the East and Lots 32-U003 and 32-U004 to the West.

3. The unascertainable defendants have been properly served in the manner and none has asserted a timely claim.

4. Record title to the Property is held by the 145 Defendants as tenants in common, each with an equal share of interest.

5. All Defaulted Defendants and Parties-in-Interest have been properly served in the

*Supplemented by return of service on Diane Clark Chapman.

manner and last-known address identified on Exhibit A-1 hereto.

6. With the exception of William G. Homes, Each of the Defaulted Defendants identified on Exhibit A-1 has either failed to timely respond to the Complaint or otherwise failed to defend the action as required by the Maine Rules of Civil Procedure.

7. There is no evidence that any of the Defaulted Defendants is either a minor, an incompetent person, or in the military service of the United States.

8. All unascertainable defendants, all Defaulted Defendants identified on Exhibit A-1, and Party-in-Interest People's United Bank are properly subject to the Court's entry of default judgment.

Based on the foregoing, it is hereby:

ORDERED, ADJUDGED AND DECREED that Plaintiff's Motion for Issuance of a Default Judgment pursuant to M.R. Civ. P. 55(b) is **GRANTED**; it is further

ORDERED that Default Judgement is entered against all unknown or unascertainable defendants; it is further

ORDERED that Default Judgment is entered against ~~the 140~~ 139 Defendants identified on Exhibit A-1 hereto, specifically: 1. Anita G.M. Abbott, 2. Michael G.M. Abbott, 3. Thomas M. Abbott, 4. Angier Ames, 5. Oliver Ames, Jr., 6. Thomas Ames 7. Patricia Edwards Anderson, 8. Conrad I. Arnold, 9. Judith Warren Arnold, 10. Michael Stor Arnold, 11. Ernest L. Baker, III, 12. Alan Baldwin, 13. Betsy Baldwin, 14. Charles E. Baldwin, 15. Jonathan Baldwin, 16. Matthew Baldwin, 17. Oliver H P, Baldwin, III, 18. Peter Baldwin, 19. Roger Baldwin, 20. Karen Miller Barbay, 21. Edmund Phillips Blackwell, Jr., 22. Paul H. Blackwell, 23. Linda E. Fox Brault, 24. Robert Leslie Brown, 25. Patricia Vail Buckelew, 26. George Cabot, III, 27. Thomas T.G. Cabot, 28. Diane Lynn Clark Chapman, 29. Cynthia Giles Childs, 30. Amy Johnson Chong, 31. Anne

Louise Oxnard Clark, 32. Thomas Abbot Clark, 33. Eric Thatcher Clarke, 34. Betsy Oxnard Clarkin, 35. Frances Edwards Cohen, 36. Susan Simons Conrad, 37. Elizabeth M. Corey, 38. George Craft Corey, 39. Rosita Corey, 40. Alisa Mosely Crawford, 41. Dawn (Oxnard) Crystal, 42. Karen L. Johnson Czachowski, 43. Donna Rae Downes Decatur, 44. Patricia Clark DeGramont, 45. Katherine Ritchie Dent, 46. Dana Paige Downes, 47. Michelle Clark Durkin, 48. Amy Sziklas Durrett, 49. Sandra (Sandy) Simons Edison, 50. Steven Merritt Edmonds, 51. Judith Edwards, 52. Sarah M Arnold Erickson, 53. Sarah Fox Edwards Ferraro, 54. Douglass Ormond Fox, 55. William R. Fox, 56. Alexandra Elizabeth Fulton, 57. Frederick W. Giles, Jr., 58. Karoly Sziklas Gutman, 59. Christie Baldwin Hallowell, 60. Alan Harris, 61. Deborah Harris, ~~62. William Geoffrey Harris,~~ 63. Charles Henriquez, 64. Marian Henriquez, 65. Havelock Hewes, 66. Carolyn Hoff, 67. Jim Hoff, 68. Mark Hoff, 69. Wayne Hoff, 70. Raymond H. Jenkinson, 71. Anne Edwards Jepson, 72. Sandra L. Johnson, 73. Elizabeth Baldwin Jutila, 74. Alexander James Kersey, 75. Thomas Graham Kersey, 76. Jenya Noelle Kielpinski, 77. Carol Lynn Oxnard Lamb, 78. Marina Joelle Kielpinski Legree, 79. Joyce Fox Lippencott, 80. Barbara Ann Baily Littleton, 81. Charles Longley, 82. Fred Marlin Longley, 83. Jonathan Karl Longley, 84. Paula Louise Oxnard Maracoux, 85. Joan Paddock Maxwell, 86. Beverly Baldwin McCoid, 87. Barbara Vail Michelson, 88. Bradford Weatherlow Miller, 89. David Edward Miller, 90. Henry Warren Miller, 91. Robert Joseph Miller, 92. Alisa Moseley, 93. Frederick S. Mosely, III, 94. Joan Moseley, 95. Virginia C. Moseley, 96. Elizabeth Chadwick Clarke Nill, 97. Sandra Baker Olphie, 98. Arthur Edward Oxnard, 99. Margaret Emma Oxnard, 100. Shaun Oxnard, 101. Susan Nelson Oxnard, 102. Thomas Fletcher Oxnard, 103. Susan E. Fox Pace, 104. Krysta Nicole Kielpinski Panaitescu, 105 Russell O. Paxton, 106. Katherine L. Wilkinson Pic[k]ard, 107. Sally Simons Prout, 108. Sarah L. Edwards Reuter, 109. Robert B. Ritchie, 110. Sherry

Simons Ritchie, 111. Pamela Fox Robertson, 112. Stephanie Abbot Roper, 113. Cynthia Marie Oxnard [Sanda], 114. Barbara Blackwell Simmons, 115. Carol Smith, 116. Charles Smith, 117. Ford R. Smith, 118. George Smith, 119. Ryland Richard Smith, 120. Sheryl S. (King) Smith, 121. Charles Oxnard Staples, 122. Edward Denmark Staples, 123. Samuel Warren Staples, 124. Martha Knapp Miller Strickland, 125. Harriet Clark Sutin, 126. Virginia Vail Swichel, 127. Edward Sziklas, 128. John Justice Sziklas, 129. Robert Warren Szilkas, 130. Gary Robert Telfer, 131. Kenneth Telfer, 132. Lori Telfer, 133 Charity Warner Arnold Tremblay, 134 Martha Ellen Oxnard Urbani, 135. Russell E. Vail, 136. Blake Ormond Wilkinson, 137. Constance Wilkinson, 138. David Wilkinson, 139. Zachary Ormond Wilkinson, and 140. Jane Reid Brown Worden; it is further

ORDERED that Default Judgment is entered against Party-in-Interest People's United Bank making it subject to this Order; it is further

ORDERED, that judgment is entered against William J. Harris pursuant to his March 19, 2018 answer; and it is further

ORDERED that each of the 140 ~~Defaulted~~ Defendants has hereby disclaimed to Plaintiff (Identified on Ex. A-1) Compark, LLC, his/her entire right, title and interest in and to the Property as tenants in common; and it is further

ORDERED that each of the 140 ~~Defaulted~~ Defendants (listed on Ex. A-1) and Party-in-Interest People's United Bank's entire right, title and interest in and to the Property is hereby set over to and vested in Plaintiff Compark LLC.

Pursuant to M.R. Civ. P. 79(a), the Clerk is hereby directed to incorporate this Judgment by reference in the docket. Case remains pending as to Douglas, Ben, and William Moseley and as to parties in interest Transmaine and Advancetax / Mackie-Glo Inc.

2/19/19
Date

Justice, Superior Court

Entered on the Docket: 02/26/19

MC

RECD CUMB CLERKS OFC
FEB 19'19 AM11:25

EXHIBIT A-1 (Sorted Alphabetically)

	Name	Last Known Address				Date of Service	Proof of Service filed on:
1	Abbot, Anita G.M.	236 Whitney Hill Rd	Tunbridge	VT	05077	Served 8/19/17 via Certified Mail	9/1/2017
2	Abbot, Michael G.M.	366 Cabot St	Beverly	MA	01915	Served: 9/5/17 via Cerfitied Mail	3/6/2018
3	Abbot, Thomas M.	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018
4	Ames, Angier	1933 Country Club Drive	Port Orange	FL	32128	Served 9/26/17 via Certified Mail	3/6/2018
5	Ames, Oliver, Jr.	201 S. Narcissus Avenue	West Palm Beach	FL	33401	Served 8/19/17 via Certified Mail	9/1/2017
6	Ames, Thomas	130 Sundown Road	Lavina	MT	59046	Served 8/21/17 via Certfied Mail	9/1/2017
7	Anderson, Patricia Edwards	35 Charter Oak Drive	East Lyme	CT	06333	Served:8/22/17 via Certified Mail	9/1/2017
8	Arnold, Conrad I.	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018
9	Arnold, Judith Warren	6 Illick Street	Waterloo	NY	13165	Served 9/2/17 via Certified Mail	3/6/2018
10	Arnold, Michael Stor	115 McLaughlin Rd	Brockport	PA	15823	Served 8/21/17 via Certified Mail	9/1/2017
11	Baker, Ernest L., III	P.O. Box 788	Moneta	VA	24121	Served 8/21/17 via Certified Mail	9/1/2017

Name		Last Known Address				Date of Service	Proof of Service filed on:
12	Baldwin, Alan	72 Deer Run Rd	Boothbay	ME	04537	Served 9/11/17 via Sheriff	9/15/2017
13	Baldwin, Betsy	23 Bigelow St Apt 3	Brighton	MA	02135	Served 8/28/17 via Certified Mail	9/1/2017
14	Baldwin, Charles E.	P.O. Box 509	Canaan	NH	03741	Served 8/18/17 via Certified Mail	9/1/2017
15	Baldwin, Jonathan	10 Sunrise Road	East Boothbay	ME	04544	Served 9/7/17 via Sheriff	9/15/2017
16	Baldwin, Matthew	Unknown (*See* Amended Order on Alternate Service, ¶ 3)				Served 5/11/18 Portland Press Herald publication	6/6/2018
17	Baldwin, Oliver H P, III	2204 Lauderdale Road	Louisville	KY	40205	Served 10/12/17 via Certified Mail	3/6/2018
18	Baldwin, Peter	13 Woodhill Road	Bow	NH	03304	Served 8/19/17 via Certified Mail	9/1/2017
19	Baldwin, Roger	Unknown (*See* Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018
20	Barbay, Karen Miller	5160 East Lake Road	Romulus	NY	14541	Served 8/21/17 via Certified Mail	9/1/2017
21	Blackwell, Edmund Phillips, Jr.	104 Hunter's Point Circle	Hoover	AL	35244	Served 8/29/17 via Certified Mail	3/6/2018
22	Blackwell, Paul H	1723 Southpointe Dr	Hoover	AL	35244	Served 8/26/17 via Certified Mail	3/6/2018
23	Brault, Linda E. Fox	126 Carr Road	Bath	NH	03740	Served 10/12/17 via Certified Mail	3/6/2018

Name		Last Known Address				Date of Service	Proof of Service filed on:
24	Brown, Robert Leslie	P.O. Box 549	Charlestown	NH	03603	Served 8/18/17 via Certified Mail	9/1/2017
25	Buckelew, Patricia Vail	44 Donald Avenue	Kendall Park	NJ	08824	Served 8/21/17 via Certified Mail	9/1/2017
26	Cabot, George, III	582 River Road Road	Brunswick	ME	04011	Served 8/22/17 via Sheriff	8/28/2017
27	Cabot, Thomas T G	10 Kenilworth Road	Worcester	MA	01602	Served 9/5/17 via Certified Mail	3/6/2018
28	Chapman, Diane Lynn Clark	211 East 70th Street, Apt. 27F	New York	NY	10021	Served 11/6/17 via Certified Mail	~~2/8/2019~~ 2/11/2019
29	Childs, Cynthia Giles	10169 W. Tom Mason Drive	Crystal River	FL	34428	Served 8/21/17 via Certified Mail	9/1/2017
30	Chong, Amy Johnson	201 Shell Pt E	Maitland	FL	32751	Served on or before 9/1/17 via Certified Mail	9/1/2017
31	Clark, Anne Louise Oxnard	Unknown (See Amended Order on Alternate Service, ¶ 3)	Topsham	ME		Served 5/11/18 via Portland Press Herald publication	6/6/2018
32	Clark, Thomas Abbot	1626 Montana Ave	Santa Monica	CA	90403	Served 8/23/17 via Certified Mail	9/1/2017
33	Clarke, Eric Thatcher	401 Oak Street	Bryan	TX	77801	Served 8/19/17 via Certified Mail	9/1/2017
34	Clarkin, Betsy Oxnard	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018

Name		Last Known Address				Date of Service	Proof of Service filed on:
35	Cohen, Frances Edwards	1079 Penhamdale Avenue	Pelham	NY	10803	Served 8/23/17 via Certified Mail	9/1/2017
36	Conrad, Susan Simons	Unknown (*See* Amended Order on Alternate Service, ¶ 3)	Monterey	CA		Served 5/17/18 via Monterey Herald publication and/or 5/11/18 via Portland Press	6/6/2018
37	Corey, Elizabeth M	Unknown (*See* Amended Order on Alternate Service, ¶ 3)	Concord	MA		Served 5/24/18 via Concord Journal publication and/or 5/11/18 via Portland Press	6/6/2018
38	Corey, George Craft	157 Eastwood Circle	Gardner	MA	01440	Served 8/23/17 via Certified Mail	9/1/2017
39	Corey, Rosita	222 Barretts Mill Road	Concord	MA	01742	Served 8/18/17 via Certified Mail	9/1/2017
40	Crawford, Alisa Mosely	Unknown (*See* Amended Order on Alternate Service, ¶ 3)	Somerset	NJ		Served 5/19/18 via Currier News (NJ) publication and/or 5/11/18 via Portland Press	6/19/2018
41	Crystal (Oxnard), Dawn	5 Gilbert Way	Millbury	MA	01527	Served 8/25/17 via Certified Mail	9/1/2017
42	Czachowski, Karen L. Johnson	2612 Woodwind Hills Lane	Lakeland	FL	33812	Served 9/6/17 via Certified Mail	3/6/2018

Name		Last Known Address				Date of Service	Proof of Service filed on:
43	Decatur, Donna Rae Downes	6 Roaring Brook	Underhill	VT	05489	Served 8/19/17 via Certified Mail	9/1/2017
44	DeGramont, Patricia Clark	1917 Mission Ridge Road	Santa Barbara	CA	93103	Served 9/1/17 via Certified Mail	3/6/2018
45	Dent, Katherine Ritchie	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018
46	Downes, Dana Paige	246 Joppa Hill Road	Bedford	NH	03110	Served 8/29/17 via Certified Mail	9/1/2017
47	Durkin, Michelle Clark	P.O. Box 1172	Naples	FL	34106	Served 10/16/17 via Certified Mail	3/6/2018
48	Durrett, Amy Sziklas	2815 Queensbury Lane	Atlanta	GA	30305	Served 8/23/17 via Certified Mail	9/1/2017
49	Edison, Sandra (Sandy) Simons	904 County Road 103	Hesperus	CO	81326	Served 8/22/17 via Certified Mail	9/1/2017
50	Edmonds, Steven Merritt	202 Walsing Drive	Henrico	VA	24529	Served 8/28/17 via Certified Mail	9/1/2017
51	Edwards, Judith	Unknown (*See* Amended Order on Alternate Service, ¶ 3)				Served 5/11/18 via Portland Press Herald publication	6/6/2018
52	Erickson, Sarah M Arnold	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018

Name		Last Known Address				Date of Service	Proof of Service filed on:
53	Ferraro, Sarah Fox Edwards	13272 Whitney Circle	Westminster	CA	92683	Served on or before 10/4/17; Certified Mail Refused; resent per M.R. Civ. P. 4(f)(3)	3/6/2018
54	Fox, Douglass Ormond	3706 Glenside Court	Sachse	TX	75048	Served 9/6/17 via Certified Mail	3/6/2018
55	Fox, William R.	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018
56	Fulton, Alexandra Elizabeth	580 Morning Glory Circle	Jesup	GA	31546	Served 8/26/17 via Certified Mail	9/1/2017
57	Giles, Frederick W., Jr.	6115 Barna Avenue	Titusville	FL	32780	Served 8/19/17 via Certified Mail	9/1/2017
58	Gutman, Karoly Sziklas	90 Furman St. #N 508	Brooklyn	NY	11201	Served 10/13/17 via Certified Mail	3/6/2018
59	Hallowell, Christie Baldwin	699 North Haven	North Haven	ME	04853	Served 9/13/17 via Sheriff	9/19/2017
60	Harris, Alan	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018
61	Harris, Deborah	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018

Name		Last Known Address				Date of Service	Proof of Service filed on:
62	Harris, William Geoffrey	27 Calle Sol #45	San Clemente	CA	92672	Served 9/5/17 via Certified Mail; filed Answer on 9/14/17; withdrew Answer on 3/6/18	3/6/2018
63	Henriquez, Charles	831 Heritage Square	Decatur	GA	30033	Served on or before 9/1/17 via Certified Mail	9/1/2017
64	Henriquez, Marian	Unknown (See Amended Order on Alternate Service, ¶ 3)				Served 5/11/18 via Portland Press Herald publication	6/6/2018
65	Hewes, Havelock	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018
66	Hoff, Carolyn	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018
67	Hoff, Jim	17566 Kennison Lane	Lodi	CA	95240	Served 10/17/17 via Certified Mail	3/6/2018
68	Hoff, Mark	999 S. Fairmont Ave., #135	Lodi	CA	95240	Served on or before 10/4/17; Certified Mail Refused; resent per M.R. Civ. P. 4(f)(3)	3/6/2018

Name		Last Known Address				Date of Service	Proof of Service filed on:
69	Hoff, Wayne	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018
70	Jenkinson, Raymond H	2814 Uniontown Road	Westminster	MD	21158	Served 8/19/17 via Certified Mail	9/1/2017
71	Jepson, Anne Edwards	Unknown (*See* Amended Order on Alternate Service, ¶ 3)				Served 5/11/18 via Portland Press Herald publication	4/20/2018
72	Johnson, Sandra L.	Unknown (*See* Amended Order on Alternate Service, ¶ 3)	Denver	CO		Served 5/24/18 via Denver Herald publication and/or 5/11/18 via Portland Press	6/6/2018
73	Jutila, Elizabeth Baldwin	406 Canaan Street	Canaan	NH	03741	Served 10/12/17 via Certified Mail	3/6/2018
74	Kersey, Alexander James	630 Vassar Street	Orlando	FL	32804	Served 10/13/17 via Certified Mail	3/6/2018
75	Kersey, Thomas Graham	630 Vassar Street Unit 2306	Orlando	FL	32804	Served 8/22/17 via Certified Mail	3/6/2018
76	Kielpinski, Jenya Noelle	3683 NE 15th Street	Gresham	OR	97030	Served 8/19/17 via Certified Mail	9/1/2017
77	Lamb, Carol Lynn Oxnard	300 Goldfinch Drive	Coventry	RI	02816	Served 8/19/17 via Certified Mail	9/1/2017

Name		Last Known Address				Date of Service	Proof of Service filed on:
78	Legree, Marina Joelle Kielpinski	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018
79	Lippencott, Joyce Fox	Unknown (*See* Amended Order on Alternate Service, ¶ 3)	Noank	CT		Served 5/24/18 via Mystic River (CT) publication and/or 5/11/18 via Portland Press	6/6/2018
80	Littleton, Barbara Ann Baily	2019 Tustin Ave, Apt E	Costa Mesa	CA	92627	Served 8/19/17 via Certified Mail	9/1/2017
81	Longley, Charles	14 Maple Street	Norway	ME	04268	Served 8/21/17 via Sheriff	8/28/2017
82	Longley, Fred Marlin	4234 S. Clement Avenue	Saint Francis	WI	53235	Served 9/2/17 via Certified Mail	3/6/2018
83	Longley, Jonathan Karl	56 Moody Brook Road	South Paris	ME	04281	Served 8/23/17 via Sheriff	8/28/2017
84	Maracoux, Paula Louise Oxnard	100 Palm Valley Boulevard	San Jose	CA	95123	Served 9/8/17 via Certified Mail	3/6/2018
85	Maxwell, Joan Paddock	3525 Springland Lane	Washington	D.C.	20008	Served 8/29/17 via Certified Mail	3/6/2018
86	McCoid, Beverly Baldwin	250 Pantops Mountain Road	Charlottesville	VA	22911	Served 9/8/17 via Certified Mail	3/6/2018
87	Michelson, Barbara Vail	3506 Trails End Drive	Medina	OH	44256	Served 8/20/17 via Certified Mail	9/1/2017
88	Miller, Bradford Weatherlow	P.O. Box 172	Phippsburg	ME	04562	Served 8/28/17 via Certified Mail	9/1/2017

Name		Last Known Address				Date of Service	Proof of Service filed on:
89	Miller, David Edward	2645 Wild Cherry Place	Reston	VA	20191	Served 8/21/17 via Certified Mail	9/1/2017
90	Miller, Henry Warren	133 MacAlvey Drive	Martinez	CA	94553	Served 9/25/17 via Certified Mail	9/1/2017
91	Miller, Robert Joseph	12559 Lt. Nichols Road	Fairfax	VA	22033	Served 8/30/17 via Certified Mail	9/1/2017
92	Moseley, Alisa	15750 Chandelle Place	Wellington	FL	33414	Served 8/19/17 via Certified Mail	9/1/2017
93	Mosely, Frederick S., III	22 Gardner Street	South Hamilton	MA	01982	Served 8/25/17 via Certified Mail	9/1/2017
94	Moseley, Joan	Unknown (*See* Amended Order on Alternate Service, ¶ 3)	Fairfield	CT		Served 7/13/18 via Fairfax Times publication and/or 5/11/18 via Portland Press	7/16/2018
95	Moseley, Virginia C.	1536 32nd St., NW	Washington	DC	20007	Served 10/19/17 via Certified Mail	3/6/2018
96	Nill, Elizabeth Chadwick Clarke	105 Pin Oaks Drive	Barnstable	MA	02630	Served 8/18/17 via Certified Mail	9/1/2017
97	Olphie, Sandra Baker	14916 Alpha Collier Drive	Austin	TX	78728	Served 8/19/17 via Certified Mail	9/1/2017
98	Oxnard, Arthur Edward	34 Clark Hill Road	East Hampton	CT	06424	Served 8/22/17 via Certified Mail	9/1/2017
99	Oxnard, Margaret Emma	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018

Name		Last Known Address				Date of Service	Proof of Service filed on:
100	Oxnard, Shaun	Unknown (*See* Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018
101	Oxnard, Susan Nelson	Unknown (*See* Amended Order on Alternate Service, ¶ 3)	Reston	VA		Served 4/27/18 via Public Notice	6/6/2018
102	Oxnard, Thomas Fletcher	5 Greenleaf Drive	Exeter	NH	03933	Served 8/30/17 via Certified Mail	9/1/2017
103	Pace, Susan E. Fox	Unknown (*See* Amended Order on Alternate Service, ¶ 3)	Warren	MA		Served 5/20/18 via Worcester Telegram publication and/or 5/11/18 via Portland Press	6/6/2018
104	Panaitescu, Krysta Nicole Kielpinski	61 Nelson Creek Road	Stevenson	WA	98648	Served 8/23/17 via Certified Mail	9/1/2017
105	Paxton, Russell O	1411 Eastanollee Road	Eastanollee	GA	30538	Served 8/19/17 via Certified Mail	9/1/2017
106	Pic[k]ard, Katherine L. Wilkinson	242 30th Avenue S.	Jacksonville Beach	FL	32250	Served 8/23/17 via Certified Mail	9/1/2017
107	Prout, Sally Simons	Unknown (*See* Amended Order on Alternate Service, ¶ 3)	Aurora	CO		Served 5/24/18 via Denver Herald publication and/or 5/11/18 via Portland Press	6/6/2018
108	Reuter, Sarah L. Edwards	211 Maple Street	West Barnstable	MA	02668	Served 8/23/17 via Certified Mail	9/1/2017

Name		Last Known Address				Date of Service	Proof of Service filed on:
109	Ritchie, Robert B.	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018
110	Ritchie, Sherry Simons	23691 Via Astorga	Mission Viejo	CA	92691	Served 8/23/17 via Certified Mail	9/1/2017
111	Robertson, Pamela Fox	18805 SE Federal Highway	Jupiter	FL	33469	Served 8/23/17 via Certified Mail	9/1/2017
112	Roper, Stephanie Abbot	37 Pettinghill Hill Road	Lyndeborough	NH	03082	Served 8/18/17 via Certified Mail	9/1/2017
113	[Sanda], Cynthia Marie Oxnard	196 Wolf Neck Road	Stonington	CT	06378	Served 8/23/17 via Certified Mail	9/1/2017
114	Simmons, Barbara Blackwell	151 Birmingham St., SW	Cullman	AL	35055	Served 8/26/17 via Certified Mail	9/1/2017
115	Smith, Carol	Unknown (*See* Amended Order on Alternate Service, ¶ 3)	Indianapolis	IN		Served 5/17/18 via Indianapolis Star publication and/or 5/11/18 via Portland Press	6/6/2018
116	Smith, Charles	Unknown (*See* Amended Order on Alternate Service, ¶ 3)	Indianapolis	IN		Served 5/17/18 via Indianapolis Star publication and/or 5/11/18 via Portland Press	6/6/2018
117	Smith, Ford R.	8919 Gold Blossom Lane	Newcastle	CA	95658	Served 8/19/17 via Certified Mail	9/1/2017
118	Smith, George	4398 W. 5th Street Street	Yuma	AZ	85364	Served 8/21/17 via Certified Mail	9/1/2017

Name		Last Known Address				Date of Service	Proof of Service filed on:
119	Smith, Ryland Richard	1216 Norton Avenue	Glendale	CA	91202	Served 8/25/17 via Certified Mail	9/1/2017
120	Smith, Sheryl S. (King)	8590 Cliffridge Avenue	La Jolla	CA	92037	Served 8/23/17 via Certified Mail	9/1/2017
121	Staples, Charles Oxnard	51 Page Road	Lincoln	MA	01773	Served 11/1/17 via Certified Mail	3/6/2018
122	Staples, Edward Denmark	20434 NE 135th Avenue	Waldo	FL	32694	Served 8/23/17 via Certified Mail	9/1/2017
123	Staples, Samuel Warren	300 Russell Street, Unit 15	Mount Pleasant	MI	48858	Served 8/23/17 via Certified Mail	9/1/2017
124	Strickland, Martha Knapp Miller	1548 Locust Street	Denver	CO	80220	Served 8/19/17 via Certified Mail	9/1/2017
125	Sutin, Harriet Clark	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018
126	Swichel, Virginia Vail	22 Doris Drive #RD6	Elmer	NJ	08318	Served 8/19/17 via Certified Mail	9/1/2017
127	Sziklas, Edward	24 Traci Lane	Hopewell Junction	NY	12533	Served 8/29/17 via Certified Mail	9/1/2017
128	Sziklas, John Justice	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018
129	Sziklas, Robert Warren	Unknown (See Amended Order on Alternate Service, ¶ 4)				Served 5/11/18 via Portland Press Herald publication	6/6/2018

Name		Last Known Address				Date of Service	Proof of Service filed on:
130	Telfer, Gary Robert	421 Avenue E	Rodondo Beach	CA	90277	Served 8/19/17 via Certified Mail	9/1/2017
131	Telfer, Kenneth	2628 Rosehill Road	Escondido	CA	92025	Served 8/19/17 via Certified Mail	9/1/2017
132	Telfer, Lori	2116B Second St., Apt. 8,	Douglas	AK	99824	Served 12/15/17 via Certified Mail	6/22/2018
133	Tremblay, Charity Warner Arnold	1455 Monument Street	Concord	MA	01742	Served 8/21/17 via Certified Mail	9/1/2017
134	Urbani, Martha Ellen Oxnard	114 Pine Glen Drive	East Greenwich	RI	02818	Served 10/12/17 via Certified Mail	3/6/2018
135	Vail, Russell E.	10 New Street	Middlesex	NJ	08846	Served 8/25/17 via Certified Mail	9/1/2017
136	Wilkinson, Blake Ormond	97 Wild Road Deive	Saint Johns	FL	32259	Served 10/14/17 via Certified Mail	3/6/2018
137	Wilkinson, Constance	298 Main Street	Brewster	MA	02631	Served 8/22/17 via Certified Mail	9/1/2017
138	Wilkinson, David	PO Box 922288	Sylmar	CA	91392	Served 8/19/17 via Certified Mail	9/1/2017
139	Wilkinson, Zachary Ormond	13116 Blackhawk Trail Court	Jacksonville	FL	32225	Served 8/23/17 via Certified Mail	9/1/2017
140	Worden, Jane Reid Brown	3062 Harper Road	Clemmons	NC	27012	Served 8/19/17 via Certified Mail	9/1/2017

mcv

STATE OF MAINE
CUMBERLAND, ss.

SUPERIOR COURT
CIVIL ACTION
DOCKET NO. RE-17-147

COMPARK, LLC,

Plaintiff,

v.

THOMAS FLETCHER OXNARD, et al.,

Defendants,

and

TRANSMAINE, ADRIENNE-JANE, INC., and PEOPLE'S UNITED BANK,

Parties-in-Interest.

STIPULATED JUDGMENT AS TO DEFENDANTS DOUGLAS W. MOSELEY, BEN P. P. MOSELEY III, AND WILLIAM J. MOSELEY

(TITLE TO REAL ESTATE IS INVOLVED)

By agreement of Compark, LLC and Defendants Douglas W. Moseley, Ben P. P. Moseley III, and William J. Moseley (the "Moseley Defendants"), the Court hereby enters Judgment as to these Defendants on the Plaintiff's Complaint as follows:

1. The Parties subject to this Judgment have all received notice of these proceedings in accordance with the applicable provisions of the Maine Rules of Civil Procedure.

2. The Parties subject to this Judgment, and their counsel of record, are identified as follows:

Compark, LLC
336 Danforth Street
Portland, ME 04102
Plaintiff

James G. Monteleone, Esq.
BERNSTEIN SHUR
100 Middle Street / P.O. Box 9729
Portland, Maine 04104-5029
Counsel for Plaintiff

RECD CUMB CLERKS OF
APR 19 '19 PM 4:07

Douglas W. Moseley
94 Martins Pond Road
Groton, MA 01450
Defendant

Ben P. P. Moseley III
1915 Desert Eagle Drive
Tomball, TX 77377
Defendant

Joseph G. Talbot, Esq.
PERKINS THOMPSON, P.A.
One Canal Plaza / P.O. Box 426
Portland, Maine 04112-0426
Counsel for Defendants

William J. Moseley
278 Depot Road
Hollis, NH 03049
Defendant

3. The Property at issue is described as Passageway No. 3 in the deed dated August 12, 1822 and recorded at the Cumberland County Registry of Deeds in Book 93, Page 281, and is identified on Portland Tax Map E10NW as the vacant space between Lot 32-T004 to the East and Lots 32-U003 and 32-U004 to the West.

4. Before Compark, LLC filed its Complaint, record title to the Property was held by 145 Defendants as tenants in common, each with an equal share of interest.

5. Prior judgments of the Court entered on February 4, 2019 and February 19, 2019, set over to and vested in Plaintiff Compark LLC, the entire right, title and interest in and to the Property formerly held by 142 of the 145 Defendants, along with all unascertained parties and Party-in-Interest People's United Bank.

6. It is the express intent of the Moseley Defendants that this Judgment shall disclaim to Plaintiff Compark, LLC, their entire right, title and interest in and to the Property.

7. Douglas W. Moseley's entire right, title and interest in and to the Property is hereby set over to and vested in Plaintiff Compark, LLC.

8. Ben P. P. Moseley III's entire right, title and interest in and to the Property is hereby set over to and vested in Plaintiff Compark, LLC.

9. William J. Moseley's entire right, title and interest in and to the Property is hereby set over and vested in Plaintiff Compark, LLC.

10. This Judgment is entered without costs or attorney fees to any party.

11. By signing below, the Parties waive their rights of appeal with respect to the matters entered in this Judgment. The Clerk has so certified that Plaintiff shall be responsible for recording an attested copy of this Judgment in the Cumberland County Registry of Deeds and paying the recording fees.

12. The above-captioned matter remains pending as to Parties-in-Interest Transmaine and Adrienne-Jane Inc./Mackie-Glo Inc.

13. Pursuant to Rule 79(a), this Order may be incorporated by reference on the Civil Docket.

Dated: 19 April, 2019

Justice, Superior Court

Printed Name: Thomas Warren

ORDER ENTERED ON THE COURT'S DOCKET ON: 04/22/2019 MC ~~, 2019~~

CERTIFICATION OF CLERK PURSUANT TO 14 M.R.S.A. § 2401(3) (F)

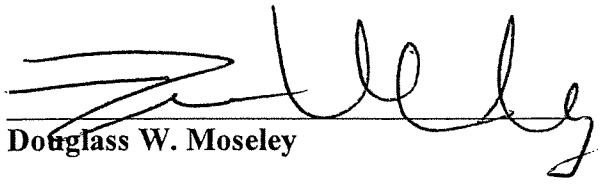
Pursuant to 14 M.R.S.A. § 2401(3)(F), it is hereby certified that no notice of appeal of the Judgment in this matter was filed with the Clerk of Court in this action within the appeal period following entry of judgment.

Dated: _____, 2019

Clerk of Court

Printed Name: _____

SEEN AND AGREED TO:



Douglass W. Moseley Dated: 4/6, 2019

_____ Dated: _____, 2019

Ben P. P. Moseley III

_____ Dated: _____, 2019

William J. Moseley

_____ Dated: _____, 2019

Compark, LLC

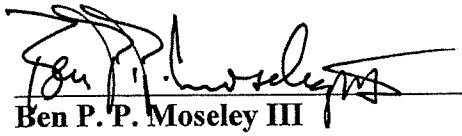
By: _____

Its: _____

SEEN AND AGREED TO:

_____ Dated: _____, 2019

Douglass W. Moseley



_____ Dated: 04/01, 2019

Ben P. P. Moseley III

_____ Dated: _____, 2019

William J. Moseley

_____ Dated: _____, 2019

Compark, LLC

By: _____

Its: _____

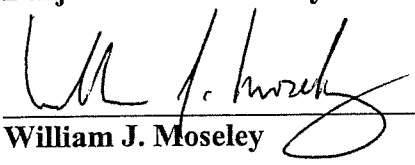
SEEN AND AGREED TO:

_____ Dated: _____, 2019

Douglass W. Moseley

_____ Dated: _____, 2019

Benjamin P. P. Moseley III



Dated: 01 APRIL, 2019

William J. Moseley

_____ Dated: _____, 2019

Compark, LLC

By: _____

Its: _____

SEEN AND AGREED TO:

_____ Dated: _____, 2019

Douglass W. Moseley

_____ Dated: _____, 2019

Ben P. P. Moseley III

_____ Dated: _____, 2019

William J. Moseley

_____ Dated: 4/15/19, 2019

Compark, LLC

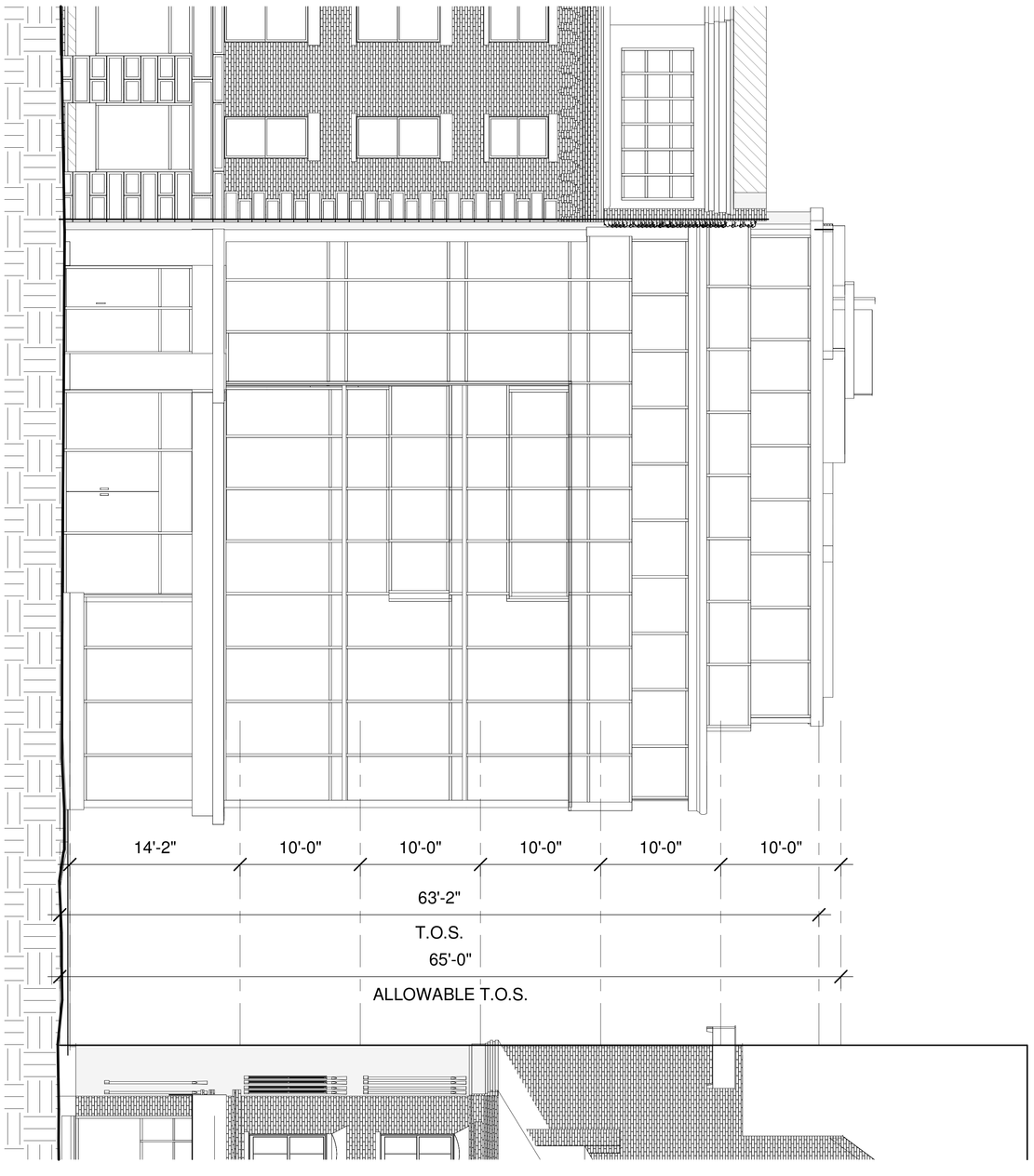
By: John Robertson

Its: Manager

1 Commercial street elevation

3/32" = 1'-0"

0 4'-0" 8'-0" 16'-0" 32'-0"



A2.0

Project:
185 Commercial Street
Portland, Maine

Date: 2/6/2023
Scale: 3/32" = 1'-0"

Elevations

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 Fax (207) 772-4056

GORRILL PALMER

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

February 6, 2023

Mr. Brad Roland, PE
City of Portland Public Works
212 Canco Road -Suite B
Portland, Maine 04103

Subject: 185 Commercial Street
Mixed Use development with 6 residential units
Request for Ability to Serve Letter

Dear Brad:

185 Commercial Street LLC (Applicant) has retained Gorrill Palmer to prepare plans and permit applications for the proposed development of a new building containing a ground level retail store and 6 residential units above at the vacant parking lot on 185 Commercial Street. The project site is located on the following according to the City of Portland's Tax Map:

Tax Map 32 block U lot 003

We would like to verify the City's wastewater division has ability to provide wastewater capacity for the project and to determine any impact fees. We are proposing to connect to the 8" sanitary service main in Wharf Street via a new 6" service line out the rear of the building. We are proposing to connect to the existing water main in Commercial Street.

The projected water use/wastewater disposal, for the remaining space is summarized below using the State of Maine Subsurface Wastewater Disposal Rules and typical City of Portland information:

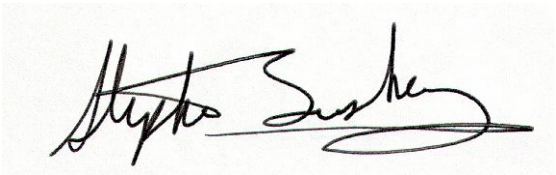
Flow Demand		
Use	**Design Flow (GPD)**	**Peak Daily Design Flow (GPD)**
6 units 10 employees in retail store (no public restroom)	180 gpd/multiple bedrooms 12 gpd/employee	1,080 gpd 120 gpd Total = 1,200 gpd

Based on this amount of flow, we trust that the existing wastewater systems have adequate capacity to serve this project. We are in the process of completing a Major Site Plan Application for a submission to City Planning Staff and we would appreciate your confirmation of site conditions.

If you have any questions on the information submitted, please contact our office.

Regards,

GORRILL PALMER



Stephen R. Bushey, P.E.
Senior Associate
Phone: (207) 772-2515
sbushey@gorrillpalmer.com

Attachment

C: Austin Torres Davis

U:\3972 - 185 Commercial Street Mixed Use - Portland\H Utilities\Sewer\abs_ww_roland_02.06.2023

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Department of Public Services,
55 Portland Street,
Portland, Maine 04101-2991

Bradley Roland, P.E.
Water Resources Division

Date: February 6 2023

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

Site Address: 185 Commercial Street

Chart Block Lot Number: Tax Map 32/Lot U-003

Proposed Use: Grd floor retail and 6 Residential Units
Previous Use: Field
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.

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

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

2. Please, Submit Contact Information.

City Planner's Name: Austin Torres Davis Phone: _____
Owner/Developer Name: 185 Commercial Street LLC Attn: Jon Cohen
Owner/Developer Address: 865 Spring Street WEstbrook Maine 04092
Phone: 207-879-7800 Fax: _____ E-mail: jcohen@a-d-w.biz
Engineering Consultant Name: Stephen Bushey, P.E.
Engineering Consultant Address: Gorrill Palmer 300 Southborough Drive - Suite #200, So. Portland, ME 04106
Phone: 207-772-2515 Fax: _____ E-mail: sbushey@gorrillpalmer.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 1,200 GPD
Peaking Factor/ Peak Times: Not Applicable
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)* XSUBSURFACE WASTEWATER DISPOSAL RULES

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

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values: Not Applicable

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: Not Applicable 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.

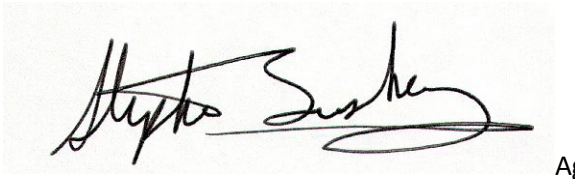
---

6 units at 180 gpd/unit = 1,080 gpd plus
10 employees at 12 gpd = 120 gpd
total = 1200 gpd

Notice of Public Meeting Certification

I, Stephen Bushey, hereby certify that a notice of neighborhood meeting sign was posted from February 4, 2023 to February 17, 2023 prior to the workshop held on February 14, 2023 for the proposed project ID PL-002235-2022 located at 185 Commercial Street.

Signed



Agent

GORRILL PALMER

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

February 21, 2023

Mr. Austin Torres Davis, Planner
Planning & Urban Development Department
389 Congress Street
Portland, Maine 04101

Subject: Major Site Plan, Master Development Plan Amendment
Project ID – PL-002235-2022
185 Commercial Street
185 Commercial Street LLC, Applicant
Letter of Response #2– Final Plan submission

Dear Austin:

On behalf of **185 Commercial Street LLC (Applicant)**, our office is pleased to provide the following information related to the updated Final Plan submission to be considered by the Planning Board at the February 28, 2023, Public Hearing. For ease of review, we have repeated all of the Planning report comments/next steps from the workshop meeting in *italics* and provide our responses in **bold** as follows:

General Comments from Planning & Urban Development Department

1. *Update plans to include the adjacent alleyway and associated improvements.*

   Response: The Final plans have been uploaded to Eplan and reflect notes and references to the Alleyway ownership and related improvements as discussed with Staff and the Planning Board. Upon completion of construction the alleyway will be repaved as will the brick sidewalk and driveway apron along the Commercial Street frontage. Any surface disruption in the Wharf Street cobblestones will be restored per City requirements. The applicant will preserve the existing tree on Commercial Street to the extent possible and if not possible, will work with DPW/Forestry for a suitable new tree planting(s). Existing trash cannisters will be removed from the alleyway and nearby businesses will need to find alternative locations for their trash collection.

2. *Provide utility information showing HVAC and AHU configuration, as well as ability to serve confirmation, and wastewater capacity authorization.*

Response: The ability to serve determinations from DPW and PWD will be provided upon receipt. The HVAC and AHU configurations has yet to be determined however it is the architect's intent to provide screening for any roof top mounted equipment. The applicant is amenable to a condition of approval related to coordination with City Planning Staff for this purpose, prior to the issuance of a building permit.

3. *Provide lighting and photometrics information to meet Land Use code and Technical Manual Standards.*

Response: As we have now determined there are two existing City street fixtures in the alleyway[1]. These fixtures appear to be part of a larger City lighting circuit that also includes similar lighting on Wharf St, Dana St and Moulton Street. As these are City fixtures, we understand that they will remain in place and be maintained. The team is working on the Staff suggestions for wall mount lights and bollards[2] at the side entry door as outlined above. We are amenable to a condition of approval requiring staff review of these lighting pieces prior to the submission of a building permit.

Fig 1 – Alley lights

4. *Coordinate with Planning & Urban Development, Forestry, and Department of Public Works staff regarding Street trees.*

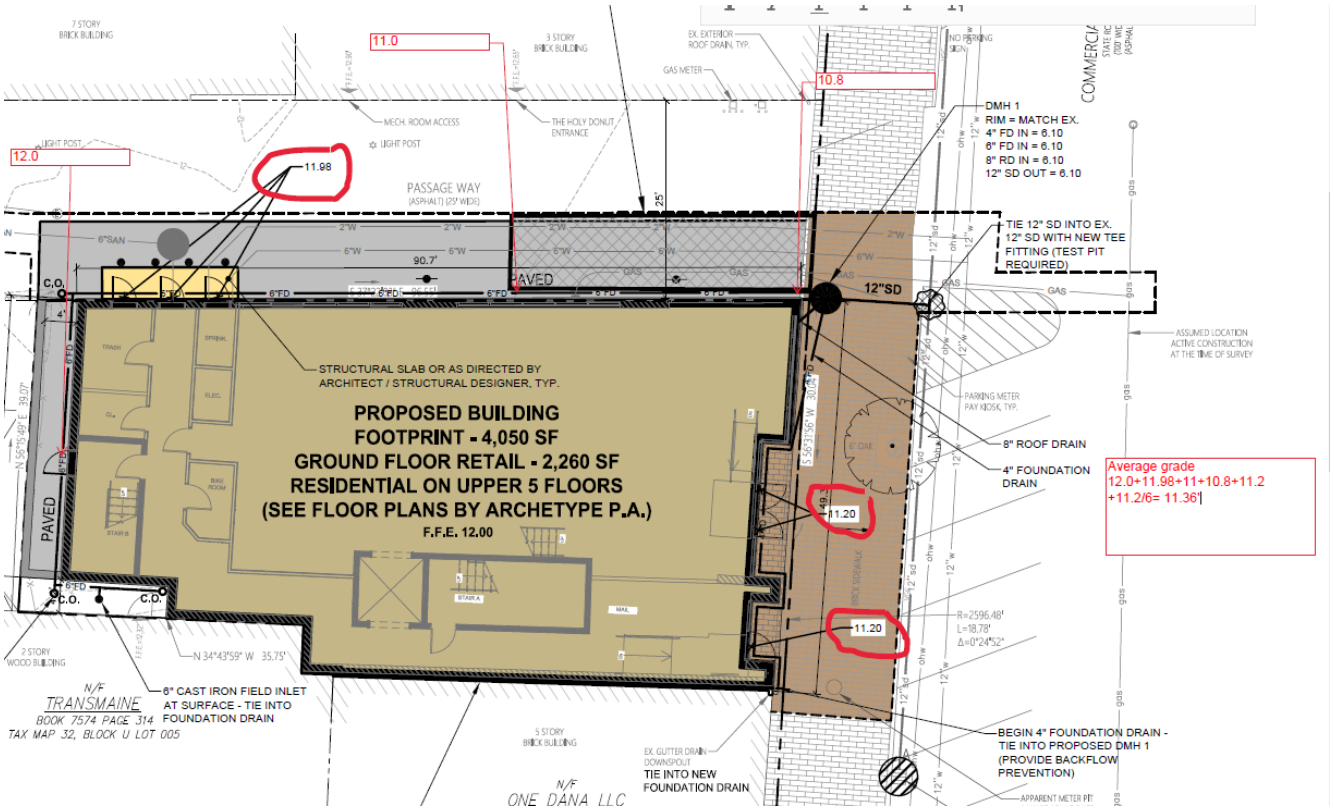
Response: The applicant will seek to protect/preserve the existing tree as part of the work. The applicant is also amenable to participation in the tree fund at $400 for four trees (1/unit). This can be made a condition of approval.

5. *Provide a plan that shows the proposed grade at the 4 corners of the building, from which the average grade will be determined.*

[1] The fixtures are identified as Spring City Elec Mfg. in origin. Exact style and model are not known, however there are at least 20 fixtures in the block. Exact location of circuit power and controls are unknown.

[2] Spring City Electric Mfg. produces various bollards that are consistent in character and style as the City's street light however more information is required from the vendor for the applicant's consideration.

Response: The latest grading plan shows the exterior grades at multiple locations along with an average grade calculation. The average grade will be 11.36'. Archetype PA has indicated this elevation will allow the overall building height measurement to be less than 65' as required by the code.



6. Update plans to reflect Preliminary and secondary site plan review comments.

Response: The latest plans reflect updates to address various staff and peer review comments. We also include the attached Transportation Demand Management Plan as requested by Staff.

Other staff comments are addressed as follows:

- Clarification on the unit count – The proposed floors 3-6 will include a single unit per floor for a total of 4 units.
- A final determination on HVAC and other mechanicals has not been made thus we are amenable to a condition of approval for the submission of this information to staff along with any screening measures proposed.
- Snow removal from the alleyway will be performed by the applicant's property manager. Snow will not be stockpiled in the alleyway but will be removed for offsite disposal.
- The driveway apron will be reconstructed and narrowed such that it appears an additional angled parking space on Commercial Street may be possible. The applicant is seeking to retain

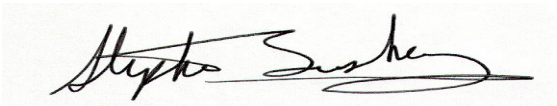
a driveway opening since the abutting building tenants (i.e. Holy Donut shop) routinely use the alley for loading/unloading for their business.

- We have adjusted the drain manhole and moved it out of the ROW. We have adjusted the water services per PWD input.

We look forward the Planning Board public hearing on February 28th. If you have any further questions, please contact this office.

Sincerely,

GORRILL-PALMER



Stephen Bushey, PE
Senior Associate
Phone: 207-772-2515 x286
sbushey@gorrillpalmer.com

Attachments:

c: Jon Cohen 185 Commercial LLC
Katherine Lermond – Archetype

U:\3972 - 185 Commercial Street Mixed Use - Portland\P Applications\Local\LOR #2\LOR#2_davis_02.21.23

Portland Water District
FROM SEBAGO LAKE TO CASCO BAY

February 23, 2023

Stephen Bushey| Senior Associate
Gorrill Palmer
300 Southborough Drive, Suite 200
South Portland, ME 04106

Re: 185 Commercial Street, PO
Ability to Serve with PWD Water

Dear Mr. Bushey:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on May 12, 2022. Based on the information provided per plans dated February 23, 2023, we can confirm that the District will be able to serve the proposed project as further described in this letter. **Please note that this letter constitutes approval of the water system as currently designed and is valid for eighteen (18) months after the date of issue. Any changes affecting the approved water system will require further review and approval by PWD.**

Conditions of Service

The following conditions of service apply:

- A new 6-inch fire service and a 2-inch domestic water service, with a 1-inch meter, may be installed from the water main in Commercial Street. The services should enter through the property's frontage on Commercial Street at least 10-feet from any side property lines.
- An approved backflow prevention device (testable double check assembly) must be installed on each service line directly after the meter and before the sprinkler riser prior to service activation. Please refer to the PWD website for more information on cross-connection control policies.
- Please note that PWD's Terms and Conditions require that a service to one parcel cannot serve another parcel. If in the future this parcel is subdivided, a separate service will be required.
- Please note that only one meter and one bill will be associated to each domestic service line. This one master meter would be located in a common space that all tenants could gain access to if necessary.
- The Portland Water District does not have record of any other existing infrastructure in public roads and recommends a survey and test pitting be performed by the development team prior to construction. Any conflicts that arise during construction are at the risk of the developer and may result in job shutdown until new plans are submitted by the developer and reviewed and approved by PWD.
- The Portland Water District does not manage sewer collection in this area.

Prior to construction, the owner or contractor will need to complete a Service Application and pay all necessary fees for each proposed service. When the project is ready for construction, an Application for each service can be requested by contacting the MEANS Group at MEANS@pwd.org or 207-774-5961 ext. 3199. Once a completed Application has been submitted with payment, please allow seven (7) days for processing.

Existing Site Service

According to District records, the project site does not currently have existing water service.

Water System Characteristics

According to District records, there is an 12-inch diameter cast iron water main in Commercial Street and a public fire hydrant located approximately 70 feet from the site. The estimated static pressure in the area is 110 psi.

Public Fire Protection

The installation of new public hydrants to be accepted into the District water system will most likely not be required. It is your responsibility to contact the City of Portland Fire Department to ensure that this project is adequately served by existing and/or proposed hydrants.

Domestic Water Needs

The data noted above indicates there should be adequate pressure and volume of water to serve the domestic water needs of your proposed project. Based on the high water pressure in this area, we recommend that you consider the installation of pressure reducing devices that comply with state plumbing codes.

Private Fire Protection Water Needs

You have indicated that this project will require water service to provide private fire protection to the site. Please note that the District does not guarantee any quantity of water or pressure through a fire protection service. Please share these results with your sprinkler system designer so that they can design the fire protection system to best fit the noted conditions. If the data is out of date or insufficient for their needs, please contact MEANS to request a hydrant flow test and we will work with you to get more complete data.

Should you disagree with this determination, you may request a review by the District's Internal Review Team. Your request for review must be in writing and state the reason for your disagreement with the determination. The request must be sent to MEANS@PWD.org or mailed to 225 Douglass Street, Portland Maine, 04104 c/o MEANS. The Internal Review Team will undertake review as requested within 2 weeks of receipt of a request for review.

If the District can be of further assistance in this matter, please let us know.

Sincerely,
Portland Water District

Robert A. Bartels, P.E.
Senior Project Engineer

185 Commercial Street
Transportation Demand Management Plan

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

Project Description: The development at 185 Commercial Street involves a six-story mixed use development. The ground floor and second floor will contain retail use and floors 3-6 will each contain a single apartment unit for a total of four residential units. The property is currently a private "Pay for" parking lot that will be discontinued upon the commencement of construction. The site is within the B-3 zoning district and parking is not specifically required. There are no new parking spaces to be used by residents or commercial tenants. This TDM has been prepared to qualify for the transit-proximate categorical exemption specified in Table 19-8 of the Land Use Code.

Part 17.3.1 Transportation Narrative

The proposed development benefits from proximity to nearby transit services including the Portland METRO Route 8 Peninsula Loop that traverses along Middle Street and Franklin Arterial and is less than ¼ mile distance from the site. The site development includes four residential units and each unit occupant will need to secure parking as needed in nearby parking facilities. Nearby parking garages include the Pearl Street Custom house Garage (650 LF), Portland Harbor Hotel Garage (570 LF), Fore Street Garage (300 LF), and Gateway garage (1,900 LF). Commercial tenants and visitors will have use of on street parking on Commercial Street and within multiple "pay for" parking lots along Commercial Street and surrounding streets.

Residents will have access to various pedestrian and bicycle routes in the project vicinity including the Fore River Parkway 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.

METRO Route 8

The development will include signage in the common ground level residential corridor identifying nearby public transit locations as well as mapping for pedestrian/bicycle routes on the peninsula. The mapping will also identify nearby parking structures within ½ mile of the development site. It is assumed that residents will quickly familiarize themselves with nearby parking and access routes for their use and enjoyment.

As the development will displace approximately 12 parking spaces, it will reduce traffic volumes directly to the site. Some offsetting traffic generation is expected due to the development land use, however this is not expected to significantly impact the surrounding street system or vehicular and pedestrian access conditions. By developing the proposed building, it is expected that pedestrian use of the alleyway may actually increase as a result of the elimination of parked cars and a more friendly atmosphere of pedestrian usage in the alleyway.

17.3.2 Identify a TDM Coordinator

Given the small size of the development a designated TDM coordinator is not proposed. The applicant and their property management team will be responsible for building maintenance as well as to assure that site features including bike racks are maintained and available. The applicant owns multiple properties on the Peninsula and is therefore very familiar with the requirements for maintenance, working with City officials and related issues.

Parts 17.3.3 thru 17.3.6

The project's future trip generation is expected to be less than 10 vehicles per peak hour for the residential and less than 20 trips for the specialty retail occupant of the ground level retail space. The ground level space will not be occupied by a restaurant or similar tenant, but is expected to be a low turnover, low volume retail tenant. The commercial tenant will be much like other retailers in the Old Port that rely on existing foot traffic and visitors including tourists and residents alike. 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 Old Port activities and land use and may benefit from the general proximity of transit, parking, and multi-modal transportation options available on the Portland Peninsula.

Greater Portland Landmarks
Historic character enriches our lives

February 7, 2023

Chair Stanley and members of the Planning Board:

Founded in 1964, Greater Portland Landmarks is a non-profit advocacy organization that works toward the preservation and revitalization of greater Portland's built environment. Our goal is to save greater Portland's historic places through preservation and adaptive use while promoting creative new architecture that enhances historic neighborhoods. We appreciate the opportunity to comment on projects that impact the historic character of the city.

We are writing in support of the design for new construction in the vacant lot at 185 Commercial Street and to encourage the board to approve this application. Greater Portland Landmarks holds a preservation easement on the Guptill Building (Lyman Block) at 175-179 Commercial Street/4 Moulton Street, adjacent to the proposed new construction across the shared alley. Landmarks therefore has a particular interest in the adjacent 185 Commercial Street project.

We supported this design at the applicant's public hearing for the Historic Preservation Board in July/August of 2022. As we noted then, the applicant has been extremely responsive to the Historic Preservation Board and staff suggestions at several workshops. The result is a compatible design for the historic district that now satisfies the comments offered by the board—it is an all-glass façade that is of its time but also works in concert with the neighboring buildings and the overall streetscape. We had the opportunity to meet with the applicant and understand how the design process has resulted in the current version that synergizes with the two immediately adjacent brick buildings, such as aligning cornices, as well as re-activating the alley to Wharf Street and reestablishing the street wall with the glass façade. The slight depth variations of the glass and granite imitate other buildings on the street and offer visual appeal rather than generate monotony. The design as presented is very much the result of collaboration between the developer, architect, city Historic Preservation Board and staff, and community at large.

For all these reasons—the improved design itself, the applicant's gracious responsiveness to Historic Preservation Board comments, and the applicant's willingness to work directly with interested parties like the city's HP staff and Greater Portland Landmarks—we urge the Planning Board to support this application and help re-establish the vibrancy of this section of Commercial Street.

Thank you,

C. Ian Stevenson, PhD
Director of Advocacy

511 Congress Street, Ste. 502, Portland ME 04101 | 207.774.5561 | info@portlandlandmarks.org | portlandlandmarks.org

Greater Portland Landmarks
Historic character enriches our lives

February 17, 2023

Chair Stanley and members of the Planning Board:

Founded in 1964, Greater Portland Landmarks is a non-profit advocacy organization that works toward the preservation and revitalization of greater Portland's built environment. Our goal is to save greater Portland's historic places through preservation and adaptive use while promoting creative new architecture that enhances historic neighborhoods. We appreciate the opportunity to comment on projects that impact the historic character of the city.

As we did at this month's workshop, we are writing in support of the application for new construction in the vacant lot at 185 Commercial Street and to encourage the board to approve. Greater Portland Landmarks holds a preservation easement on the Guptill Building (Lyman Block) at 175-179 Commercial Street/4 Moulton Street, adjacent to the proposed new construction across the shared alley. Landmarks therefore has a particular interest in the adjacent 185 Commercial Street project.

While we understand that your purview is not the architectural design of the proposed construction, we want to express that we supported this design at the applicant's public hearing for the Historic Preservation Board in July/August of 2022. As we noted then, the applicant has been extremely responsive to the Historic Preservation Board and staff suggestions at several workshops. The result is a compatible design for the historic district—it is an all-glass façade that is of its time but also works in concert with the neighboring buildings and the overall streetscape. We had the opportunity to meet with the applicant and understand how the design process has resulted in the current version that synergizes with the two immediately adjacent brick buildings, such as aligning cornices, as well as re-activating the alley to Wharf Street and reestablishing the street wall with the glass façade. The slight depth variations of the glass and granite imitate other buildings on the street and offer visual appeal rather than generate monotony. The design as presented is very much the result of collaboration between the developer, architect, city Historic Preservation Board and staff, and community at large. From a site plan perspective, we feel this proposed project admirably restores this vacant lot and will contribute to the vitality of this part of the city.

For all these reasons—the design itself, the applicant's responsiveness to Historic Preservation Board comments, the applicant's willingness to work directly with interested parties like the city's HP staff and Greater Portland Landmarks, and the appropriate infill to maximize a vacant lot—we urge the Planning Board to support this application and help re-establish the vibrancy of this section of Commercial Street.

Thank you,

C. Ian Stevenson, PhD
Director of Advocacy

511 Congress Street, Ste. 502, Portland ME 04101 | 207.774.5561 | info@portlandlandmarks.org | portlandlandmarks.org

PROJECT PARCEL SITE		
ZONING: B3 DOWNTOWN ZONING DISTRICT		
PORTLAND TAX ASSESSOR'S MAP AND LOT NUMBERS		
MAP	BLOCK	LOT
32	U	003

SITE DEVELOPMENT PLANS

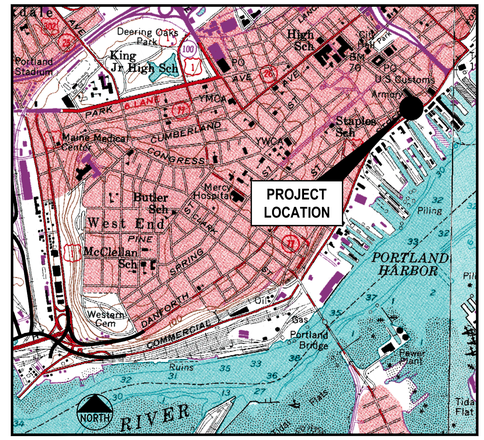
FOR

PROPOSED MIXED-USE BUILDING
185 COMMERCIAL STREET

PORTLAND, MAINE

FINAL PERMIT PLAN SUBMISSION

FEBRUARY 2023



LOCATION MAP
N.T.S.

OWNER / APPLICANT:

185 COMMERCIAL STREET, LLC
865 SPRING STREET
WESTBROOK, ME 04092
ATTN: JONATHAN COHEN

C.C.R.D. BOOK 38690, PAGE 187

REFERENCE PLANS:

1. DRAFT UPDATED BOUNDARY SURVEY BY VHB

INDEX

C-1.0 COVER SHEET
C-1.1 GENERAL NOTES & LEGEND
C-1.2 BOUNDARY & EXISTING CONDITIONS SURVEY (BY vhb)
C-2.0 EXISTING CONDITIONS & REMOVALS PLAN
C-3.0 SITE LAYOUT & UTILITY PLAN
C-4.0 GRADING, DRAINAGE & EROSION CONTROL PLAN
C-5.0 SITE & MISCELLANEOUS DETAILS
C-5.1 SITE & MISCELLANEOUS DETAILS

UTILITIES

WATER:
PORTLAND WATER DISTRICT
225 DOUGLASS STREET
P.O. BOX 3553
PORTLAND, MAINE 04104
207.761.8310
CONTACT: ROBERT BARTELS
rbartels@pwd.org

SEWER:
CITY OF PORTLAND
PUBLIC SERVICES DIVISION
212 CANCO ROAD
PORTLAND, MAINE 04103
207.874.8840
CONTACT: KEITH GRAY / BRAD ROLAND

ELECTRIC:
CENTRAL MAINE POWER
162 CANCO ROAD
PORTLAND, MAINE 04103
207.842.2367
CONTACT: JAMIE COUGH / PAUL DUPERRE

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
207.541.2536
CONTACT: BRIDGET HARMON
harmon@unitil.com

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

DIG SAFE:
CALL BEFORE YOU DIG
DIAL 811 (AT LEAST 72 HRS IN ADVANCE)

PERMITS / APPROVALS

LOCAL	GOVERNING BODY	STATUS
MAJOR SITE PLAN APPLICATION	CITY OF PORTLAND PLANNING AUTHORITY CITY HALL 389 CONGRESS STREET PORTLAND, MAINE 04101 207.874.8719 CONTACT: JAMES RATHER	ANTICIPATED SUBMITTAL: SEPTEMBER 30, 2022
BUILDING AND DEMOLITION PERMITS	CITY OF PORTLAND CODE ENFORCEMENT OFFICE CITY HALL 389 CONGRESS STREET PORTLAND, MAINE 04101 207.874.8703	TO BE FILED PRIOR TO CONSTRUCTION BY CONTRACTOR
STREET OPENING PERMIT	CITY OF PORTLAND PUBLIC SERVICES DIVISION 212 CANCO ROAD PORTLAND, MAINE 04103 207.874.8801	TO BE FILED PRIOR TO CONSTRUCTION BY CONTRACTOR
HISTORIC PRESERVATION REVIEW	CITY OF PORTLAND PLANNING AUTHORITY CITY HALL 389 CONGRESS STREET PORTLAND, MAINE 04101 207.874.8719	PREVIOUSLY APPROVED - PERMIT #HPBR-001916-2022, at 185 COMMERCIAL STREET

ALL PERMITS ARE ANTICIPATED TO HAVE CONDITIONS ATTENDANT WITH THEIR APPROVAL. THE CONTRACTOR SHALL REVIEW ALL PERMITS AND THE CONDITIONS ATTENDANT WITH APPROVALS PRIOR TO THE START OF THE WORK. UNLESS OTHERWISE STIPULATED BY THE CONTRACT DOCUMENTS, THE CONTRACTOR IS REQUIRED TO COMPLY AND FULFILL ALL CONDITIONS OF APPROVAL.

CONSULTANT LIST

CIVIL ENGINEER:
Gorrill Palmer
707 SABLE OAKS DRIVE, SUITE 30
SOUTH PORTLAND, MAINE 04106
207.772.2515
ATTN: STEVE BUSHEY
sbushey@gorrillpalmer.com

SURVEYOR:
vhb
500 SOUTHBOROUGH DRIVE, SUITE 105B
SOUTH PORTLAND, ME 04106
207.889.3150
www.vhb.com

GEOTECHNICAL:
Summit Geoengineering Services
210 MAINE AVENUE
FARMINGDALE, ME 04344
207.576.3313
ATTN: BILL PETERLEIN, P.E.
bpeterlein@summitgeoeng.com

ARCHITECT:
ARCHETYPE PA
48 UNION WHARF
PORTLAND, ME 04101
207.772.6022
ATTN: KATHERINE LERMOND
katherine@archetypepa.com

CONSTRUCTION MANAGEMENT PLAN:
PENOBSCOT GENERAL CONTRACTORS
241 U.S. ROUTE ONE, SUITE 401
FALMOUTH, ME 04105
207.236.6390

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.

STATE OF MAINE — STEPHEN R. BUSHEY — 12021 — 02.21.23 — LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E.
LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
2	2023.02.21	FINAL PLAN SUBMISSION TO CITY
1	2022.09.30	SUBMITTED TO CITY OF PORTLAND FOR PERMITTING

Design: SRB	Draft: CDD	Date: SEPT 2022
Checked: SRB	Scale: AS NOTED	Job No.: 3972
File Name: 3972-COVER.dwg		

This plan shall not be modified without written permission from Gorrill Palmer. Any alterations, authorized or otherwise, shall be at the user's sole risk and without liability to Gorrill Palmer.

GORRILL PALMER
707 Sable Oaks Drive, Suite 30
South Portland, Me 04106
207.772.2515 / www.gorrillpalmer.com
Relationships. Responsiveness. Results.

Drawing Name:	COVER SHEET
Project:	PROPOSED MIXED-USE BUILDING 185 COMMERCIAL STREET, PORTLAND, MAINE
Client:	185 COMMERCIAL STREET, LLC 865 SPRING STREET, WESTBROOK, MAINE 04092

Drawing No.
C-1.0

U:\3972 - 185 Commercial Street Mixed Use - Portland\Z - CAD\DWG\3972-COVER.dwg 2/21/2023 5:21 PM

GENERAL NOTES

1. IN ADDITION TO THESE PLANS AND NOTES, THE CONTRACTOR SHALL REFER TO THE PROJECT MANUAL OR MOST CURRENT MAINE DEPARTMENT OF TRANSPORTATION (MAINE DOT) SPECIFICATIONS FOR CONSTRUCTION SPECIFICATIONS AND BIDDING PROCEDURES.

2. THIS PROJECT WILL BE SUBJECT TO THE TERMS AND CONDITIONS OF ALL PERMITS ISSUED BY LOCAL UTILITY COMPANIES AND THE CITY OF PORTLAND.

3. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF THE ENTRANCE, PAVING, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE POINTS. ENTRANCES IN MOST LOCATIONS REQUIRE STRUCTURAL SLABS. REFER TO THE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR INFORMATION ON THE STRUCTURAL SLAB ENTRANCES.

4. ALL REQUIRED AND NECESSARY INSPECTIONS AND OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSIONS AND THE FINAL SERVICE CONNECTIONS.

5. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS, AT ITS SOLE COST.

6. MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO THE APPLICANT 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, THEIR REPRESENTATIVES, OR THE CITY, AT NO ADDITIONAL COST TO THE OWNER.

7. 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.

8. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE PROJECT SPECIFICATIONS, THE CITY OF PORTLAND AND SERVICING UTILITY REQUIREMENTS, IN CASES WHERE THESE CONFLICT THE MOST STRINGENT SHALL APPLY AT NO EXTRA COST TO THE OWNER.

9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RECORD DRAWINGS THROUGHOUT THE PROJECT AND PROVIDING THE OWNER WITH A SET OF ELECTRONIC FINAL RECORD DRAWINGS WHEN THE PROJECT IS COMPLETE.

10. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCESS TO THE SITE AND ALL ADJACENT PROPERTIES AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY MARKINGS, SIGNAGE AND INCIDENTALS TO MAINTAIN SAFE VEHICLE AND PEDESTRIAN ACCESS THROUGH OUT THE LIFE OF THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE PORTLAND PUBLIC SAFETY DIVISION ROUTINELY REGARDING TEMPORARY IMPACT OR CHANGES TO SITE ACCESS CONDITIONS, SIDEWALK AND / OR STREET CLOSINGS.

PERMITTING NOTES

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF THE SITE PLAN REVIEW PERMIT FROM THE CITY OF PORTLAND WHICH WILL BE MADE A PART OF THE CONTRACT BID DOCUMENTS. THE CONSTRUCTION WILL BE GOVERNED BY THE ZONING ORDINANCES WHICH ARE AVAILABLE FOR VIEWING AT THE OFFICE OF THE ENGINEER OR THE MUNICIPAL OFFICE.

2. THE CONTRACTOR SHALL REVIEW THE ABOVE-REFERENCED PERMITS PRIOR TO SUBMITTING A BID FOR THIS PROJECT, AND INCLUDE COSTS AS NECESSARY TO COMPLY WITH THE CONDITIONS OF THESE PERMITS.

SITE LAYOUT NOTES

1. BITUMINOUS CONCRETE CURB, SLIPFORM CONCRETE CURB AND GRANITE CURB SHALL MEET THE REQUIREMENTS OF MDOT 702.001, 703.07 AND 609.04.

2. ALL DIMENSIONING, UNLESS NOTED OTHERWISE, IS TO THE FACE OF CURB OR THE FACE OF THE BUILDING.

3. EXCEPT WHERE INDICATED OTHERWISE, THE PAVEMENT IS TO BE STANDARD DUTY PAVEMENT.

4. ALL TRAFFIC CONTROL SIGNS INDICATED ON THE SITE LAYOUT PLAN ARE TO MEET ALL REQUIREMENTS & STANDARDS OF THE MAINE DEPARTMENT OF TRANSPORTATION, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITIONS AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS.

GRADING & DRAINAGE NOTES:

1. ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF N = 0.012 OR LESS.

2. AN "AS-BUILT" CERTIFICATION AND PLANS OF THE STORMWATER DRAINAGE SYSTEM IS REQUIRED PRIOR TO THE OWNER ACCEPTING ANY BUILDINGS AND PROPERTY. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT ANY DEVIATION FROM THE PLANS MAY DELAY THE ACCEPTANCE OF THE PROJECT, WITH CONTRACTOR RESPONSIBLE FOR ANY ASSOCIATED COSTS.

3. A DETAILED O&M MANUAL FOR STORMWATER MANAGEMENT SYSTEMS IS (WILL BE) FILED WITH THE CITY OF PORTLAND DURING THE PERMIT REVIEW PROCESS. A SPECIFIC MANUAL HAS BEEN PREPARED FOR O&M OF THE DRAINAGE SYSTEM.

4. SEE EXISTING CONDITIONS FOR BENCHMARK INFORMATION.

5. SEE GRADING, DRAINAGE AND EROSION/SEDIMENT CONTROL FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.

6. ALL DISTURBED AREAS NOT TO BE PAVED, GRAVELED, SODDED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.

7. COMPACTION REQUIREMENTS:

LOCATION	MINIMUM COMPACTION*
SUBBASE AND BASE GRAVEL BELOW PAVED OR CONCRETE AREAS	95%
SUBGRADE FILL BELOW PAVED AREAS	90%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREAS	90%
STRUCTURAL FILL WITHIN PROPOSED BUILDING AREA	95%
SELECT FILL ADJACENT BUILDING FOUNDATIONS, EXTERIOR FOUNDATIONS AND WITHIN 8 INCHES OF THE SLAB-ON-GRADE	95%

*ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM-D-1557.

8. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.

9. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCE AND EXIT RAMPS ADJACENT TO THE BUILDING AND ALONG NEW CURBED AREAS.

10. PROVIDE STABILIZATION OR SEPARATION GEOTEXTILE FABRIC OVER UNSTABLE SOILS AS DIRECTED BY THE OWNER'S REPRESENTATIVE AND IN ACCORDANCE WITH THE FINAL GEOTECHNICAL RECOMMENDATIONS.

11. NATIVE SOILS RANGE FROM SANDY TO SILTY. CARE MUST BE EXERCISED TO LIMIT DISTURBANCE OF THE BEARING SOILS. THE NATIVE SILTY SOILS SHOULD NOT BE PROOF-ROLLED. SHOULD THE SUBGRADE BECOME YIELDING OR DIFFICULT TO WORK, DISTURBED AREAS SHOULD BE EXCAVATED AND BACKFILLED WITH COMPACTED SELECT FILL OR CRUSHED STONE AT NO EXTRA EXPENSE TO THE OWNER. ALL SUBGRADE PREPARATION IS SUBJECT TO THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER.

LOCAL APPROVALS, WAIVERS AND VARIANCES

THE CONSTRUCTION PLANS ARE TO BE SUBMITTED TO THE CITY OF PORTLAND FOR THEIR REVIEW, APPROVAL AND RECORDS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

PENDING SITE PLAN CONDITIONS OF APPROVAL - TO BE ADDED UPON RECEIPT OF APPROVALS

STANDARD CONDITIONS OF APPROVAL

1. 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.

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 INSPECTION DIVISION.

3. 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.

4. 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 DIVISION AND PUBLIC SERVICES 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.

5. DEFECT GUARANTEE: A DEFECT GUARANTEE, CONSISTING OF 10% OF THE PERFORMANCE GUARANTEE, MUST BE POSTED BEFORE THE PERFORMANCE GUARANTEE WILL BE RELEASED.

6. 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 SERVICE'S 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 (IF APPLICABLE).

7. DEPARTMENT OF PUBLIC SERVICES 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.)

8. AS-BUILT FINAL PLANS: FINAL SETS OF AS-BUILT PLANS SHALL BE SUBMITTED DIGITALLY TO THE PLANNING DIVISION, ON A CD OR DVD, IN AUTOCAD FORMAT (*.DWG), RELEASE AUTOCAD 2005 OR GREATER.

9. STORMWATER MANAGEMENT: THAT THE DEVELOPER/ CONTRACTOR/ SUBCONTRACTOR MUST COMPLY WITH CONDITIONS OF THE CONSTRUCTION STORMWATER MANAGEMENT PLAN AND SEDIMENT & EROSION CONTROL PLAN BASED ON CITY STANDARDS AND STATE GUIDELINES; THAT 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; AND THAT A MAINTENANCE AGREEMENT FOR THE STORMWATER DRAINAGE SYSTEM, AS ATTACHED, OR IN SUBSTANTIALLY THE SAME FORM WITH ANY CHANGES TO BE APPROVED BY CORPORATION COUNSEL, SHALL BE SUBMITTED AND SIGNED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY WITH A COPY TO THE DEPARTMENT OF PUBLIC SERVICES.

UTILITY NOTES

1. ALL REQUIRED UTILITIES SERVING THE PROJECT SHALL BE COORDINATED AND CONSTRUCTED BY THE SITE CONTRACTOR TO WITHIN 5 FEET OF THE BUILDINGS, AT A LOCATION COORDINATED WITH THE MEP CONTRACTOR(S) AND THE BUILDING PLANS. SITE WORK WITHIN 5 FEET OF UNDERSLAB UTILITIES SHALL CONSIST OF TRENCHING AND BACKFILLING. ACTUAL UTILITY INSTALLATION SHALL BE BY THE MEP CONTRACTOR. ALL REQUIRED CONNECTION FEES SHALL BE PAID BY THE GENERAL CONTRACTOR.

2. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF AND/OR RELOCATION OF OVERHEAD AND UNDERGROUND TELEPHONE WITH FAIRPOINT COMMUNICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUITS, PULL WIRES, TRENCHING AND BACKFILLING NECESSARY TO COMPLETE THE WORK.

3. ALL SANITARY SEWER WORK SHALL MEET THE STANDARDS OF THE MAINE STATE PLUMBING CODE AND CITY OF PORTLAND PUBLIC SERVICES DIVISION. CONNECTIONS TO EXISTING SEWER SHALL BE PERFORMED IN ACCORDANCE WITH CITY OF PORTLAND PUBLIC SERVICES DIVISION RECOMMENDATIONS AND REGULATIONS.

4. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRIC SERVICE WITH CENTRAL MAINE POWER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRENCHING, CONDUIT AND BACKFILLING ASSOCIATED WITH UNDERGROUND POWER, COMMUNICATIONS AND CABLE.

5. COORDINATE ALL OTHER UTILITY WORK WITH THE APPROPRIATE UTILITY COMPANY. ALL UTILITY WORK SHALL CONFORM TO THE STANDARDS OF THE UTILITY COMPANY AND PROJECT SPECIFICATIONS, WHICHEVER IS MORE STRINGENT, AT NO EXTRA EXPENSE TO THE OWNER.

6. THE LOCATIONS OF THE NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE SERVING UTILITY COMPANY, PROJECT ARCHITECTS AND MEP DESIGNERS.

7. UNDERGROUND ELECTRICAL, CONDUIT MATERIAL AND INSTALLATION SHALL CONFORM TO CENTRAL MAINE POWER STANDARDS AND PROJECT SPECIFICATIONS, WHICH EVER IS MORE STRINGENT. WORK ADJACENT TO THE UNE SHALL BE MONITORED BY CENTRAL MAINE POWER.

8. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OR WORK TO FINISH GRADE.

9. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.

10. 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.

11. 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.

12. A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18 INCH OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER AND SANITARY SEWER CROSSINGS.

EROSION CONTROL NOTES:

1. PRIOR TO BEGINNING ANY LAND DISTURBING ACTIVITIES, GRADING LIMITS SHALL BE STAKED BY THE CONTRACTOR BASED ON THE LIMITS OF GRADING SHOWN ON THE DRAWINGS AND ACCEPTED BY THE OWNER'S REPRESENTATIVE IN THE FIELD. AFTER THE GRADING LIMITS HAVE BEEN ACCEPTED, THE CONTRACTOR SHALL INSTALL THE PERIMETER SILT FENCE, SEDIMENT BARRIERS AND THE CONSTRUCTION ENTRANCE ASSOCIATED WITH THE PROJECT.

2. ALL GROUND AREAS GRADED FOR CONSTRUCTION SHALL BE GRADED, LOAMED, SEEDED AND MULCHED AS SOON AS POSSIBLE. TEMPORARY/PERMANENT SEED MIXTURES SHALL CONFORM TO THE SEEDING PLAN CONTAINED IN THE EROSION CONTROL PROJECT PREPARED FOR THIS PROJECT.

3. PRIOR TO PAVING OR GRAVEL PLACEMENT, THE CONTRACTOR SHALL REMOVE SILT FROM ALL STORM LINES AND APPURTANCES.

4. SILT BARIRIERS SHALL BE INSPECTED, REPAIRED AND CLEANED AS NOTED IN THE EROSION CONTROL NOTES SHOWN ON THE EROSION CONTROL DETAIL SHEET.

5. THE CONTRACTOR SHALL REPAIR AND ADD STONE TO THE CONSTRUCTION ENTRANCES AS IT BECOMES SATURATED WITH MUD TO ENSURE THAT IT FUNCTIONS TO CAPTURE MUD FROM THE TIRES OF CONSTRUCTION VEHICLES DURING CONSTRUCTION. THE PURPOSE OF THE CONSTRUCTION ENTRANCE IS TO KEEP ADJACENT STREETS CLEAR OF DIRT AND MUD. SWEEPING OF THE ROADWAYS SHALL BE PERFORMED BY THE CONTRACTOR ON AN AS NEEDED BASIS, BUT AT A MINIMUM ONCE A WEEK.

6. SILT REMOVED FROM AROUND INLETS AND BEHIND THE SILT FENCES SHALL BE PLACED ON A TOPSOIL STOCKPILE AND MIXED INTO TOPSOIL FOR USE IN LANDSCAPING OPERATIONS.

7. LAND DISTURBING ACTIVITIES SHALL BE ACCOMPLISHED IN A MANNER AND SEQUENCE WHICH CAUSE THE LEAST PRACTICAL UNPROTECTED DENUDED AREAS ON THE SITE DURING CONSTRUCTION.

8. THE CONTRACTOR IS CAUTIONED THAT FAILURE TO COMPLY WITH THE SEQUENCE OF CONSTRUCTION, EROSION/SEDIMENT CONTROL PLAN, AND OTHER PERMIT REQUIREMENTS MAY RESULT IN MONETARY PENALTIES AS ENFORCED BY THE MEDEP OR LOCAL AGENCIES. THE CONTRACTOR SHALL BE ASSESSED ALL SUCH PENALTIES AT NO COST TO THE OWNER OR PERMITTEE.

9. A FULL EROSION/SEDIMENTATION CONTROL PLAN ACCOMPANIES THIS DRAWING SET AND IS ALSO CONTAINED IN THE DIV 312513 SPECIFICATIONS.

10. PROVIDE INLET PROTECTION BARRIERS AROUND ALL EXISTING AND PROPOSED STORM DRAINAGE INLETS AS SHOWN AND MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED.

11. INSPECT EROSION AND SEDIMENT CONTROL DEVICES AFTER EACH RAIN STORM OF 0.25 INCHES OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE FILTER EFFICIENCY. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 OF THE STRUCTURE HEIGHT.

12. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES, CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT AND MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, 2014".

EXISTING

- IRON PIPE OR ROD FND
- MONUMENT FOUND
- GAS VALVE
- WATER VALVE
- HYDRANT
- UTILITY POLE
- LIGHT POLE
- COMMUNICATION MANHOLE
- DRAINAGE MANHOLE
- ELECTRIC MANHOLE
- SEWER MANHOLE
- CATCH BASIN
- SIGN
- FENCE
- EDGE OF PAVEMENT
- CURB
- OHW — OVERHEAD WIRES
- UGE — UNDERGROUND ELECTRIC
- T — TELEPHONE
- W — WATER LINE
- G — GAS LINE
- SS — SANITARY SEWER
- SD — STORM DRAIN
- 15 — 1' CONTOUR
- MONITORING WELL
- × 15.23 — SPOT ELEVATION
- TREE
- TREE LINE OR LIMIT OF CLEARING
- BUILDING
- RAIL TRACKS
- RIPRAP
- CONCRETE
- RETAINING WALL
- B-1 — TEST BORING BY SUMMIT GEOENGINEERING SERVICES

PROPOSED

- BARRIER FREE SYMBOL
- SIGN
- SIGN LABEL
- GUIDERAIL - METAL
- GUIDERAIL - TIMBER
- FENCE - CHAINLINK
- FENCE - WOOD
- BUILDING / BUILDING ACCESS
- RETAINING WALL
- PEDESTRIAN CROSSWALK
- BOLLARD
- VERTICAL GRANITE CURB
- SLOPED GRANITE CURB
- CB — CATCH BASIN
- 22 — CONTOUR LABEL
- DMH — DRAIN MANHOLE
- RIPRAP INLET / OUTLET APRON
- 2 / 1 2:1 — SLOPE DESIGNATION
- 18.73 — SPOT GRADE
- 28.58 TW / 16.20 BW — SPOT GRADE AT RETAINING WALL (TW = TOP WALL / BW = BOTTOM WALL)
- WATER MARK
- 10"UD — UNDERDRAIN
- 12" SD L = 188' S = 0.005 — STORM DRAIN
- CURB STOP
- HYDRANT
- LIGHT POLE WITH FIXTURE(S)
- SMH — SANITARY SEWER MANHOLE
- TEST PIT
- T — TRANSFORMER PAD
- UTILITY POLE
- VALVE
- 6" SAN — SANITARY SEWER
- 6"W — WATER MAIN
- 2"G — GAS MAIN
- UGE — UNDERGROUND ELECTRIC
- OHE — OVERHEAD ELECTRIC
- CONCRETE

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

STATE OF MAINE — STEPHEN R. BUSHEY — 02.21.23 — LICENSED PROFESSIONAL ENGINEER

STEPHEN R. BUSHEY, P.E.
LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
2	2023.02.21	FINAL PLAN SUBMISSION TO CITY
1	2022.09.30	SUBMITTED TO CITY OF PORTLAND FOR PERMITTING

Design: SRB	Draft: CDD	Date: SEPT 2022
Checked: SRB	Scale: AS NOTED	Job No.: 3972
File Name: 3972-GEN NOTES.dwg		

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GORRILL PALMER
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Relationships. Responsiveness. Results.

Drawing Name: GENERAL NOTES & LEGEND

Project: PROPOSED MIXED-USE BUILDING
185 COMMERCIAL STREET, PORTLAND, MAINE

Client: 185 COMMERCIAL STREET, LLC
865 SPRING STREET, WESTBROOK, MAINE 04092

Drawing No. C-1.1

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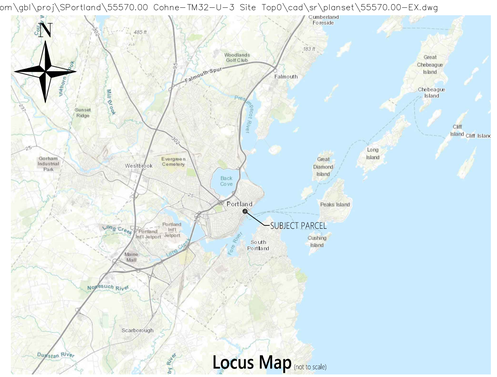
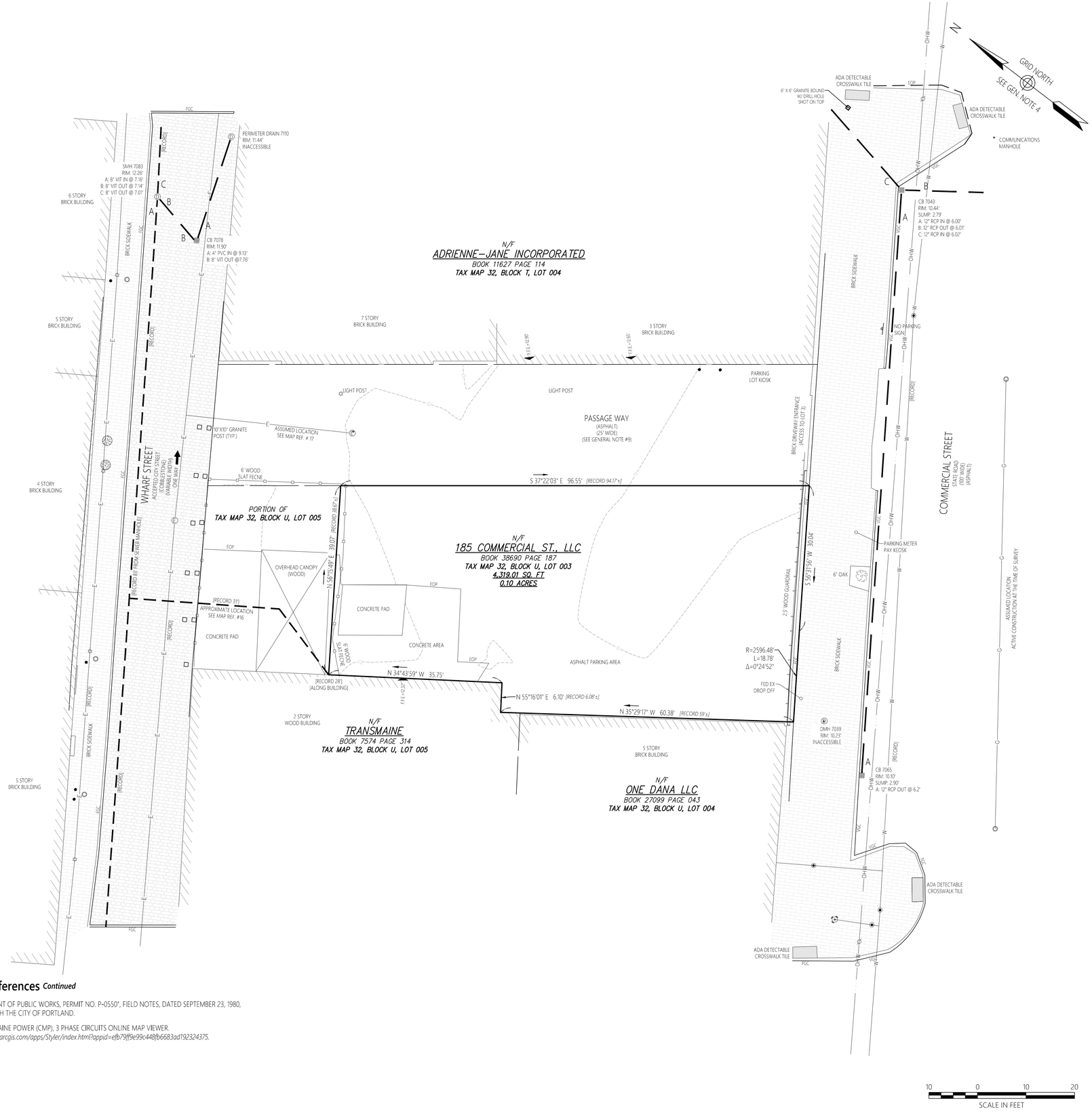


General Notes

1) THIS PLAN AND ALL WORK ASSOCIATED WITH IT WAS PERFORMED BY VHB, INC. PURSUANT TO A PROFESSIONAL SERVICES CONTRACT BETWEEN 185 COMMERCIAL ST., LLC AND VHB, INC. DATED DECEMBER 07, 2021.
2) THE PROPERTY LINES SHOWN HEREON ARE BASED UPON AN ACTUAL FIELD SURVEY CONDUCTED BY VHB, INC. IN APRIL 2022 AND FROM DEEDS AND PLANS OF RECORD.
3) REFERENCE DEED FOR THE LOCUS PARCEL IS 185 COMMERCIAL ST., LLC DATED SEPTEMBER 22, 2021 AND RECORDED IN DEED BOOK 38690, PAGE 187 AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
4) HORIZONTAL DATUM IS BASED ON GRID NORTH AND IS IN REFERENCE TO MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802, NORTH AMERICAN DATUM OF 1983 (2011), 2010 EPOCH, GEOID 18, US SURVEY FEET, ARE BASED ON GPS OBSERVATIONS PROCESSED USING ONLINE POSITION USER SERVICE (OPUS). ELEVATION DATA SHOWN HEREON IS REFERENCED TO CITY OF PORTLAND DATUM ESTABLISHED ON APRIL 02, 1901 AS ON RECORD WITH THE CITY OF PORTLAND, MAINE DEPARTMENT OF PUBLIC WORKS.
5) ABUTTING PROPERTY OWNER INFORMATION REFERENCED HEREON WAS TAKEN FROM THE CITY OF PORTLAND ASSESSOR'S DATA AS OF THE DATE OF THE SURVEY. ANY CONFLICTS BETWEEN ABUTTER LINES SHOWN HEREON AND EXISTING MONUMENTATION SHOULD BE RESOLVED BY A BOUNDARY SURVEY, NO ASSUMPTIONS SHOULD BE MADE BASED ON ABUTTER LINES SHOWN HEREON.
6) COMMERCIAL STREET IS A STATE ROAD PURSUANT TO MAP REFERENCE 1. COMMERCIAL STREET RIGHT-OF-WAY IS 100' WIDE PURSUANT TO CITY OF PORTLAND BOOK 7, PAGE 211, DATED MARCH 29, 1850. FURTHERMORE, RIGHT-OF-WAY AS SHOWN HEREON IS CONSTRUCTED FROM BASELINE DEPICTED ON MAP REFERENCE NUMBER 1.
7) WHARF STREET IS AN ACCEPTED CITY STREET BY ORDER OF CITY COUNCIL PASSED ON SEPTEMBER 18, 1978. RIGHT-OF-WAY IS OF VARIABLE WIDTH.
8) BUILDINGS SHOWN HEREON ARE REFLECTIVE OF FOUNDATION DIMENSIONS AND DO NOT INCLUDE ROOF OVERHANGS. NO STATEMENT OF POSSIBLE ROOF OVERHANG ENCROACH OR LACK THERE OF SHOULD BE INFERRED FROM INFORMATION PUBLISHED HEREON.
9) OWNERSHIP IN PASSAGEWAY SHOWN HEREON IS UNDETERMINED.
10) NO SUBSURFACE INVESTIGATION HAS BEEN PERFORMED BY VHB, INC.. UNDERGROUND UTILITIES SHOWN HEREON WERE COMPILED BASED ON RECORD INFORMATION. DIG-SAFE SHOULD BE CONTACTED PRIOR TO COMMENCING ANY EXCAVATION (888-344-7233).
11) THE SUBJECT PARCEL LIES ENTIRELY WITHIN "ZONE C - AREAS OF MINIMAL FLOODING" AS SHOWN ON THE FEMA FLOOD INSURANCE MAP NUMBER 230051 0014 B WITH THE EFFECTIVE DATE JULY 17, 1986.
12) THE SUBJECT PARCEL LIES ENTIRELY WITHIN THE "DOWNTOWN BUSINESS B3" AS SHOWN ON THE CITY OF PORTLAND, MAINE'S ZONING MAP VIEWER.
13) THE OWNER OF LAND ADJOINING ROADS MAY HAVE OWNERSHIP RIGHTS EXTENDING INTO THE ROAD. THIS DOCUMENT DOES NOT INTEND TO LIMIT, DENY, OR LOCATE THESE RIGHTS. THE BOUNDARIES AS SHOWN ARE THE BOUNDARIES DESCRIBED IN THE DEED AND NOT NECESSARILY THE EXTENT OF THE TITLE THAT PASSES BY IMPLICATION OR OPERATION OF LAW.
14) THIS PLAN IS THE RESULT OF A FIELD SURVEY CONDUCTED BY VHB, INC. IN MAY OF 2022 UNDER THE DIRECT SUPERVISION OF DANIEL T. OAKES LICENSED PROFESSIONAL LAND SURVEYOR ME 2549.

Map References

1) "COMMERCIAL STREET, P.I.N. 000555.00, STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, PORTLAND, CUMBERLAND COUNTY, FEDERAL AID PROJECT NO. M-0685 (1)", SHEETS 4 AND 5 OF 7, PREPARED BY MAINE DEPARTMENT OF TRANSPORTATION, DATED AUGUST 1985, LAST REVISED MAY 26, 1988.
2) "A PLAN OF A SURVEY MADE IN PORTLAND AT THE REQUEST OF MR. CHARLES FOX", PREPARED BY E. RUSSEL, SURVEYOR, DATED FEBRUARY 1928. RECORDED WITH CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK1, PAGE 27.
3) "PLAN SHOWING PASSAGEWAY NO. 3", RECORDED WITH CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 93, PAGE 280.
4) "PLAN OF COMMERCIAL & LONG WHARVES SHOWING THEIR DOCK PROPERTY LINES, PORTLAND MAINE", DATED MAY 1875, RECORDED WITH CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 3, PAGE 57
5) "PLAN OF PROPERTY IN PORTLAND, MAINE, MADE FOR CITY OF PORTLAND ACCEPTANCE OF 'WHARF STREET'", PREPARED BY H.I.&E.C. JORDAN - SURVEYORS, DATED DECEMBER 09, 1977, PLAN 609/22. ON FILE WITH THE CITY OF PORTLAND ENGINEERS OFFICE.
6) "PLAN OF PROPERTY IN PORTLAND, MAINE, MADE FOR CITY OF PORTLAND, WHARF ST.", PREPARED BY H.I.&E.C. JORDAN - SURVEYORS, DATED MAY 31, 1978, PLAN 609/23. ON FILE WITH THE CITY OF PORTLAND ENGINEERS OFFICE.
7) "CITY STREET WORKING PLAN WHARF STREET AREA", NOT DATED, ON FILE WITH THE CITY OF PORTLAND ENGINEERS OFFICE.
8) "COMMERCIAL STREET, 4 SHEETS, SHEET NO. 2", DATED JULY 1925, ON FILE WITH THE CITY OF PORTLAND ENGINEERS OFFICE.
9) UNTITLED PLAN 624/2 OF COMMERCIAL STREET, NOT DATED, UNTITLED PLAN OF DANA STREET, DATED FEBRUARY 1925, ON FILE WITH THE CITY OF PORTLAND ENGINEERS OFFICE.
10) "PLAN OF PROPERTY, 185-191 OF COMMERCIAL STREET, PORTLAND, ME. MADE FOR FRANK AKERS, 386 FORE STREET, PORTLAND, MAINE", PREPARED BY R.P. TITCOMB ASSOCIATES, INC. LAND SURVEYORS / ENGINEERS, DATED JULY 26, 1985. ON FILE WITH THE CITY OF PORTLAND ENGINEERS OFFICE.
11) "PLAN OF PROPERTY, COMMERCIAL & MOULTON ST. PORTLAND, ME, JOHN GENDRON", PREPARED BY R.P. TITCOMB ASSOCIATES, INC. LAND SURVEYORS / ENGINEERS, DATED MAY 12, 1986. ON FILE WITH THE CITY OF PORTLAND ENGINEERS OFFICE.
12) "STANDARD BOUNDARY SURVEY ASSESSORS MAP 32, BLOCK U, LOT 3, COMMERCIAL STREET, PORTLAND, MAINE, CUMBERLAND COUNTY", PREPARED BY SURVEY GEODETIC CONSULTANTS, INC, DATED DECEMBER 22, 1999.
13) "CITY OF PORTLAND, MAINE, DEPARTMENT OF PARKS & PUBLIC WORKS, COMMERCIAL STREET SEWER REHABILITATION, FROM MARKET STREET TO SOUTHERLY OF UNION", SHEETS 2 OF 3, DATED AUGUST 1 1985, ON FILE WITH THE CITY OF PORTLAND ENGINEERS OFFICE.
14) "RECONSTRUCTION OF MOULTON, DANA AND WHARF STREET, ARE PLAN - EXISTING CONDITIONS", SHEET 2 AND 4 OF 28, REV C, PREPARED BY EDWARD C. JORDAN CO., INC., DATED MARCH 9, 1979, ON FILE WITH THE CITY OF PORTLAND ENGINEERS OFFICE.
15) "PORTLAND WATER DISTRICT, PORTLAND SEWER SYSTEM, INFILTRATION-INFLOW ANALYSIS, SYSTEM BASE MAPPING", PREPARED BY HUNTER-BALLEW ASSOCIATES, DATED 1981, ON FILE WITH THE CITY OF PORTLAND ENGINEERS OFFICE.



Map References *Continued*

16) "DEPARTMENT OF PUBLIC WORKS, PERMIT NO. P-0550", FIELD NOTES, DATED SEPTEMBER 23, 1980, ON FILE WITH THE CITY OF PORTLAND.
17) CENTRAL MAINE POWER (CMP), 3 PHASE CIRCUITS ONLINE MAP VIEWER. *https://www.arcgis.com/apps/Styler/index.html?appid=efb79ff9e99c448fb6683ad192324375.*

vhb.com
vhb
500 Southborough Drive
Suite 105B
South Portland, ME 04106
207.889.3150

Legend

- DRAIN MANHOLE
- CATCH BASIN
- SEWER MANHOLE
- ELECTRIC MANHOLE
- WATER GATE
- FIRE HYDRANT
- GAS GATE
- BOLLARD
- STREET SIGN
- LIGHT POLE
- F.F.E.=12.01' FINISHED FLOOR ELEVATION
- GRANITE MONUMENT
- CONTROL POINT
- SUBJECT PARCEL
- ABUTTING PARCEL
- RIGHT-OF-WAY
- EOP EDGE OF PAVEMENT
- VGC VERTICAL GRANITE CURB
- FGC FLUSH GRANITE CURB
- GUARD RAIL
- SEWER LINE
- DRAINAGE LINE
- OHW OVERHEAD WIRE
- G GAS LINE
- W WATER LINE
- BUILDING

185 Commercial Street, LLC

865 Spring Street
Westbrook, Maine 04092

No.	Revision	Date	Appvd.
0	ISSUED FINAL	09/27/2022	DTO
1	RE-ISSUED FINAL	09/29/2022	DTO

Drafted by	Checked by
J. Adams	D. Oakes

Issued for: **FINAL** — Date: **September 29, 2022**

NOT FOR CONSTRUCTION

Drawing Title

Boundary Retracement and Existing Conditions of Land Located on Commercial Street, Portland, Maine

Drawing Number: **Sv-1**

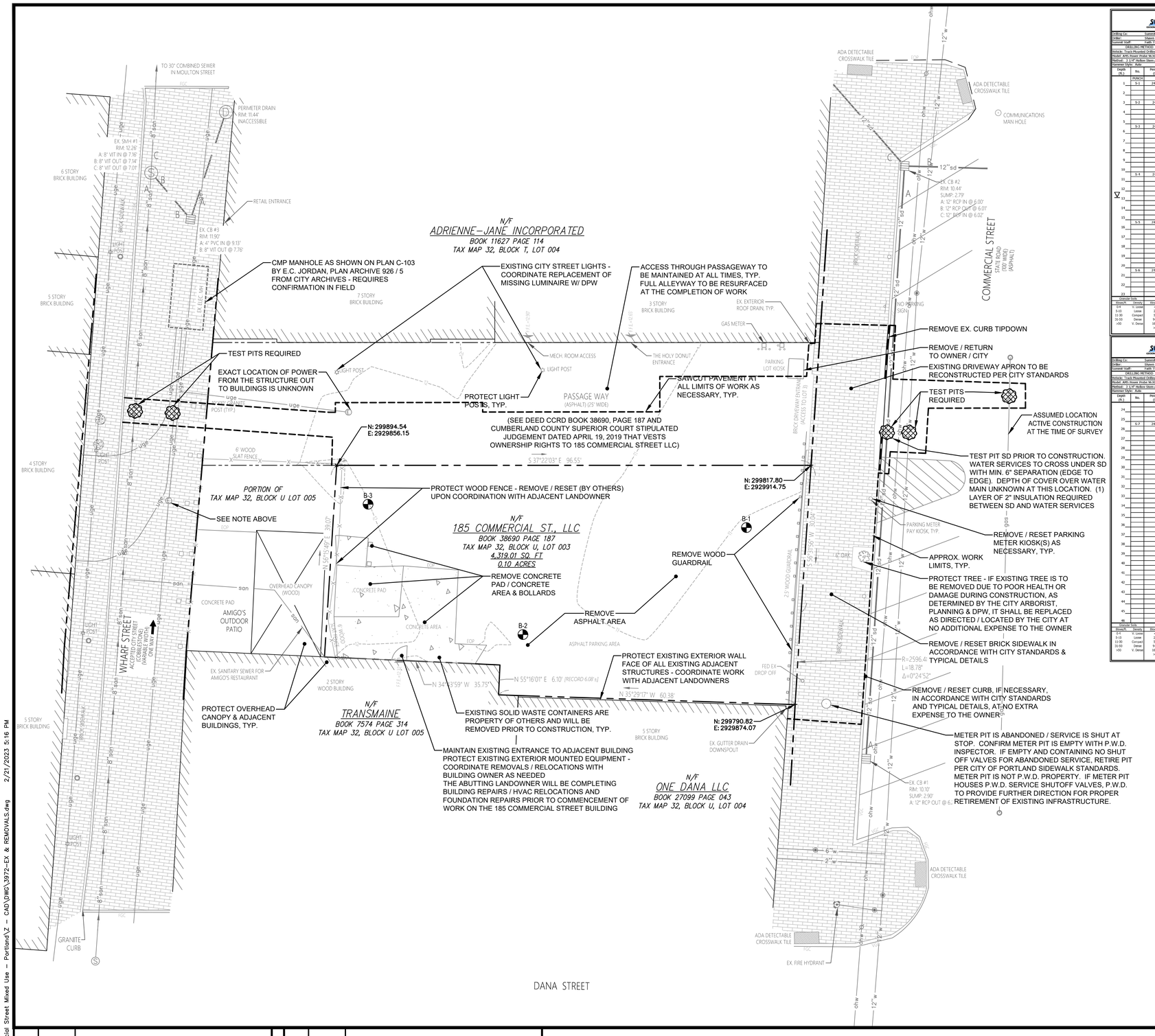
Sheet 1 of 1

Project Number: **55570.00**

STATE OF MAINE
DANIEL T. OAKES
No. 2549
PROFESSIONAL LAND SURVEYOR

DANIEL T. OAKES, PLS 2549 09/29/2022

Saved Thursday, September 29, 2022 10:36:52 AM DOAKES Plotted Thursday, September 29, 2022 10:53:57 AM Dan Oakes



SOIL BORING LOG — B-1

SUMMIT GEOENGINEERING SERVICES

Project:	Multi-Use Building	Boring #:	B-1
Location:	185 Commercial Street	Project #:	22049
City, State:	Portland, Maine	Sheet:	1 of 2
		Chkd by:	WMP

Drilling Co: Summit Geoengineering Services
Driller: Shawn Floyd
General Staff: Faith Thomas, P.E.
Boring Elevation: 13.8 +/-
Reference: *"Standard Boundary Survey" (dated 12/22/1999) by Survey & Geodetic Consultants, Inc*
Date started: 3/24/2022 Date Completed: 3/24/2022

DRILLING METHOD: Vehicle: Track-Mounted Drilling Rig; Model: AMS Power Probe 9630; Method: 2 1/4" Hollow Stem Augers; Hammer Style: Auto
SAMPLER: Length: 24" SS; Diameter: 2"OD/1.5"ID; Hammer: 140 lb; Method: ASTM D1586
ESTIMATED GROUND WATER DEPTH: Elevation (ft +/-)

Date	Depth (ft)	Elevation (ft +/-)	Reference
3/24/2022	12.7	+1.2	Measured at borehole completion

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	Blows/6"	Elev (ft+/-)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	PUNCH		0-0.5					
1	S-1	24/14	0.5-2.5	12	12.8	3" Asphalt; 3" Brown Gravelly SAND, compact, damp, SP.		FILL
2				7		Reclaim Asphalt.		
3				4	9.8	Light brown fine to medium SAND, some Silt, loose Gravel, loose, damp, SP-SM		
4	S-2	24/8	2.5-4.5	4	8.8	Dark brown Gravelly coarse SAND, black Silt, compact, wet, SP		
5				6				
6				5	7.8			
7				4				
8	S-3	24/8	5-7	1	6.8	Brown coarse SAND, some Silt, v. loose, wet, SP		
9				1		Dark brown Silty SAND, some Gravel, v. loose, wet, SM		
10				1	5.8	Dark Gray SILT, w/fine Sand, some wood timber debris, soft, wet, ML		
11				1				
12	S-4	24/0	10-12	1	4.8			
13				WH		*Note: No recovery in split-spoon sample.		
14				WH	3.8			
15				WH		*Note: Very easy drilling from 10-ft to 15-ft.		
16				WH	2.8			
17					2.8			
18					1.8			
19					0.8			
20	S-5	24/14	15-17	2	-0.2	Dark gray SAND, some Silt, frequent wood timber debris, v. loose, wet, SP-SM		
21				2				
22				3	5.8			
23				5	6.8			
24				2	7.8			
25	S-6	24/24	20-22	1		Dark gray Silty SAND, frequent wood timber debris (some red in color) & wire mesh debris, v. loose, wet, SP		REWORKED NATIVE
26				WH	-10.2			
27				WH				
28				1	-11.2			
29					-12.2			

Granular Soils: Blows/ft. | Density | Blows/ft. | Consistency
0-4 | V. Loose | <2 | V. soft
4-10 | Loose | 2-4 | Soft
11-30 | Compact | 5-8 | Firm
31-50 | Dense | 9-15 | V. Stiff
>50 | V. Dense | 16-30 | Stiff
 | | >30 | Hard

Cohesive Soils: Blows/ft. | Consistency | % Composition ASTM D2487
<2 | V. soft | < 5% Trace
2-4 | Soft | 5-10% Little
5-8 | Firm | 15-25% Some
9-15 | Stiff | > 30% With
16-30 | V. Stiff
>30 | Hard

Bedrock Joints: Shallow = 0 to 35 degrees; Dipping = 35 to 55 degrees; Steep = 55 to 90 degrees
Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches; Gravel = < 3 inch and > No 4; Sand = < No 4 and >No 200; Silt/Clay = < No 200

Soil Moisture Condition: Dry: 0 = 0%; Humid: 1 = 1 to 25%; Damp: 2 = 26 to 50%; Moist: 3 = 51 to 75%; Wet: 4 = 76 to 99%; Saturated: 5 = 100%

LL = Liquid Limit, PI = Plastic Index; Pv = Field Vane, Hand Torqued; Pv(r) = Field Vane, Hand Torqued, Remold; PP = Pocket Penetrometer Reading

SOIL BORING LOG — B-1 (con't)

SUMMIT GEOENGINEERING SERVICES

Project:	Multi-Use Building	Boring #:	B-1 (con't)
Location:	185 Commercial Street	Project #:	22049
City, State:	Portland, Maine	Sheet:	2 of 2
		Chkd by:	WMP

Drilling Co: Summit Geoengineering Services
Driller: Shawn Floyd
General Staff: Faith Thomas, P.E.
Boring Elevation: 13.8 +/-
Reference: *"Standard Boundary Survey" (dated 12/22/1999) by Survey & Geodetic Consultants, Inc*
Date started: 3/24/2022 Date Completed: 3/24/2022

DRILLING METHOD: Vehicle: Track-Mounted Drilling Rig; Model: AMS Power Probe 9630; Method: 2 1/4" Hollow Stem Augers; Hammer Style: Auto
SAMPLER: Length: 24" SS; Diameter: 2"OD/1.5"ID; Hammer: 140 lb; Method: ASTM D1586
ESTIMATED GROUND WATER DEPTH: Elevation (ft +/-)

Date	Depth (ft)	Elevation (ft +/-)	Reference
3/24/2022	12.7	+1.2	Measured at borehole completion

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	Blows/6"	Elev (ft+/-)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
24					-13.2			
25	S-7	24/13	25-27	WH		Olive brown Silty CLAY, soft, moist, CL		GLACIAL MARINE
26				1	-13.2		PP = 2.5 - 4.0 tsf	
27				4	-14.2			
28				6	-15.2	*Note: Advanced spear-tip probe with SPT hammer		
29				8	-16.2			
30				10	-17.2			
31				12	-18.2			
32				12	-19.2			
33				12	-20.2			
34				12	-21.2			
35				12	-22.2			
36				11	-23.2			
37				14	-24.2			PROBABLE GLACIAL TILL
38				15	-25.2			
39				43	-26.2			
40				56	-27.2			
41					-28.2	End of Boring at 39-ft, spear tip probe refusal on probable Bedrock		PROBABLE BEDROCK
42								
43								
44								
45								
46								

Granular Soils: Blows/ft. | Density | Blows/ft. | Consistency
0-4 | V. Loose | <2 | V. soft
4-10 | Loose | 2-4 | Soft
11-30 | Compact | 5-8 | Firm
31-50 | Dense | 9-15 | Stiff
>50 | V. Dense | 16-30 | V. Stiff
 | | >30 | Hard

Cohesive Soils: Blows/ft. | Consistency | % Composition ASTM D2487
<2 | V. soft | < 5% Trace
2-4 | Soft | 5-10% Little
5-8 | Firm | 15-25% Some
9-15 | Stiff | > 30% With
16-30 | V. Stiff
>30 | Hard

Bedrock Joints: Shallow = 0 to 35 degrees; Dipping = 35 to 55 degrees; Steep = 55 to 90 degrees
Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches; Gravel = < 3 inch and > No 4; Sand = < No 4 and >No 200; Silt/Clay = < No 200

Soil Moisture Condition: Dry: 0 = 0%; Humid: 1 = 1 to 25%; Damp: 2 = 26 to 50%; Moist: 3 = 51 to 75%; Wet: 4 = 76 to 99%; Saturated: 5 = 100%

LL = Liquid Limit, PI = Plastic Index; Pv = Field Vane, Hand Torqued; Pv(r) = Field Vane, Hand Torqued, Remold; PP = Pocket Penetrometer Reading

SOIL BORING LOG — B-2

SUMMIT GEOENGINEERING SERVICES

Project:	Multi-Use Building	Boring #:	B-2
Location:	185 Commercial Street	Project #:	22049
City, State:	Portland, Maine	Sheet:	1 of 1
		Chkd by:	WMP

Drilling Co: Summit Geoengineering Services
Driller: Shawn Floyd
General Staff: Faith Thomas, P.E.
Boring Elevation: 13.8 +/-
Reference: *"Standard Boundary Survey" (dated 12/22/1999) by Survey & Geodetic Consultants, Inc*
Date started: 3/24/2022 Date Completed: 3/24/2022

DRILLING METHOD: Vehicle: Track-Mounted Drilling Rig; Model: AMS Power Probe 9630; Method: 2 1/4" Hollow Stem Augers; Hammer Style: Auto
SAMPLER: Length: 24" SS; Diameter: 2"OD/1.5"ID; Hammer: 140 lb; Method: ASTM D1586
ESTIMATED GROUND WATER DEPTH: Elevation (ft +/-)

Date	Depth (ft)	Elevation (ft +/-)	Reference
3/24/2022	6.6	4.1	Measured in borehole during drilling

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	Blows/6"	Elev (ft+/-)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	PUNCH		0-0.5					
1	S-1	24/11	0.5-2.5	11	13.0	3" Asphalt; 3" Brown Gravelly SAND, isolated brick, compact, wet, SP.		FILL
2				8		Gravel is brown Gravel, some SAND, little Silt, compact, moist, SP.		
3				5	9.0	Light brown fine SAND, w/Silt, isolated brick debris, compact, moist, SP		
4	S-2	24/9	2.5-4.5	5	8.0	Dark brown SAND, some Gravel, little Silt, some ash debris, compact, moist, SP-SM		
5				3		Brown sandy SAND, some Gravel, little Silt, loose, moist/damp, SP-SM		
6				2	7.0	*Note: Hard drilling from 2-ft to 3.5-ft		
7				2				
8	S-3	24/2	5-7	1	6.0			
9				1		*Note: Spoon noticably bent around subsurface object		
10				1	5.0	Dark brown SILT, some Sand, little Gravel, some ash & brick debris, stiff, damp, ML		
11	S-4	24/4	7-9	10	4.0	Wood timber debris and rock debris		
12				1		*Note: Hard drilling at 8.5-ft, refusal with hollow stem augers on presumed wood timber layer. Removed hollow stem augers and drilled pilot hole with solid stem augers to a depth of 15 ft.		
13				1	3.0			
14				8				
15				6	2.0			
16				5	1.0			
17				5	0.0			
18	S-5	24/4	10.5-12.5	1	0.0	Dark brown SILT, some Sand, frequent wood timber debris, v. soft, wet, ML		
19				WH				
20				WH	-1.0			
21				WH	-1.0			
22	S-6	24/8	12.5-14.5	1	-2.0	Dark brown coarse SAND, some Gravel, frequent wood timber debris, loose, wet, SP		
23				1				
24				7	-3.0	Gray fine SAND, some Silt, compact, damp, SM		
25				7		*Note: Hollow stem augers refusal at 14.7-ft. Offset & advanced solid stem augers, hard drilling at 7.2-ft, wood debris & cuttings 7.9 ft to 8.3 ft.		
26				7	-4.0			
27	S-7	15/12	15-16.2	8	-5.0	Dark brown SAND, some Silt, frequent wood timber debris & wire shells, compact, saturated, SM		
28				9	-5.0			
29				20/2"		Dark gray Sandy GRAVEL, dense, wet, GP		GLACIAL TILL
						End of Boring at 16.2-ft, split spoon refusal on Bedrock		BEDROCK

Granular Soils: Blows/ft. | Density | Blows/ft. | Consistency
0-4 | V. Loose | <2 | V. soft
4-10 | Loose | 2-4 | Soft
11-30 | Compact | 5-8 | Firm
31-50 | Dense | 9-15 | Stiff
>50 | V. Dense | 16-30 | V. Stiff
 | | >30 | Hard

Cohesive Soils: Blows/ft. | Consistency | % Composition ASTM D2487
<2 | V. soft | < 5% Trace
2-4 | Soft | 5-10% Little
5-8 | Firm | 15-25% Some
9-15 | Stiff | > 30% With
16-30 | V. Stiff
>30 | Hard

Bedrock Joints: Shallow = 0 to 35 degrees; Dipping = 35 to 55 degrees; Steep = 55 to 90 degrees
Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches; Gravel = < 3 inch and > No 4; Sand = < No 4 and >No 200; Silt/Clay = < No 200

Soil Moisture Condition: Dry: 0 = 0%; Humid: 1 = 1 to 25%; Damp: 2 = 26 to 50%; Moist: 3 = 51 to 75%; Wet: 4 = 76 to 99%; Saturated: 5 = 100%

LL = Liquid Limit, PI = Plastic Index; Pv = Field Vane, Hand Torqued; Pv(r) = Field Vane, Hand Torqued, Remold; PP = Pocket Penetrometer Reading

SOIL BORING LOG — B-3

SUMMIT GEOENGINEERING SERVICES

Project:	Multi-Use Building	Boring #:	B-3
Location:	185 Commercial Street	Project #:	22049
City, State:	Portland, Maine	Sheet:	1 of 1
		Chkd by:	WMP

Drilling Co: Summit Geoengineering Services
Driller: Shawn Floyd
General Staff: Faith Thomas, P.E.
Boring Elevation: 13.8 +/-
Reference: *"Standard Boundary Survey" (dated 12/22/1999) by Survey & Geodetic Consultants, Inc*
Date started: 3/24/2022 Date Completed: 3/24/2022

DRILLING METHOD: Vehicle: Track-Mounted Drilling Rig; Model: AMS Power Probe 9630; Method: 2 1/4" Hollow Stem Augers; Hammer Style: Auto
SAMPLER: Length: 24" SS; Diameter: 2"OD/1.5"ID; Hammer: 140 lb; Method: ASTM D1586
ESTIMATED GROUND WATER DEPTH: Elevation (ft +/-)

Date	Depth (ft)	Elevation (ft +/-)	Reference
3/24/2022			

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	Blows/6"	Elev (ft+/-)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	PUNCH		0-0.5					
1	S-1	24/13	0.5-2.5	5	11.8	3" Asphalt; 7" Light brown SAND, some Silt, compact, moist, SP.		FILL
2				5		Light brown SAND, some Silt, compact, moist, SP.		
3				5	10.8	Dark brown Silty SAND, some Gravel, loose, damp, SM		
4	S-2	24/13	2.5-4.5	4	9.8	Light brown coarse SAND, some Gravel, some Silt, loose, moist, SM-SP		
5				4				
6	S-3	24/12	5-7	2	8.8	Brown SAND, w/Gravel, some Silt, v. loose, moist, SM		
7				2	7.8	Dark brown Sandy SILT, isolated brick & random asphalt debris, soft, damp, ML		
8				1				
9	S-4	9/4	7-7.7	1	5.8	Dark brown Sandy SILT, frequent wood timber debris, soft, wet, ML		
10				1	4.8	*Note: Cracked rock at bottom of split-spoon sample		
11				25/3"		*Note: Hard drilling from 7.7-ft to 8.3-ft, solid stem auger refusal at 8.3-ft, offset solid stem auger ~4-ft towards Commercial Street, v. hard drilling starting at 10-ft, isolated thick ash bed in cuttings, refusal at 10.1-ft.		GLACIAL TILL
12					3.8			
13					2.8			
14					1.9	End of Boring at 10.1-ft, refusal on probable Bedrock		PROBABLE BEDROCK
15								
16								
17								
18								
19								
20								
21								
22								
23								

Granular Soils: Blows/ft. | Density | Blows/ft. | Consistency
0-4 | V. Loose | <2 | V. soft
4-10 | Loose | 2-4 | Soft
11-30 | Compact | 5-8 | Firm
31-50 | Dense | 9-15 | Stiff
>50 | V. Dense | 16-30 | V. Stiff
 | | >30 | Hard

Cohesive Soils: Blows/ft. | Consistency | % Composition ASTM D2487
<2 | V. soft | < 5% Trace
2-4 | Soft | 5-10% Little
5-8 | Firm | 15-25% Some
9-15 | Stiff | > 30% With
16-30 | V. Stiff
>30 | Hard

Bedrock Joints: Shallow = 0 to 35 degrees; Dipping = 35 to 55 degrees; Steep = 55 to 90 degrees
Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches; Gravel = < 3 inch and > No 4; Sand = < No 4 and >No 200; Silt/Clay = < No 200

Soil Moisture Condition: Dry: 0 = 0%; Humid: 1 = 1 to 25%; Damp: 2 = 26 to 50%; Moist: 3 = 51 to 75%; Wet: 4 = 76 to 99%; Saturated: 5 = 100%

LL = Liquid Limit, PI = Plastic Index; Pv = Field Vane, Hand Torqued; Pv(r) = Field Vane, Hand Torqued, Remold; PP = Pocket Penetrometer Reading

NOTES:

1. HORIZONTAL DATUM IS BASED ON GRID NORTH AND REFER TO MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802, NORTH AMERICAN DATUM OF 1983 (2011), 2010 EPOCH, GEOID 18, US SURVEY FEET, ARE BASED ON GPS OBSERVATIONS PROCESSED USING ONLINE POSITION USER SERVICE (OPUS). ELEVATION DATA SHOWN HEREON IS REFERENCE TO CITY OF PORTLAND DATUM ESTABLISHED ON APRIL 02, 1901 AS ON RECORD WITH THE CITY OF PORTLAND, MAINE DEPARTMENT OF PUBLIC WORKS.
2. BENCHMARK: VHB TO PROVIDE HORIZONTAL & VERTICAL CONTROL POINTS NEAR SITE PRIOR TO CONSTRUCTION.
3. SEE CONSTRUCTION MANAGEMENT PLAN BY PENOBSCOT GENERAL CONTRACTORS FOR LIMITS OF TEMPORARY SIDEWALK CLOSURE DURING CONSTRUCTION.

PLAN REFERENCES:

1. "Boundary Retracement and Existing Conditions of Land Located on Commercial Street, Portland, Maine", sheet Sv-1, by vhb, Project No. 55570.00, Dated 09 / 29 / 2022.

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

STATE OF MAINE — STEPHEN R. BUSHEY — 10.21.23 — LICENSED PROFESSIONAL ENGINEER

STEPHEN R. BUSHEY, P.E. LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
2	2023.02.21	FINAL PLAN SUBMISSION TO CITY
1	2022.09.30	SUBMITTED TO CITY OF PORTLAND FOR PERMITTING

Design: SRB	Draft: CDD	Date: SEPT 2022
Checked: SRB	Scale: AS NOTED	Job No.: 3972
File Name: 3972-EX & REMOVALS.dwg		

This plan shall not be modified without written permission from Gorrill Palmer. Any alterations, authorized or otherwise, shall be at the user's sole risk and without liability to Gorrill Palmer.

GORRILL PALMER
707 Sable Oaks Drive, Suite 30
South Portland, Me 04106
207.772.2515 / www.gorrillpalmer.com
Relationships. Responsiveness. Results.

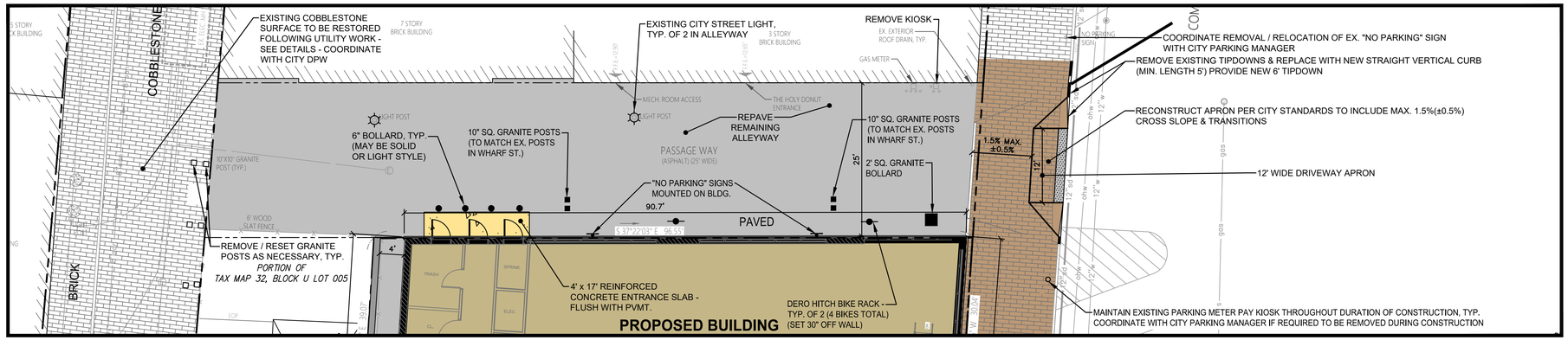
Drawing Name: EXISTING CONDITIONS & REMOVALS PLAN
Project: PROPOSED MIXED-USE BUILDING 185 COMMERCIAL STREET, PORTLAND, MAINE
Client: 185 COMMERCIAL STREET, LLC 865 SPRING STREET, WESTBROOK, MAINE 04092

Drawing No. C-2.0

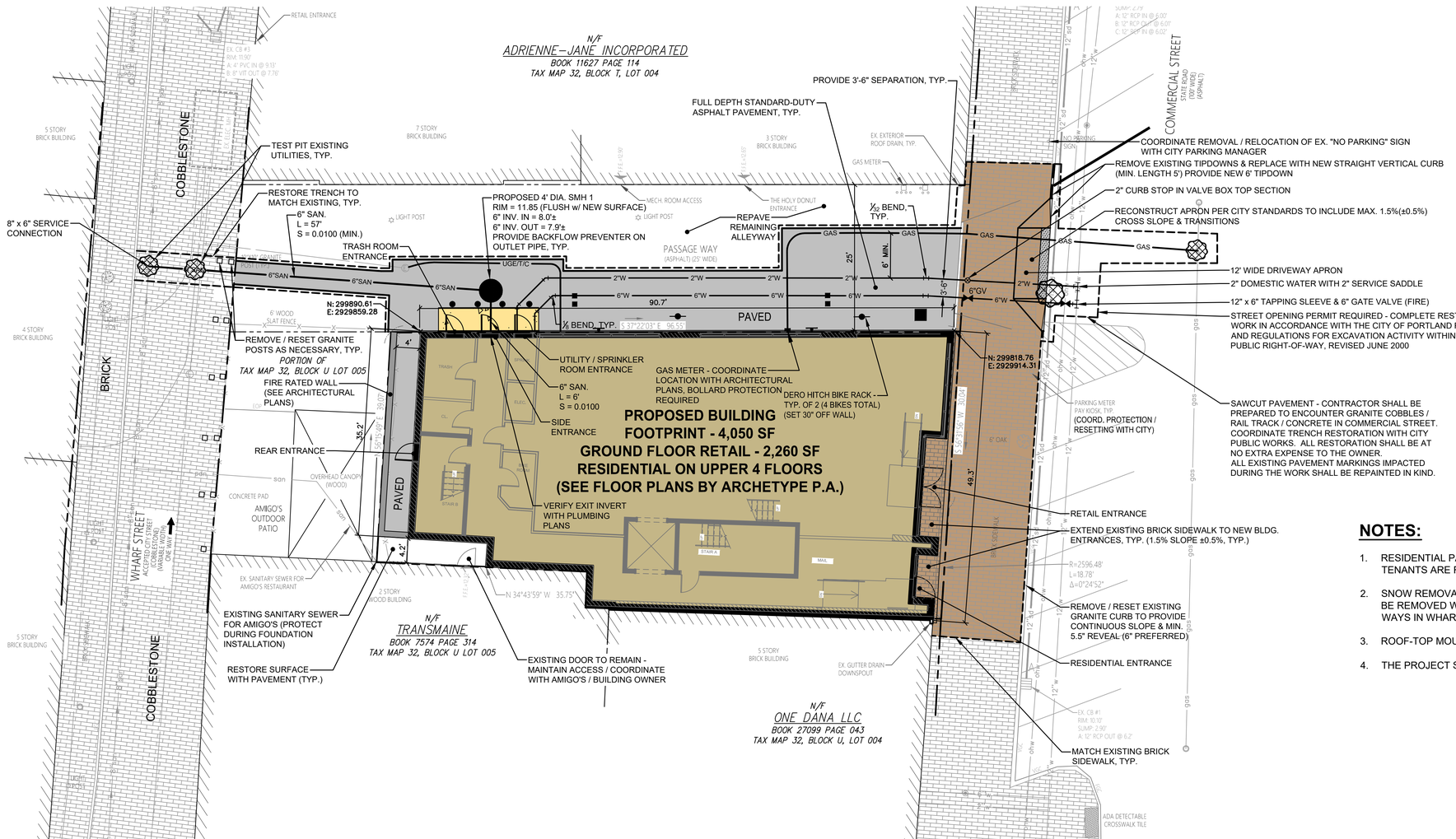
U:\3972 - 185 Commercial Street Mixed Use - Portland\Z - CAD\DWG\3972-EX & REMOVALS.dwg 2/21/2023 5:16 PM

ZONING SPACE & BULK STANDARDS – B3 ZONE

ITEM	REQUIRED	PROVIDED
STREET FRONTAGE (MIN.)	15 FEET	48.82 FEET
FRONT SETBACK (MAX.)	5 FEET	1 FOOT
FLOOR AREA (MAX.)	NONE	4,050 SF (GROUND FLOOR)
LENGTH OF UNDIFFERENTIATED BLANK WALL ALONG PUBLICLY ACCESSIBLE WAY (MAX.)	30 FEET	REFER TO ARCHITECTURAL PLANS
STRUCTURE HEIGHT (MAX.)	65 FEET (DOWNTOWN HEIGHT OVERLAY MAP)	REFER TO ARCHITECTURAL PLANS
IMPERVIOUS SURFACE RATIO	NONE	100%
LOT COVERAGE (MAX.)	NONE	93.8%



ALLEYWAY INSET
SCALE: 1" = 10'



NOTES:

1. RESIDENTIAL PARKING AVAILABLE IN VARIOUS NEARBY PARKING GARAGES. TENANTS ARE RESPONSIBLE FOR THEIR OWN PARKING NEEDS.
2. SNOW REMOVAL IN ALLEYWAY IS THE APPLICANT'S RESPONSIBILITY. SNOW SHALL BE REMOVED WHEN NECESSARY AND SHALL NOT BE PUSHED INTO THE PUBLIC WAYS IN WHARF STREET AND COMMERCIAL STREET.
3. ROOF-TOP MOUNTED HVAC EQUIPMENT SHALL BE SCREENED FROM VIEW.
4. THE PROJECT SHALL BE SUBJECT TO THE PORTLAND TREE FUND ($400 x 4 = $1600).

NORTH

GRAPHIC SCALE
0 5 10 20
1 inch = 10 ft.

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

STATE OF MAINE — STEPHEN R. BUSHEY — 10.21.23 — LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E. LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
2	2023.02.21	FINAL PLAN SUBMISSION TO CITY
1	2022.09.30	SUBMITTED TO CITY OF PORTLAND FOR PERMITTING

Design: SRB	Draft: CDD	Date: SEPT 2022
Checked: SRB	Scale: AS NOTED	Job No.: 3972
File Name: 3972–SITE–UTILITY.dwg		

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South Portland, Me 04106
207.772.2515 / www.gorrillpalmer.com
Relationships. Responsiveness. Results.

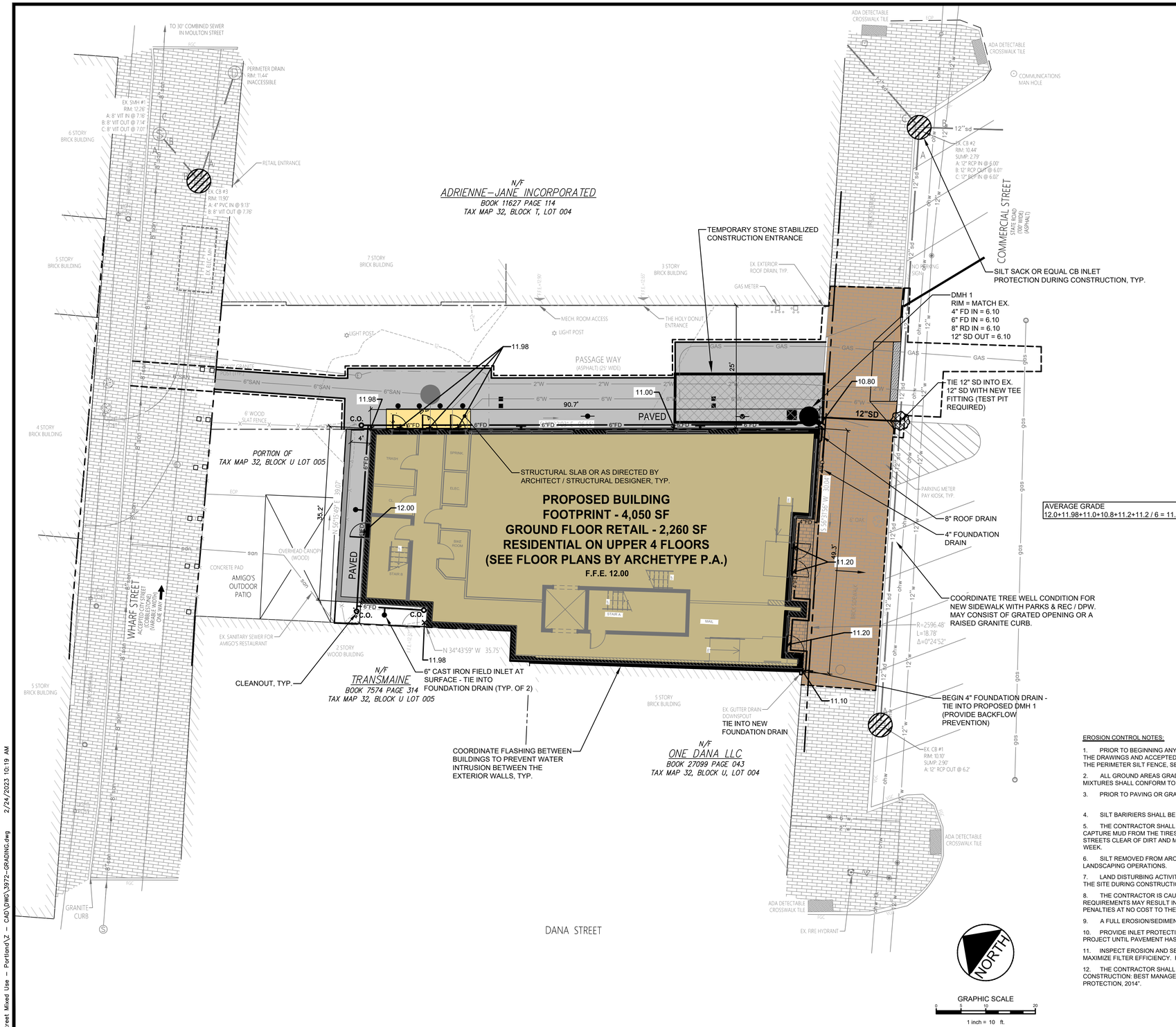
Drawing Name: SITE LAYOUT & UTILITY PLAN

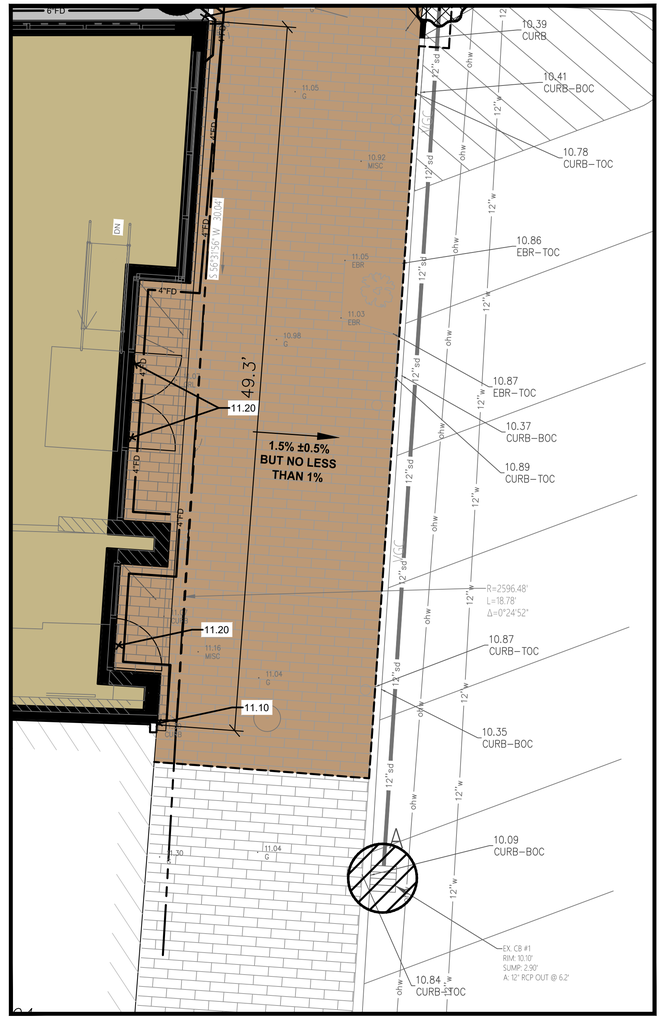
Project: PROPOSED MIXED-USE BUILDING
185 COMMERCIAL STREET, PORTLAND, MAINE

Client: 185 COMMERCIAL STREET, LLC
865 SPRING STREET, WESTBROOK, MAINE 04092

Drawing No. C-3.0

U:\3972 – 185 Commercial Street Mixed Use – Portland\Z – CAD\DWG\3972–SITE–UTILITY.dwg 2/24/2023 10:30 AM





PLAN INSET - 1" = 5'

EROSION CONTROL NOTES:

1. PRIOR TO BEGINNING ANY LAND DISTURBING ACTIVITIES, GRADING LIMITS SHALL BE STAKED BY THE CONTRACTOR BASED ON THE LIMITS OF GRADING SHOWN ON THE DRAWINGS AND ACCEPTED BY THE OWNER'S REPRESENTATIVE IN THE FIELD. AFTER THE GRADING LIMITS HAVE BEEN ACCEPTED, THE CONTRACTOR SHALL INSTALL THE PERIMETER SILT FENCE, SEDIMENT BARRIERS AND THE CONSTRUCTION ENTRANCE ASSOCIATED WITH THE PROJECT.
2. ALL GROUND AREAS GRADED FOR CONSTRUCTION SHALL BE GRADED, LOAMED, SEEDED AND MULCHED AS SOON AS POSSIBLE. TEMPORARY/PERMANENT SEED MIXTURES SHALL CONFORM TO THE SEEDING PLAN CONTAINED IN THE EROSION CONTROL PROJECT PREPARED FOR THIS PROJECT.
3. PRIOR TO PAVING OR GRAVEL PLACEMENT, THE CONTRACTOR SHALL REMOVE SILT FROM ALL STORM LINES AND APPURTANCES.
4. SILT BARIRIERS SHALL BE INSPECTED, REPAIRED AND CLEANED AS NOTED IN THE EROSION CONTROL NOTES SHOWN ON THE EROSION CONTROL DETAIL SHEET.
5. THE CONTRACTOR SHALL REPAIR AND ADD STONE TO THE CONSTRUCTION ENTRANCES AS IT BECOMES SATURATED WITH MUD TO ENSURE THAT IT FUNCTIONS TO CAPTURE MUD FROM THE TIRES OF CONSTRUCTION VEHICLES DURING CONSTRUCTION. THE PURPOSE OF THE CONSTRUCTION ENTRANCE IS TO KEEP ADJACENT STREETS CLEAR OF DIRT AND MUD. SWEEPING OF THE ROADWAYS SHALL BE PERFORMED BY THE CONTRACTOR ON AN AS NEEDED BASIS, BUT AT A MINIMUM ONCE A WEEK.
6. SILT REMOVED FROM AROUND INLETS AND BEHIND THE SILT FENCES SHALL BE PLACED ON A TOPSOIL STOCKPILE AND MIXED INTO TOPSOIL FOR USE IN LANDSCAPING OPERATIONS.
7. LAND DISTURBING ACTIVITIES SHALL BE ACCOMPLISHED IN A MANNER AND SEQUENCE WHICH CAUSE THE LEAST PRACTICAL UNPROTECTED DENUDED AREAS ON THE SITE DURING CONSTRUCTION.
8. THE CONTRACTOR IS CAUTIONED THAT FAILURE TO COMPLY WITH THE SEQUENCE OF CONSTRUCTION, EROSION/SEDIMENT CONTROL PLAN, AND OTHER PERMIT REQUIREMENTS MAY RESULT IN MONETARY PENALTIES AS ENFORCED BY THE MEDEP OR LOCAL AGENCIES. THE CONTRACTOR SHALL BE ASSESSED ALL SUCH PENALTIES AT NO COST TO THE OWNER OR PERMITTEE.
9. A FULL EROSION/SEDIMENTATION CONTROL PLAN ACCOMPANIES THIS DRAWING SET AND IS ALSO CONTAINED IN THE DIV 312513 SPECIFICATIONS.
10. PROVIDE INLET PROTECTION BARRIERS AROUND ALL EXISTING AND PROPOSED STORM DRAINAGE INLETS AS SHOWN AND MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED.
11. INSPECT EROSION AND SEDIMENT CONTROL DEVICES AFTER EACH RAIN STORM OF 0.25 INCHES OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE FILTER EFFICIENCY. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 OF THE STRUCTURE HEIGHT.
12. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES, CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT AND MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, 2014".

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

STATE OF MAINE STEPHEN R. BUSHEY 10.21.23 LICENSED PROFESSIONAL ENGINEER

STEPHEN R. BUSHEY, P.E. LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
2	2023.02.21	FINAL PLAN SUBMISSION TO CITY
1	2022.09.30	SUBMITTED TO CITY OF PORTLAND FOR PERMITTING

Design: SRB	Draft: CDD	Date: SEPT 2022
Checked: SRB	Scale: AS NOTED	Job No.: 3972
File Name: 3972–GRADING.dwg		

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South Portland, Me 04106
207.772.2515 / www.gorrillpalmer.com
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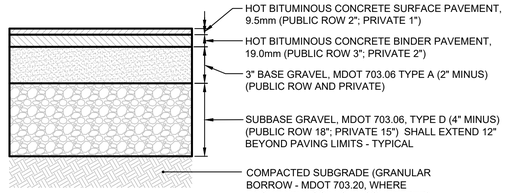
Drawing Name: GRADING, DRAINAGE & EROSION CONTROL PLAN

Project: PROPOSED MIXED-USE BUILDING
185 COMMERCIAL STREET, PORTLAND, MAINE

Client: 185 COMMERCIAL STREET, LLC
865 SPRING STREET, WESTBROOK, MAINE 04092

Drawing No. C-4.0

U:\3972 – 185 Commercial Street Mixed Use – Portland\Z – CAD\DWG\3972–GRADING.dwg 2/24/2023 10:19 AM



NOTES:

1. APPLY TACK COAT BETWEEN BINDER AND SURFACE COURSES.
2. ALL MATERIALS SHALL CONFORM TO MDOT SPECIFICATIONS, LATEST REVISION AND/OR CITY OF PORTLAND TECHNICAL STANDARD, WHICHEVER IS MORE STRINGENT. COMPACTION OF ALL MATERIALS TO BE IN ACCORDANCE WITH THE MDOT STANDARD SPECIFICATIONS.
3. CONTRACTOR TO VERIFY TRENCH RESTORATION SECTION IN COMMERCIAL STREET WITH THE PUBLIC WORKS DEPARTMENT PRIOR TO ANY EXCAVATION.

(A) BITUMINOUS CONCRETE PAVEMENT SECTION
N.T.S.

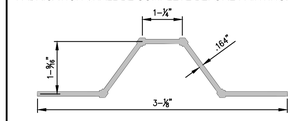
LENGTH: AS REQUIRED

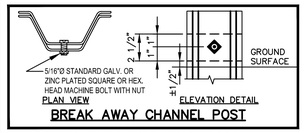
WEIGHT PER LINEAR FOOT: 2.50 LBS. MIN.

HOLES: ⅜" DIAMETER, 1" C-C FULL LENGTH

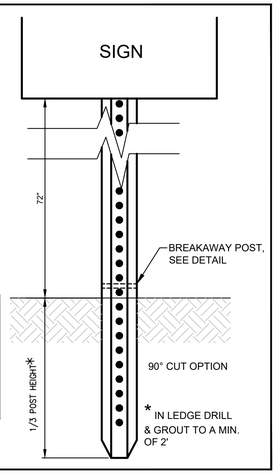
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASSTM A-576 (GRADE 1070 - 1080)

FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED MEDIUM GREEN BAKED ON OR AIR DRIED, PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

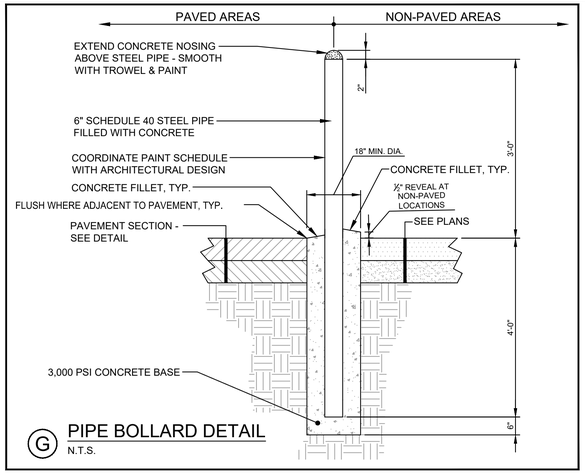




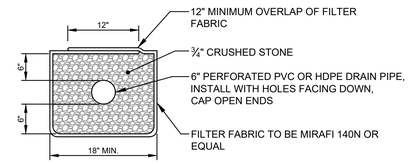
BREAK AWAY CHANNEL POST



(D) U-CHANNEL METAL SIGN POST
N.T.S.

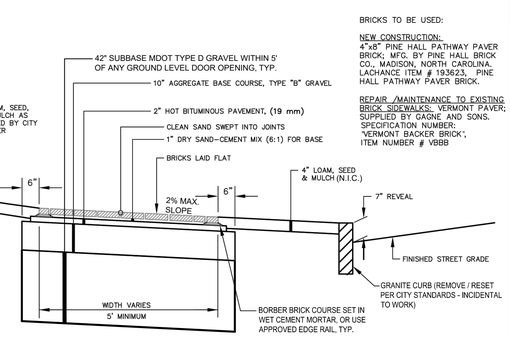


(G) PIPE BOLLARD DETAIL
N.T.S.



NOTE:
LOCATIONS AS NOTED ON PLANS - COORDINATE WITH ARCHITECTURAL AND / OR STRUCTURAL PLANS.

(J) TYPICAL FOUNDATION DRAIN DETAIL
N.T.S.



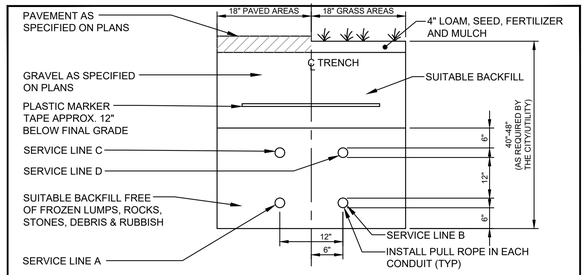
BRICKS TO BE USED:

NEW CONSTRUCTION:
4"x8" PINE HALL PATHWAY PAVER BRICK; MFG. BY PINE HALL BRICK CO., MADISON, NORTH CAROLINA. LAGHANCE ITEM # 193623. PINE HALL PATHWAY PAVER BRICK.

REPAIR /MAINTENANCE TO EXISTING BRICK SIDEWALKS: VERMONT PAVER; SUPPLIED BY GAGNE AND SONS. SPECIFICATION NUMBER: "VERMONT BACKER BRICK", ITEM NUMBER # VBBB

(B) BRICK SIDEWALK WITH BITUMINOUS BASE
N.T.S.

AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"



CONDUIT TYPE

SERVICE	CONDUIT SIZE	GRASS AREAS	PAVED AREAS	UTILITY	REMARKS
A	2-6"	SCHEDULE 40 PVC ELECTRICAL GRADE	RIGID GALVANIZED STEEL, ASTM A120*	POWER	SEE NOTE
B	2-4"	SCHEDULE 40 PVC	RIGID GALVANIZED STEEL, ASTM A120*	TELEPHONE	SEE NOTE
C	2-4"	SCHEDULE 40 PVC	RIGID GALVANIZED STEEL, ASTM A120*	COMMUNICATION	SEE NOTE
D	2-4"	SCHEDULE 40 PVC	RIGID GALVANIZED STEEL, ASTM A120*	SPARES	SEE NOTE

*AS REQUIRED BY CITY/UTILITY

NOTES:
1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10' ABOVE GRADE AT POLE WITH STAND-OFF BRACKETS. COORDINATE WITH ELECTRICAL SITE PLANS BY E.S. BOULOS.
2. IN CITY RIGHT OF WAY, CONDUITS TO HAVE 36" MIN. COVER AND BE ENCASED WITH MIN. 3" CONCRETE ON ALL SIDES.

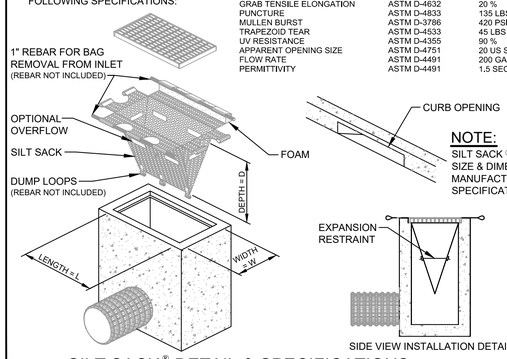
(E) UTILITY TRENCH - PRIMARY ELEC., TEL. & COMM.
N.T.S.

NOTE: THE SILT SACK ® WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

HIGH-FLOW SILT SACK ® (FOR USE IN LOW POINTS/SAGS)

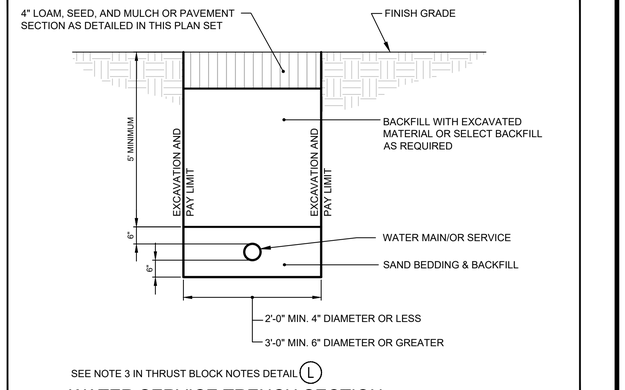
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1



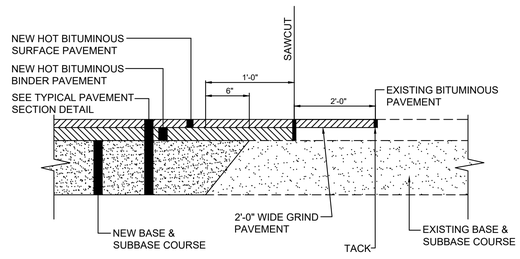
NOTE:
SILT SACK ® SIZE & DIMENSIONS PER MANUFACTURER'S SPECIFICATIONS.

(H) SILT SACK® DETAIL & SPECIFICATIONS
N.T.S.



SEE NOTE 3 IN THRUST BLOCK NOTES DETAIL (L)

(K) WATER SERVICE TRENCH SECTION
N.T.S.



NOTES:

1. USE THIS DETAIL FOR THE RADIUS FILLET AT THE DRIVEWAY ENTRANCE TO THE PUBLIC STREETS OR TO MATCH PARKING LOT/DRIVE PAVEMENTS WHERE WIDENING OF EXISTING PAVEMENT AREA IS REQUIRED.
2. WHERE SURFACE PAVEMENT HAS NOT BEEN INSTALLED, THE 2'-0" WIDE GRIND IS NOT REQUIRED.

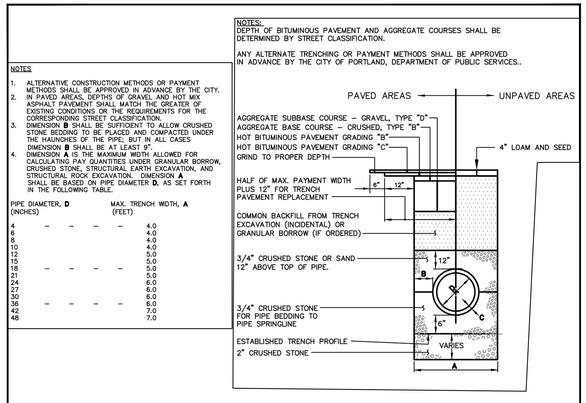
(C) PAVEMENT SAWCUT DETAIL
N.T.S.

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

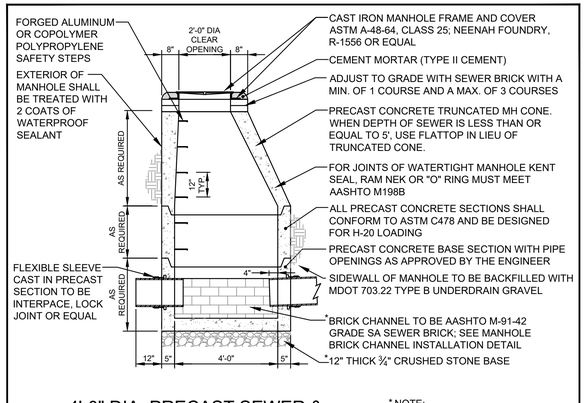
NOTES:
DEPTH OF BITUMINOUS PAVEMENT AND AGGREGATE COURSES SHALL BE DETERMINED BY STREET CLASSIFICATION.

ANY ALTERNATE TRENCHING OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY OF PORTLAND, DEPARTMENT OF PUBLIC SERVICES..



(F) TYPICAL PIPE TRENCH INSTALLATION AND NOTES
N.T.S.

AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"



(I) 4'-0" DIA. PRECAST SEWER & STORM DRAIN MANHOLE DETAIL
N.T.S.

*NOTE:
CHANNEL MAY ALSO BE A PREFABRICATED FIBERLINER 2000 CHANNEL AS FABRICATED BY GDT, INC. OF ESSEX, CT OR EQUAL

1. INSTALL POLY BARRIER BETWEEN PIPE AND ALL THRUST BLOCKS.
2. ANY MODIFICATION TO THRUST BLOCK SIZING OR PIPE RESTRAINT REVISIONS SHALL BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO IMPLEMENTATION IN THE FIELD.
3. ANY WORK RELATING TO WATER PIPING OR DETAILS SHALL BE IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT SPECIFICATIONS.
4. ALL RESTRAINED JOINTS MUST HAVE GRIPRING™.

BEARING SURFACE REQUIRED IN SQUARE FEET

PIPE SIZE	1/32 BEND	1/16 BEND	⅛ BEND	¼ BEND	TEES/CAPS
6" / 8"	5.0	5.0	5.0	6.5	5.0
12"	11.5	11.5	11.5	20.0	22.0

(L) THRUST BLOCK NOTES
N.T.S.

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

STATE OF MAINE — STEPHEN R. BUSHEY — 02.21.23 — LICENSED PROFESSIONAL ENGINEER

STEPHEN R. BUSHEY, P.E. LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
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Design: SRB	Draft: CDD	Date: SEPT 2022
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File Name: 3972–DETAILS.dwg		

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707 Sable Oaks Drive, Suite 30
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Relationships. Responsiveness. Results.

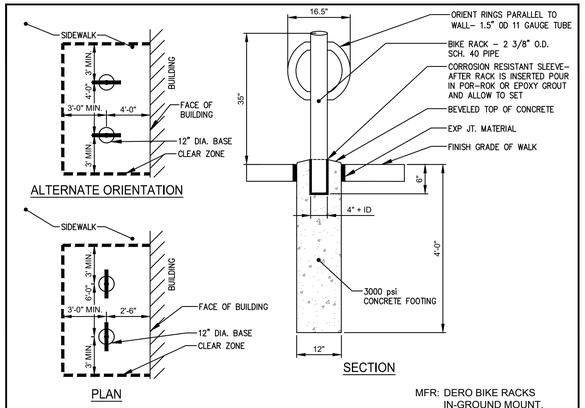
Drawing Name: SITE & MISCELLANEOUS DETAILS

Project: PROPOSED MIXED-USE BUILDING
185 COMMERCIAL STREET, PORTLAND, MAINE

Client: 185 COMMERCIAL STREET, LLC
865 SPRING STREET, WESTBROOK, MAINE 04092

Drawing No. C-5.0

U:\3972 - 185 Commercial Street Mixed Use - Portland\Z - CAD\DWG\3972-DETAILS.dwg 2/21/2023 5:23 PM

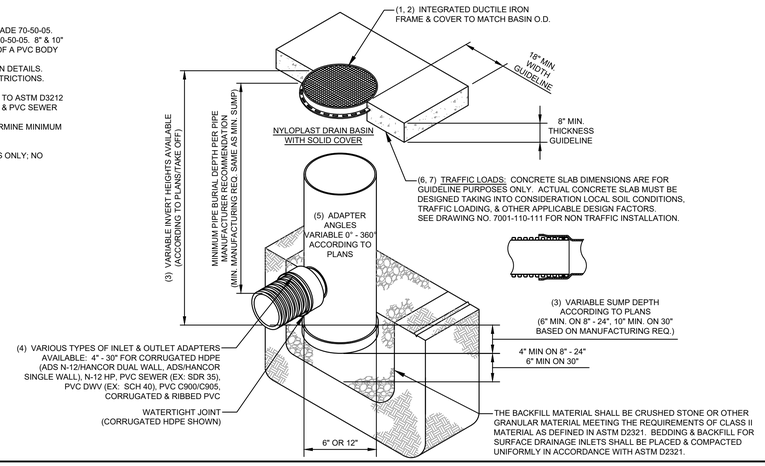


MFR: DERO BIKE RACKS
IN-GROUND MOUNT.
POWDER COAT FINISH
COLOR: BLACK
www.dero.com
1-800-298-4915

Ⓐ BIKE HITCH MOUNTING DETAIL
N.T.S.

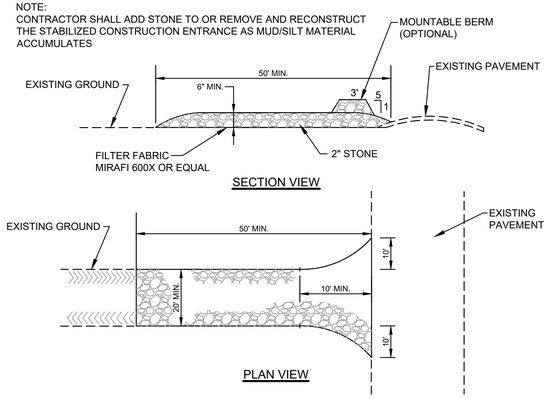
NOTES

1. 8" - 30" SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2. 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05. 8" & 10" SOLID COVERS FIT DIRECTLY ONTO DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 24").
5. ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6. 12" - 30" SOLID COVERS SHALL MEET H-20 LOAD RATING.
7. 8" & 10" SOLID COVERS ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY; NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING.

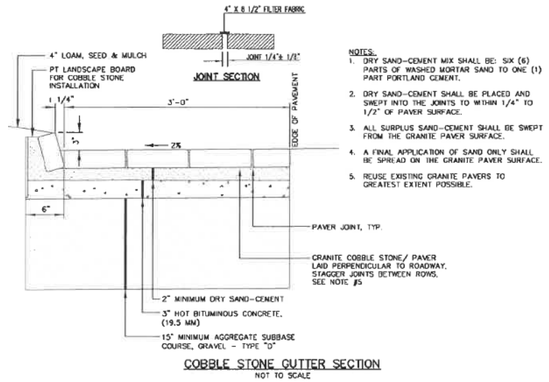


Ⓓ NYLOPLAST DRAIN BASIN
N.T.S.

NOTE:
CONTRACTOR SHALL ADD STONE TO OR REMOVE AND RECONSTRUCT THE STABILIZED CONSTRUCTION ENTRANCE AS MUD/SILT MATERIAL ACCUMULATES

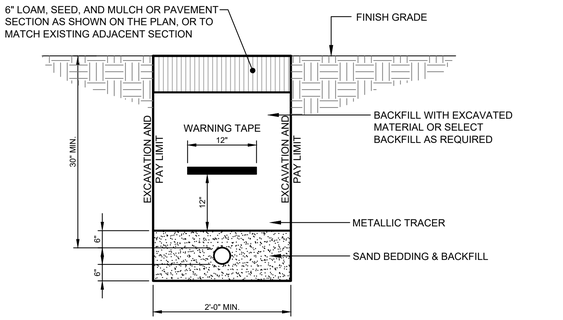


Ⓑ STABILIZED CONSTRUCTION ENTRANCE DETAIL
N.T.S.



NOTES.
1. DRY SAND-CEMENT MIX SHALL BE: SIX (6) PARTS OF WASHED MORTAR SAND TO ONE (1) PART PORTLAND CEMENT.
2. DRY SAND-CEMENT SHALL BE PLACED AND SWEPT INTO THE JOINTS TO WITHIN 1/4" TO 1/2" OF PAVER SURFACE.
3. ALL SURPLUS SAND-CEMENT SHALL BE SWEPT FROM THE GRANITE PAVER SURFACE.
4. A FINAL APPLICATION OF SAND ONLY SHALL BE SPREAD ON THE GRANITE PAVER SURFACE.
5. REUSE EXISTING GRANITE PAVERS TO GREATEST EXTENT POSSIBLE.

COBBLE STONE GUTTER SECTION
NOT TO SCALE



NOTE:
GAS LINE TO BE INSTALLED BY OTHERS. GAS LINE INSTALLATION TO BE COORDINATED WITH THE LOCAL GAS UTILITY COMPANY, AND SHALL COMPLY WITH ITS STANDARDS. SITE CONTRACTOR IS RESPONSIBLE FOR EXCAVATION AND BACKFILL OF THE GAS LINE AND PLACEMENT OF THE WARNING TAPES AND TRACER.

Ⓒ GAS SERVICE TRENCH SECTION
N.T.S.

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

STATE OF MAINE
STEPHEN R. BUSHEY
02.21.23
LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E.
LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
2	2023.02.21	FINAL PLAN SUBMISSION TO CITY
1	2022.09.30	SUBMITTED TO CITY OF PORTLAND FOR PERMITTING

Design: SRB	Draft: CDD	Date: SEPT 2022
Checked: SRB	Scale: AS NOTED	Job No.: 3972
File Name: 3972-DETAILS.dwg		

This plan shall not be modified without written permission from Gorrill Palmer. Any alterations, authorized or otherwise, shall be at the user's sole risk and without liability to Gorrill Palmer.

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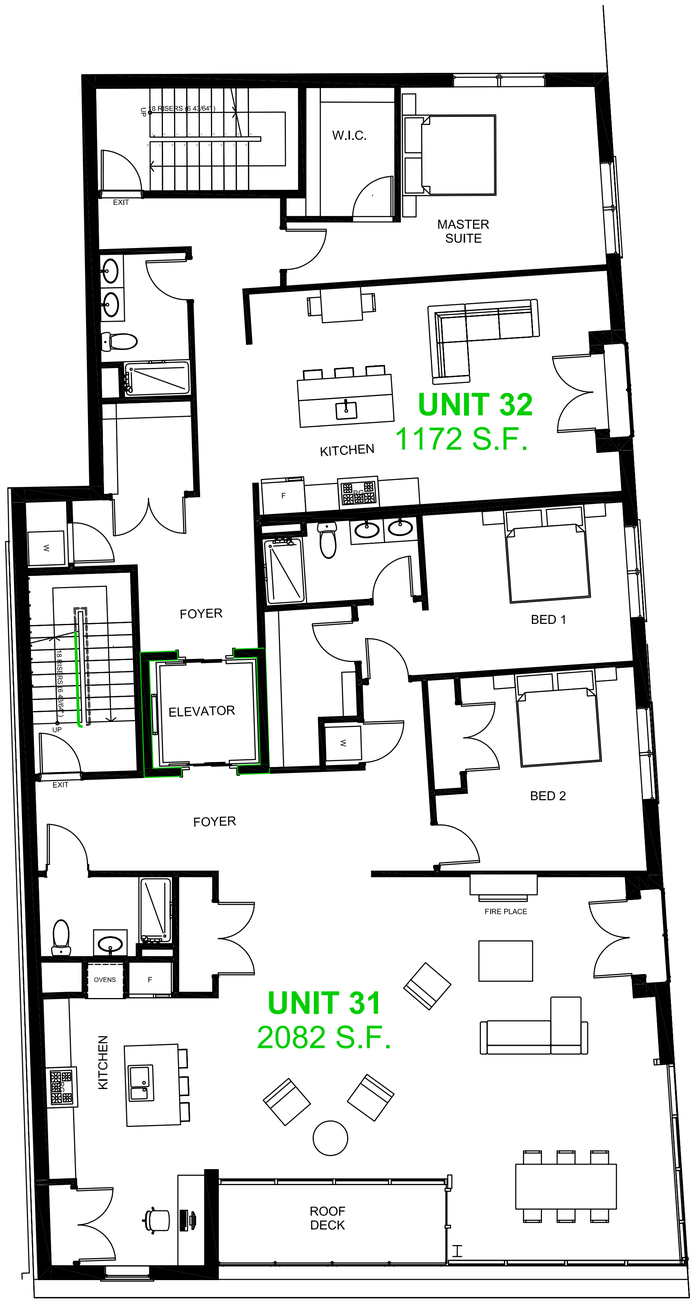
707 Sable Oaks Drive, Suite 30
South Portland, Me 04106
207.772.2515 / www.gorrillpalmer.com
Relationships. Responsiveness. Results.

Drawing Name: SITE & MISCELLANEOUS DETAILS
Project: PROPOSED MIXED-USE BUILDING
185 COMMERCIAL STREET, PORTLAND, MAINE
Client: 185 COMMERCIAL STREET, LLC
865 SPRING STREET, WESTBROOK, MAINE 04092

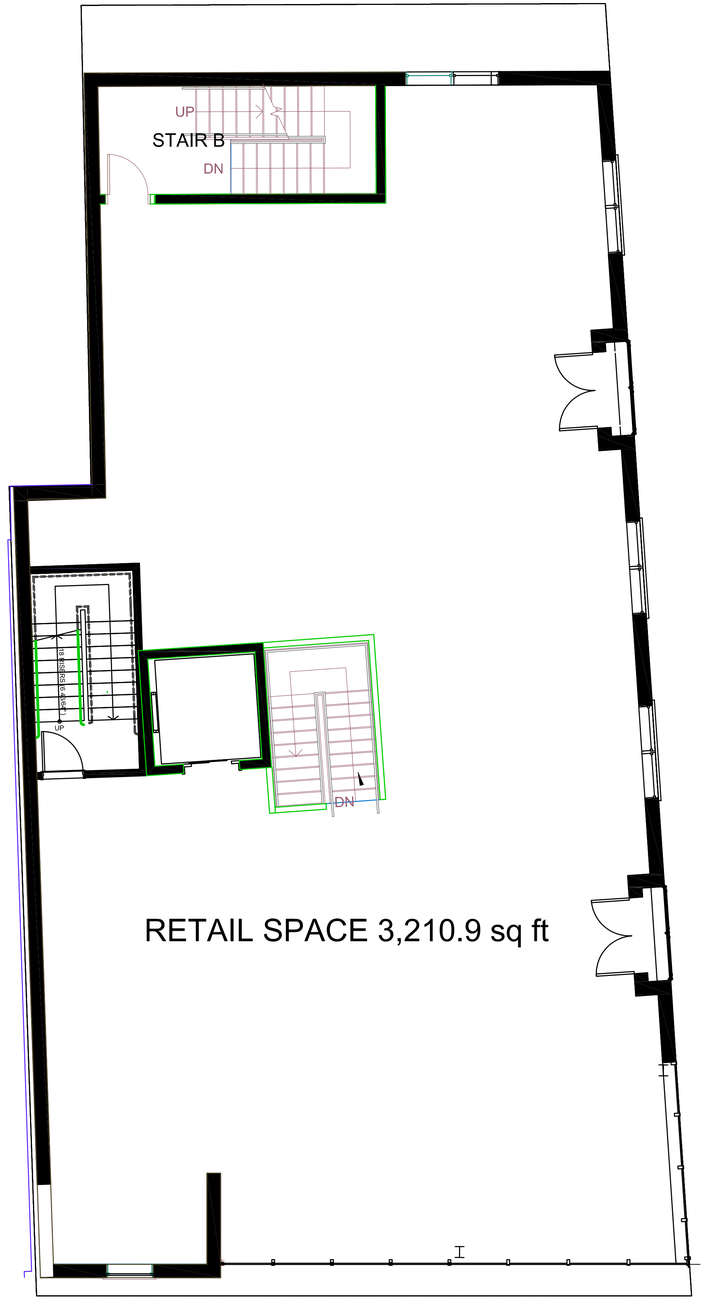
Drawing No. C-5.1

U:\3972 - 185 Commercial Street Mixed Use - Portland\Z - CAD\DWG\3972-DETAILS.dwg 2/21/2023 5:23 PM



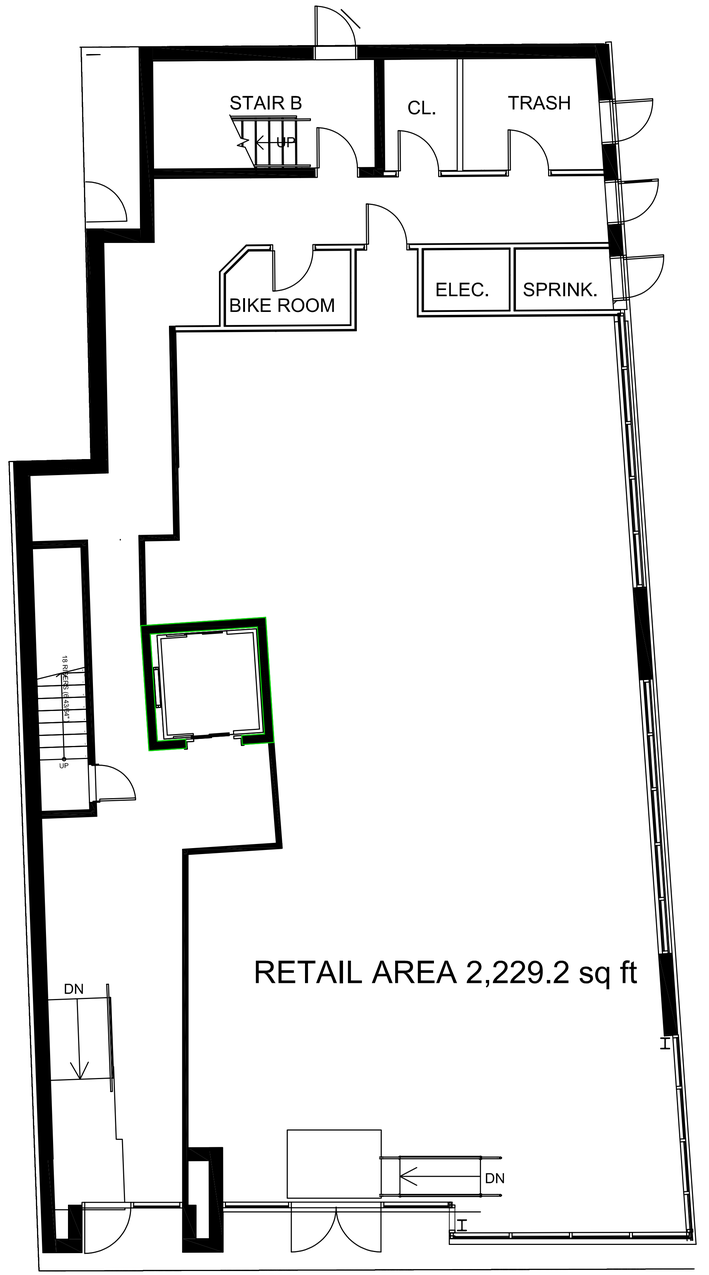
3 UPPER FLOOR PLAN

SCALE: 3/16" = 1'-0"



2 SECOND FLOOR PLAN

SCALE: 3/16" = 1'-0"



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SCALE: 3/16" = 1'-0"

People's United Bank
STARBUCKS COFFEE

AA®5450 Ultra Thermal Window

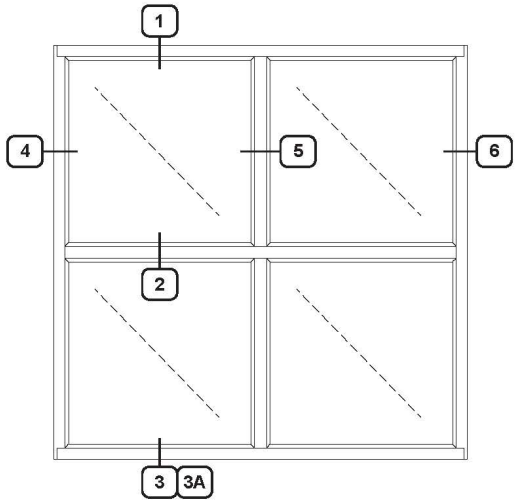
MARCH, 2022

FIXED WINDOW - BEVEL FACE

EC 97911-266

Additional information and CAD details are available at www.kawneer.com

AA®5450 FIXED WINDOW (1" Double Glazed)



TYPICAL ELEVATION
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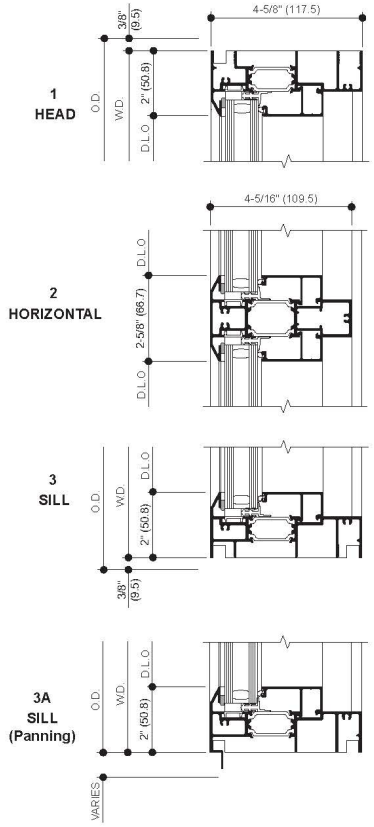

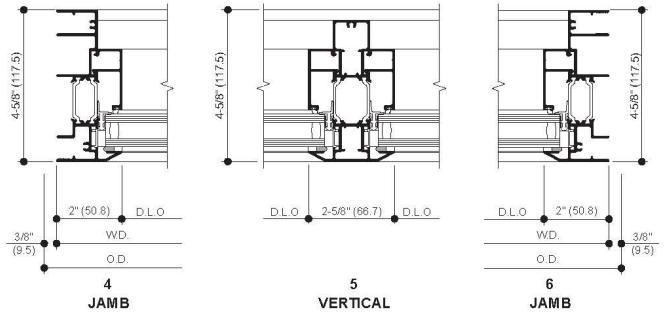

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AESTHETICS

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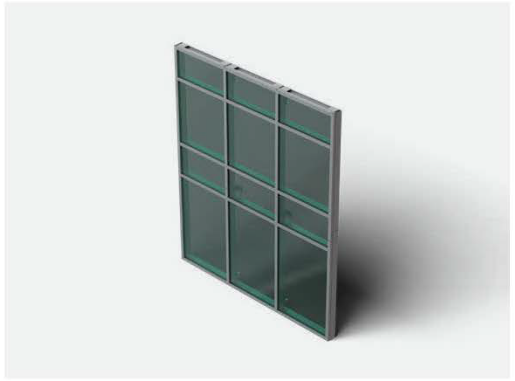
PERFORMANCE TEST STANDARDS	
Air Infiltration	ASTM E283; TAS 202, AAMA 501
Water Infiltration	ASTM E547, E331; AMA 501
Severe Wind-Driven Rain	AAMA 520
Structural - Uniform Wind Load	ASTM E330; AAMA 501
Thermal Transmittance-U-Factor	NFRC 100, AAMA 1503, 507
Condensation Resistance (CRF, I, CR)	AAMA 1503: CSA A440: NFRC 500
Solar Heat Gain (SHGC), Visual Light Transmission (VT)	AMA 507; NFRC 200
Acoustical (STC & OITC)	ASTM E90, E1425; AAMA 1801
Seismic Performance	AMA 501.4. AAMA 501.6
Blast	AST F1642, UFC 4-010-01
Impact / hurricane	ASTM E1886, ASTM E1996, TAS 201, 202, 203

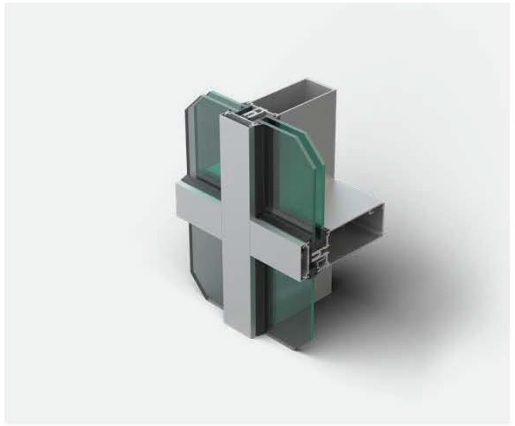
FOR THE FINISHING TOUCH

Architectural Class I anodized aluminum finishes are available in clear and Permanodic™ color choices.

Painted finishes, including fluoropolymer, that meet AAMA 2605 are offered in many standard choices and an unlimited number of specially designed colors.

Solvent-free powder coatings enhance sustainability and deliver high performance, durability and scratch resistance that meet the standards of AAMA 2604.





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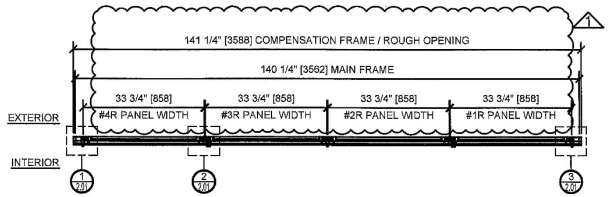
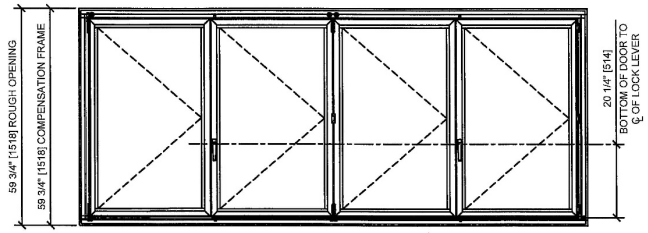
Form Number 17-2220.C

Technology Park/Atlanta
555 Guthridge Court
Norcross, GA 30092
770.449.5555 TEL
www.kawneer.com

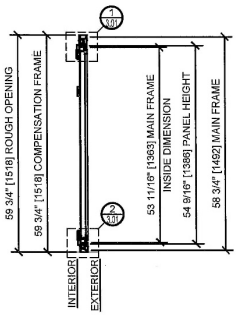
* CUSTOMER COORDINATION REQUIRED FOR SPLICE LOCATIONS ON OPENINGS GREATER THAN 252"



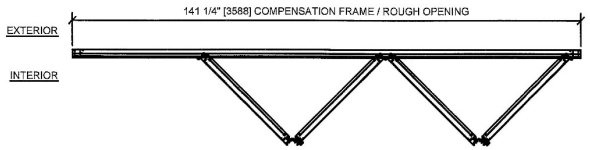
OPENING PLAN VIEW (CLOSED)



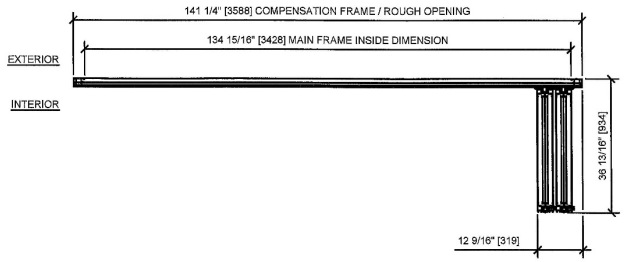
OPENING ELEVATION (INTERIOR)



SECTION



OPENING PLAN VIEW (PARTIALLY OPEN)



OPENING PLAN VIEW (OPEN)

* NOMINAL GLASS SETTING BLOCKS HAVE BEEN INSTALLED IN ALL 4 (FOUR) CORNERS OF EACH MONTEREY PANEL. ADDITIONAL VARYING THICKNESS, CORNER BLOCKS ARE SHIPPED LOOSE WITH MONTEREY SYSTEMS. THESE CORNER BLOCKS ARE TO BE USED BY GLASS INSTALLER TO ACHIEVE PROPER BLOCKAGE WITHIN PANEL FRAMES.

MONTEREY DOOR CONFIGURATION

[redacted]

SYSTEM:	S55
FRAME & PANEL FINISH:	STANDARD KYNAR COLOR UC70570
HARDWARE FINISH:	BLACK POWDER COAT
SILL:	RAISED
SWING:	IN
GLAZING:	1" INSULATED (1/4"x1/2"x1/4") BY OTHERS
QTY:	2 (TWO) THUS
ACTIVE DOOR:	2 POINT INTERIOR LEVER LATCHES ONLY, NO EXTERIOR ACCESS WHEN CLOSED AND LATCHED

Drawn by

Rev #	Date	
0	10-14-20	VM
1	10-22-20	VM
2		
3		
4		
5		
6		

CRL®
A CRH COMPANY
2503 E. Vernon Avenue, Los Angeles, CA 90058-1807
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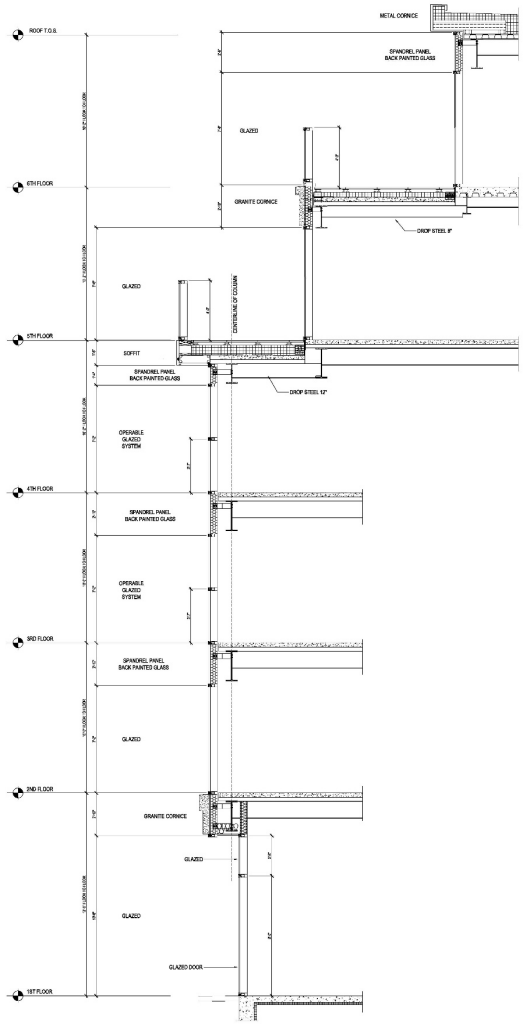
Architect :
Phone :
Fax :
Contact :

Job Name : [redacted]
Phone :
Fax :
Contact :

Customer: VM
865 SPRING ST.
WESTBROOK, ME. 04092
Phone 207-879-7800
Fax 207-774-3982
Contact SHAWN BREEN

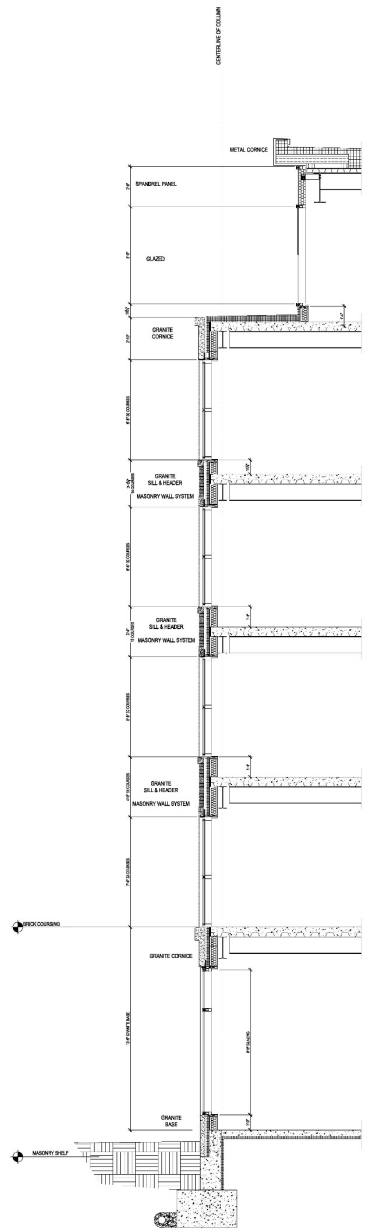
Drawn By	: VM
Checked By	: SM
Date	10-14-2020
Scale	AS NOTED
[redacted]	

Sheet No.
1.01



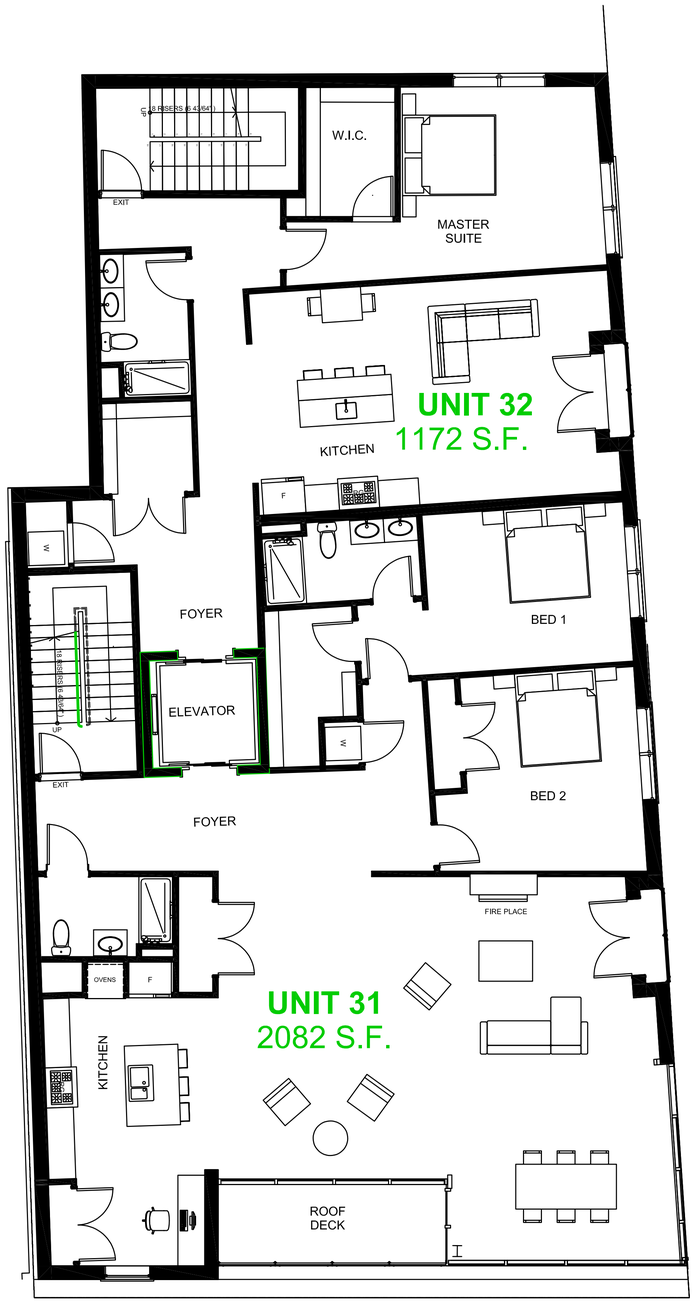
1 WALL SECTION THRU, GLASS WALL
3/8" = 1'-0"

A3.31	Date: AUGUST 2022	Scale: AS NOTED	Revisions:	Project: 185 COMMERCIAL STREET, PORTLAND, MAINE	Architect: 49 Union Wharf Portland, Maine 04101 207.772.6932 archeyes@archeyes.com	Consultant:	Prepared For:
	WALL SECTION @ CURTAINWALL						



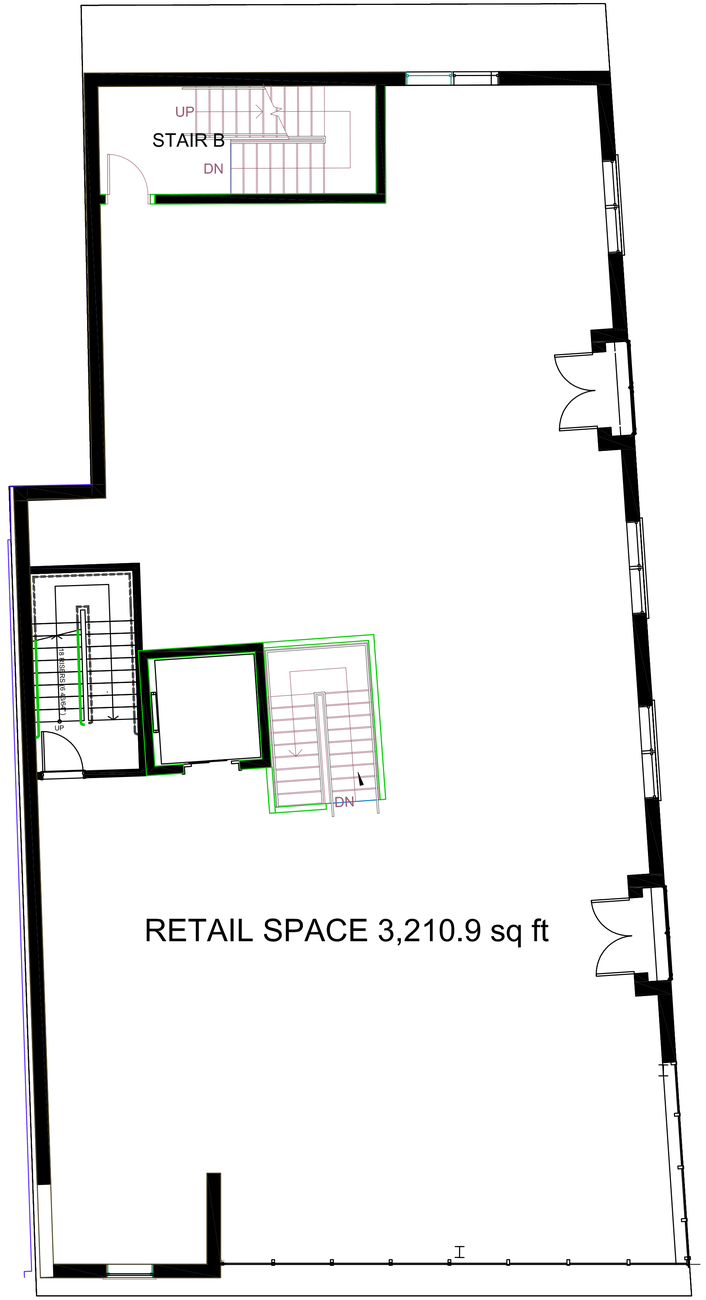
1 WALL SECTION THRU, BRICK WALL
3/8" = 1'-0"

A3.32	Date: AUGUST 2022	Scale: AS NOTED	Revisions:	Project: 185 COMMERCIAL STREET, PORTLAND, MAINE	Architect: 49 Union Wharf Portland, Maine 04101 207.772.6932 archeyes@archeyes.com	Consultant:	Prepared For:
	WALL SECTION @ MASONRY WALL						



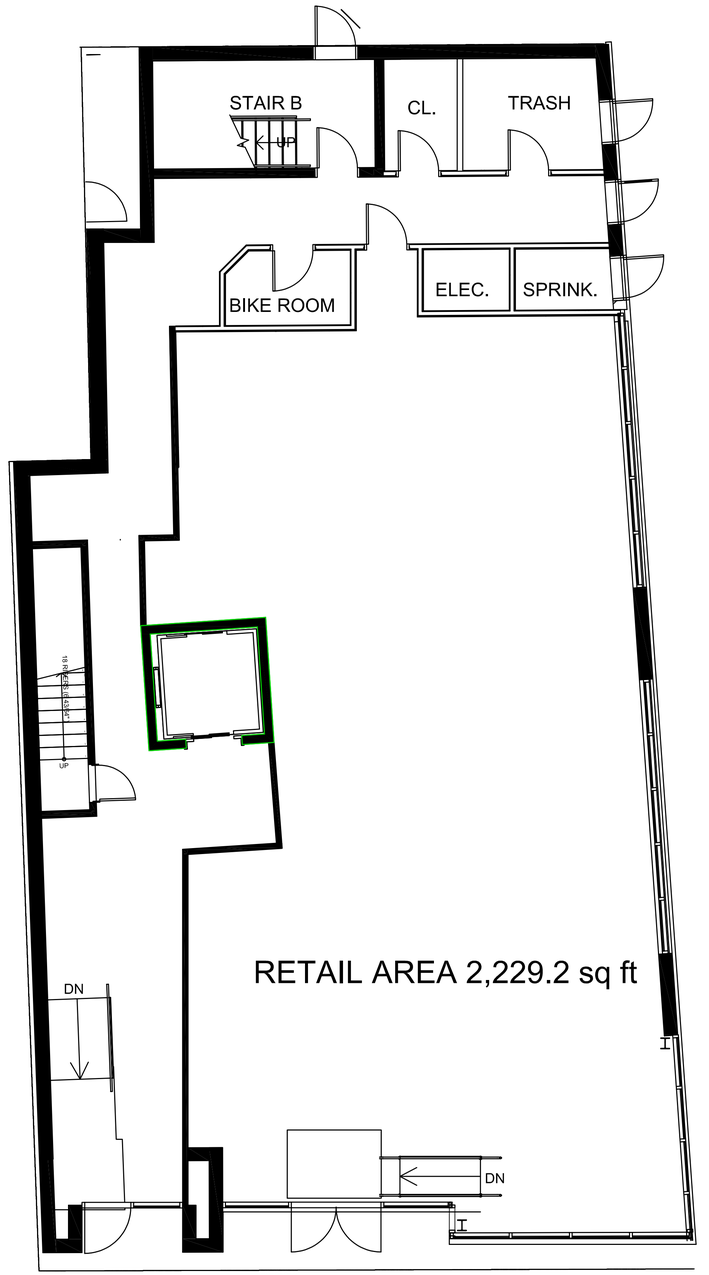
3 UPPER FLOOR PLAN

SCALE: 3/16" = 1'-0"



2 SECOND FLOOR PLAN

SCALE: 3/16" = 1'-0"



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STARBUCKS COFFEE

AA®5450 Ultra Thermal Window

FIXED WINDOW - BEVEL FACE

MARCH, 2022

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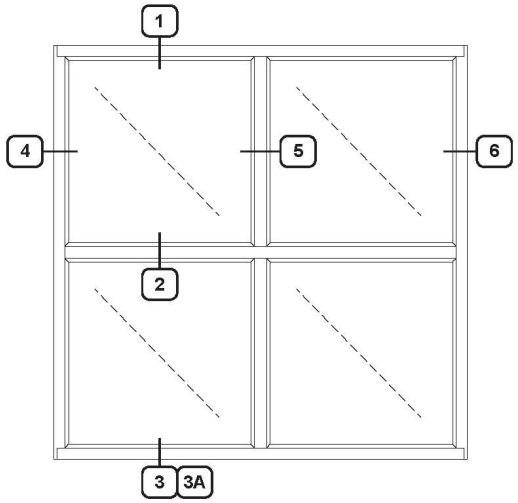

TYPICAL ELEVATION
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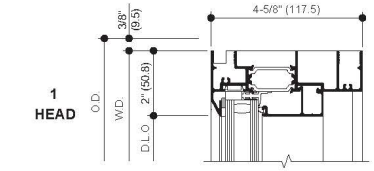

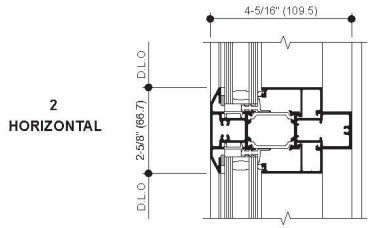

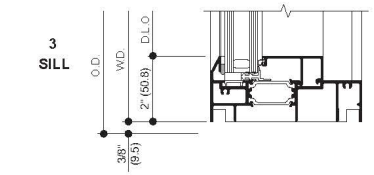

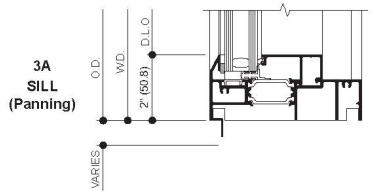

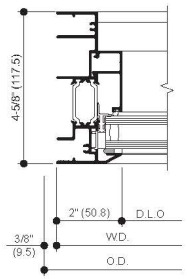

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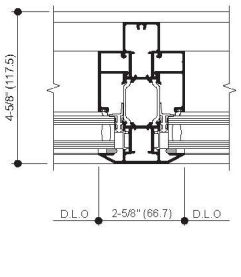
JAMB



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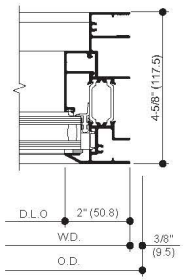
VERTICAL



6
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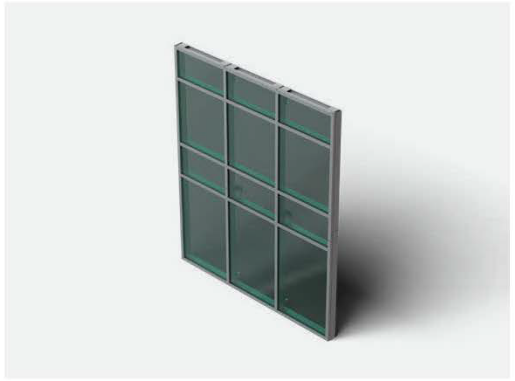

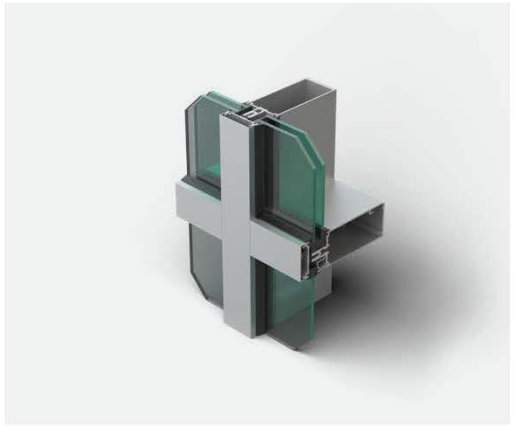

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Form Number 17-2220.C

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555 Guthridge Court
Norcross, GA 30092
770.449.5555 TEL
www.kawneer.com

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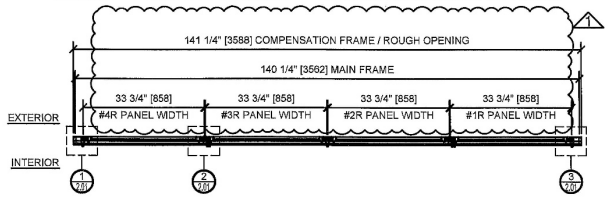
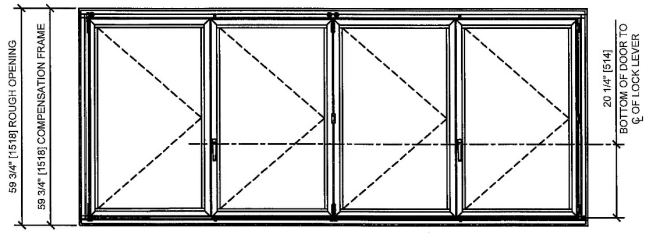
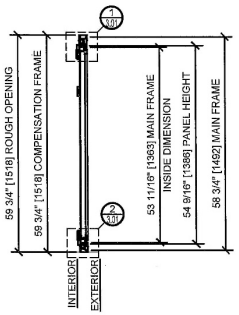


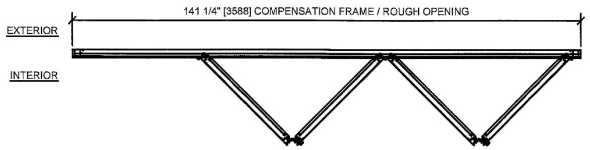
OPENING PLAN VIEW (CLOSED)



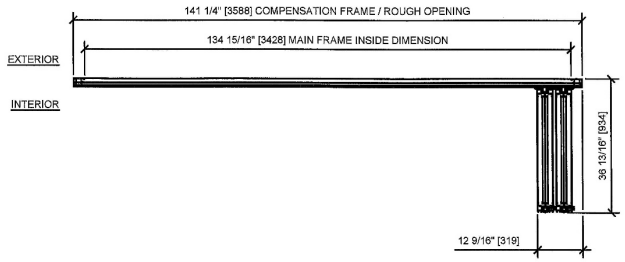
OPENING ELEVATION (INTERIOR)



SECTION



OPENING PLAN VIEW (PARTIALLY OPEN)



OPENING PLAN VIEW (OPEN)

* NOMINAL GLASS SETTING BLOCKS HAVE BEEN INSTALLED IN ALL 4 (FOUR) CORNERS OF EACH MONTEREY PANEL. ADDITIONAL VARYING THICKNESS, CORNER BLOCKS ARE SHIPPED LOOSE WITH MONTEREY SYSTEMS. THESE CORNER BLOCKS ARE TO BE USED BY GLASS INSTALLER TO ACHIEVE PROPER BLOCKAGE WITHIN PANEL FRAMES.

MONTEREY DOOR CONFIGURATION

[redacted]

SYSTEM:	S55
FRAME & PANEL FINISH:	STANDARD KYNAR COLOR UC70570
HARDWARE FINISH:	BLACK POWDER COAT
SILL:	RAISED
SWING:	IN
GLAZING:	1" INSULATED (1/4"x1/2"x1/4") BY OTHERS
QTY:	2 (TWO) THUS
ACTIVE DOOR:	2 POINT INTERIOR LEVER LATCHES ONLY, NO EXTERIOR ACCESS WHEN CLOSED AND LATCHED

Drawn by

Rev #	Date	
0	10-14-20	VM
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Architect :
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Phone :
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Contact :

Customer: [redacted]
865 SPRING ST.
WESTBROOK, ME. 04092
Phone 207-879-7800
Fax 207-774-3982
Contact SHAWN BREEN

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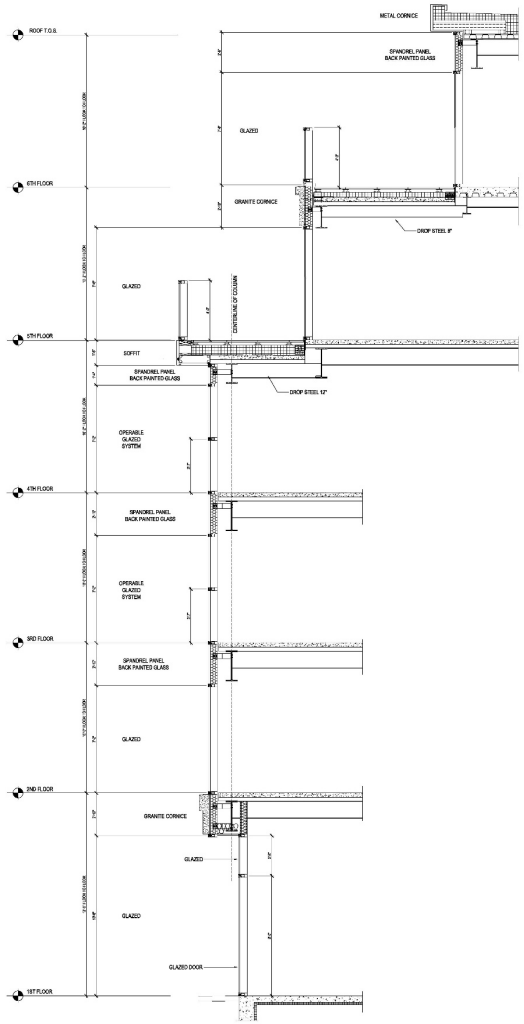
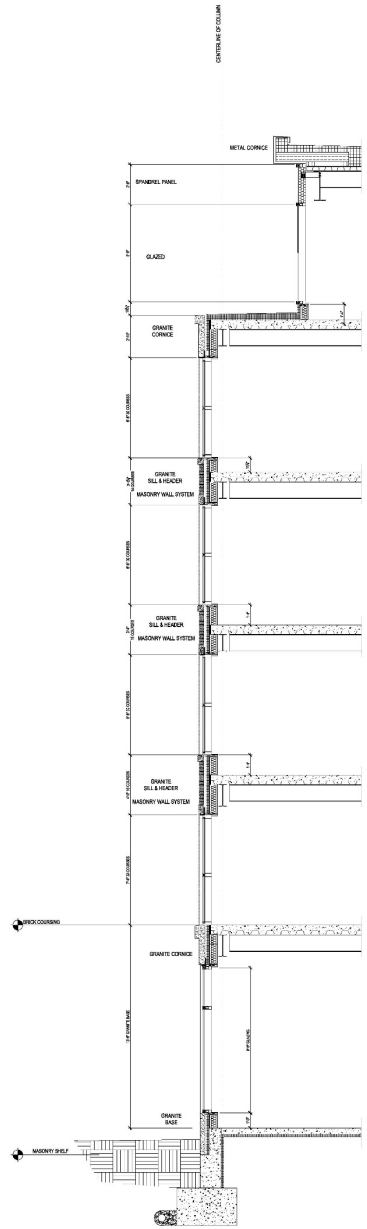


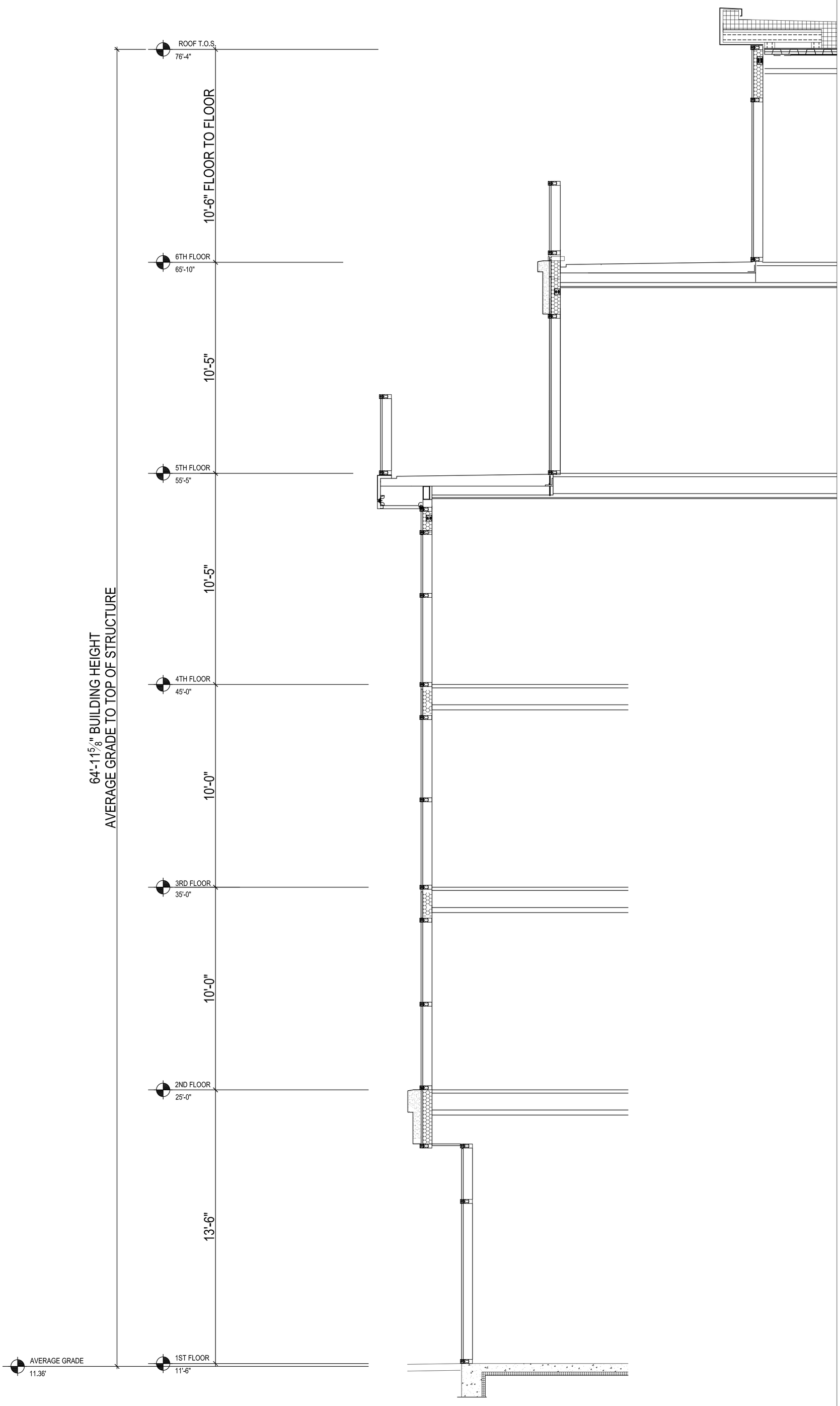
1 WALL SECTION THRU, GLASS WALL
3/8" = 1'-0"

A3.31	Date: AUGUST 2022	Scale: AS NOTED	Revisions:	Project: 185 COMMERCIAL STREET, PORTLAND, MAINE	Architect: 49 Union Wharf Portland, Maine 04101 207.772.6932 archeyes@archeyes.com	Consultant:	Prepared For:
	WALL SECTION @ CURTAINWALL						



1 WALL SECTION THRU, BRICK WALL
3/8" = 1'-0"

A3.32	Date: AUGUST 2022	Scale: AS NOTED	Revisions:	Project: 185 COMMERCIAL STREET, PORTLAND, MAINE	Architect: 49 Union Wharf Portland, Maine 04101 207.772.6932 archeyes@archeyes.com	Consultant:	Prepared For:
	WALL SECTION @ MASONRY WALL						



1 WALL SECTION THRU BRICK WALL
3/8" = 1'-0"

A3.32

Date: AUGUST 2022
Scale: AS NOTED

WALL SECTION @
MASONRY WALL

Revisions:

Project:
185 COMMERCIAL STREET
PORTLAND, MAINE

Architect:
48 Union Wharf Portland, Maine 04101
207.772.6022 archetype@archetypepa.com

Consultant:

Prepared For:

To:	Chair Stanley & Members of the Planning Board
From:	Sean King, Urban Designer
Date:	February 24, 2023
Re:	Lambert Woods Housing Development
Project ID:	PL-002078-2022; CU-002083-2022
CBL:	385 A001001
Meeting Date:	February 28, 2023

I. INTRODUCTION

Maine Cooperative Development Partners have submitted a Major Site Plan and Inclusionary Zoning Conditional Use application to facilitate construction of **fourteen** new residential buildings totaling **125,338** square feet of floor area and creating **162** affordable residential units at 165 Lambert Street. The site is located in the North Deering neighborhood and within the R-3 Residential zone.

Figure 1: Development Site

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 and Inclusionary Zoning Conditional Use Standards, Section 18.2.3. Since the previous Planning Board workshops, held on August 9, 2022 & October 11, 2022, the applicant has submitted revised plans and documents on February 2, 2023 that included changes to reduce the number of dwelling units from 165 to 162, removal of the townhouse building type, rearrangement of buildings, updates to the landscape, material, and grading plans, public street design modifications and the preservation of trees within the development's limit of work area.

The Planning and Urban Development Department mailed 261 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the February 17th and 18th editions of the *Portland Press Herald.*

Applicants:	Liz Trice, Maine Cooperative Development Partners
Engineer:	Sam Lebel, Acorn Engineering
Architects:	Phil Kaplan, Kaplan Thompson Architects
Landscape Architect:	Nick Aceto, Aceto Landscape Architects

Figure 2: Aerial View of Site (facing north)

II. REQUIRED REVIEWS

Review	*Applicable Standards*
Site Plan	Section 14.6
Inclusionary Zoning Conditional Use	Section 18.2.3
Design Review	City of Portland Design Manual Section (h) Planned Residential Unit Development (PRUD)

Waiver Requests	*Applicable Standards*
Request: To reduce drive aisle width from 24 feet to 22 feet.	Technical Manual, Section 1.7.2.3 & 1.14.3.: Drive aisle and parking lot layout shall provide a minimum drive aisle of 24 feet.
Request: To reduce the 100' stream buffer to minimize natural resource impacts to the greatest extent feasible with a compact site design.	Technical Manual 8.2.1: For developments located adjacent to perennial streams, a minimum one-hundred foot buffer strip on either side of the stream should be maintained.
Request: To waive the sidewalk installation requirement along the property's Lambert Street frontage	Land Use Code 14.6.1.B.3.a: All development shall provide sidewalks along all frontages.
Request: To impact a portion (6,139 sf total) of wetland area to preserve higher value wetlands located adjacent to existing stream and to increase residential density on site.	Technical Manual 8.2 Standards: Design the development to minimize wetland impacts by either avoiding direct wetland impacts or minimizing them when they are unavoidable.
Request: To provide (2) driveways at the south site and (1) driveway at the north site.	Technical Manual 1.7.2.8: No more that (2) driveways shall be permitted for ingress and egress purposes to any residential (with 10 or more parking spaces) site.

III. PROJECT DATA

Existing Zoning	R-3 Residential
Property Size	17.95 acres
Existing Use	Vacant Lot
Proposed Use	Planned Residential Unit Development (PRUD), Multi-family housing

	Existing	*Proposed*	*Net Change*
Dwelling Units	0	*162 units*	*+162 units*
Building Footprint	0	48,496 SF	+48,496 SF
Building Floor Area	0	125,338 SF	+125,338 SF
Impervious Surface Area	0	112,810 SF	+112,810 SF
Parking Spaces	0	65	+65
Bicycle Parking Spaces	0	64	+64
EV Charging Stations	0	13	+13

IV. BACKGROUND

A. RFP for Disposition of 165 Lambert Street

In 2020, the City of Portland released an RFP to dispose of two separate City-owned properties, with the property at 165 Lambert divided by Washington Avenue Extension. (Attachment A11). The criteria for consideration centered around the ability to provide high quality, age inclusive, mixed income affordable homeownership or rental housing that should be integrated within the environmental value of the property.

The RFP identified the current R-2 Residential zoning, which allows single-family detached dwelling units, as an impediment to a future buildout of this site for affordable housing development and recommended a rezoning may be necessary for the property to accommodate higher density that further City goals to increase the overall supply of housing city-wide.

On December 21, 2020, the City Council approved the sale of the property (Resolve 140-20/21) located at 165 Lambert Street to Maine Cooperative Development Partners LLC based on a recommendation from the City Council's Housing Committee to market the property to help meet the City's goals of constructing affordable housing.

B. Purchase and Sales Agreement for 165 Lambert Street

On January 4th, 2021 & May 10th, 2022 the applicant entered into a Purchase and Sale agreement with the City and conducted an Environmental Site Assessment to define the existing wetlands on the property site. The sale is contingent upon a number of conditions, one of which requires a 25-month due diligence period, so the transfer of the property from the City to the applicant is expected to occur no later than June of 2024.

The agreement specifies additional contingencies that include financing obligation, rezoning (R-3 approved July 19, 2021), development restrictions on existing wetlands, creation of no less than (44) forty-four dwelling units with total units not to exceed 100% AMI being deed restricted for affordability.

C. Zoning Map Amendment

On June 8th, 2021 the Planning Board unanimously recommended to the City Council a Zoning Map Amendment to rezone the site from an R-2 zone to an R-3 zone as well as Zoning Text Amendments to

allow vertical or horizontal unit configurations within PRUDs, to amend the definition of 'Neighborhood Center' to allow food-service as part of a neighborhood center, and to simplify requirements for common open space requirements associated with PRUDs to include passive and active recreation, including natural, landscaped or hardscaped elements. On June 19th, 2021 the City Council approved the Zoning Map Amendment (Order 302-20/21) and Zoning Text Amendments (Order 303-20/21).

V. EXISTING CONDITIONS AND SURROUNDING AREA

The subject property is addressed as 622 Auburn Street and 165 Lambert Street and is bisected by Washington Avenue Extension, which is classified as a major collector. Washington Avenue Extension was originally constructed to accommodate car and truck traffic to connect the Riverside community and industrial uses with access to I-95. Washington Avenue Extension currently lacks sidewalks and includes a single travel lane with a shoulder in each direction. The property is bounded by City roadways Auburn Street & Lambert Street and bordered by single-family residential abutting the property on all sides. The existing site is 17.95 acres in size, currently vacant and entirely forested, with **5.15 acres** of delineated wetlands.

The site is located along existing METRO service (routes 9A, 9B) at Washington Avenue Extension that connects to Portland center in either direction. The surrounding context of the neighborhood has a suburban character of lower density with the majority of housing being single-family on lot sizes ranging from .25 – 1 acre being primarily zoned either R-2 or R-3 Residential. Areas of industrial and commercial uses exist both to the west along Riverside Industrial Parkway and Riverside Street, and to the north and south, and along Auburn Street.

VI. PROPOSED DEVELOPMENT

The applicant has provided an overall development plan (Plan 6) proposing **fourteen** new buildings that will create **162** affordable residential units.

The applicant has submitted plans and documents for the full development proposal to include **65** off-street parking spaces, 13 EV charging stations, 65 bicycle racks and 58,500 square feet of open space area.

Figure 3: Development rendering along Washington Avenue Extension

The proposal includes the construction of **fourteen** residential buildings that range in typologies, including eight 3-story rowhouses with a total of 100 dwelling units, and six 3-story community flat buildings with a total of 62 dwelling units, for a total of 162 dwelling units. The composition of dwelling units includes (2) studios, (74) 1-bedrooms, (30) 2-bedrooms, and (56) 3-bedrooms. All dwelling units are to be sold and limited to households at 80 or 100% AMI. Sale price is restricted per the workforce housing definition at 25% of the units as workforce housing units at 80% AMI with **40** deed restricted pursuant to the Inclusionary Zoning requirements (Section 18.2.3). According to the applicant, the development is structured as a limited equity cooperative model managed by Maine Cooperative Development Partners LLC, in partnership with Cooperative Development Institute (CDI) & The Urban Homesteading Assistance Board (UHAB).

A continuous 8-foot wide shared use path is proposed along Washington Avenue Extension at each side to connect residents to an existing Portland Trail link for the Sebago to Sea Trail. The proposed street improvements along Washington Avenue Extension also include on-street parking, curbed sidewalks, shared roadway bike markings, a pedestrian crosswalk with an illuminated Rectangular Rapid Flash Beacon (RRFB) and curbed bulb outs to reduce traffic speed for pedestrian safety. Internal site circulation includes a maintained and cleared loop for emergency vehicles both to and from the site, three driveways into the site and off-street parking lots with 65 reserved parking stalls. The proposed open-space includes common lawn areas with a playground and furniture amenities, a network of pedestrian pathways and a "Mews" to connect residents to parking areas and unit entries.

VII. PREVIOUS PUBLIC MEETINGS

Planning Board Workshop #1 – August 9, 2022

The project was introduced to the Planning Board by the applicant and staff at a workshop held on August 9, 2022. The Board provided initial feedback about pedestrian safety at intersection crossings, on-street parking, snow ban parking location, shared use path width, buffering at adjacent properties, emergency vehicle access and open space requirements which is as follows:

Street intersection crossing – The Board questioned the proposed crosswalk design to provide safe pedestrian movement from the residential development to the existing sidewalk along the east side of Auburn Street with a recommendation for a RRFB to signalize pedestrian crossing.

On street parking – The Board questioned the need for on-street parking along Washington Avenue Extension, stating that the current proposal prioritizes the development and does little for the neighboring community.

Snow ban parking – The Board questioned the applicant's on-street parking operations during the winter season, with concerns over where residents would park during City snow bans. The applicant offered potential parking lot locations at Lyman school and Riverside golf course, noting that these locations are not ideal based on distances over one mile.

Shared use path – The Board requested clarification on the proposed shared use path related to width restrictions stated by the applicant.

Buffers at adjacent properties – The Board had concerns about public comment received for the visual impact of parked vehicles that face neighboring properties, and noted that the applicant should mitigate the impact of car headlamps.

Emergency vehicle access – The Board requested that City staff review to confirm aisle width, curb cuts and snow storage proposed for emergency vehicles.

Open space requirements – The Board expressed concern about the recreation and open space proposed in relationship to the density proposed, without spaces for residents to recreate this will likely push people off-site.

Planning Board Workshop #2 – October 11, 2022

Open space requirements – The Board expressed outstanding concerns about the lack of open space programming and family-oriented recreation with active play for the future occupants.

Architectural design – The Board requested additional building articulation for the upper floors of the proposed Rowhouses that provide greater variation in the building facades and roofline along with architectural materials for longevity.

Impact to existing wetland – The Board requested the project minimize disturbance on wetlands and stream setback to greatest extent possible.

Street intersection & crossings – The Board requested clarification on the need for a traffic signal at Washington Ave. Extension & Auburn Street. The Board expressed support of a pedestrian crossing at Auburn Street and expressed concerns for pedestrian safety across Washington Ave. Extension between the north and south development.

VIII. RIGHT, TITLE, & INTEREST

The City of Portland is currently under a purchase and sale agreement for the land at 622 Auburn Street in Portland, Maine, 165 Lambert Street in Portland, Maine & 0 Gray Street in Falmouth, Maine with Maine Cooperative Housing Partners LLC which serves as sufficient right-title-interest documentation for the purposes of reviewing a site plan application (Attachment C).

The applicant's documents summarize existing drainage easements benefitting MaineDOT as recorded in the Cumberland County Registry of Deeds Books 3901/31. The City of Portland Council Order 226-21/22 approved the first amendment to the purchase and sale agreement to identify (4) drainage easements with rights on the western side line of Auburn Street, recorded in City Clerk Volume 43, Page 77 / City Clerk Volume 154, Pages 10 & 11 and eastern side line of Lambert Street, recorded in the Cumberland County Commissioners Record Volume 10, Page 46. (Attachment C)

IX. FINANCIAL & TECHNICAL CAPACITY

The applicant has submitted a letter of financial capacity from each applicant's financial institutions as well as documentation from the Secretary of State stating both applicants are in good standing.

The applicant's representatives have provided descriptions for each property as indicated by Lambert Woods North at 622 Auburn Street and FHA financing for the Lambert Woods Cooperative demonstrating their ability to undertake the project (Attachment G).

X. ZONING ANALYSIS

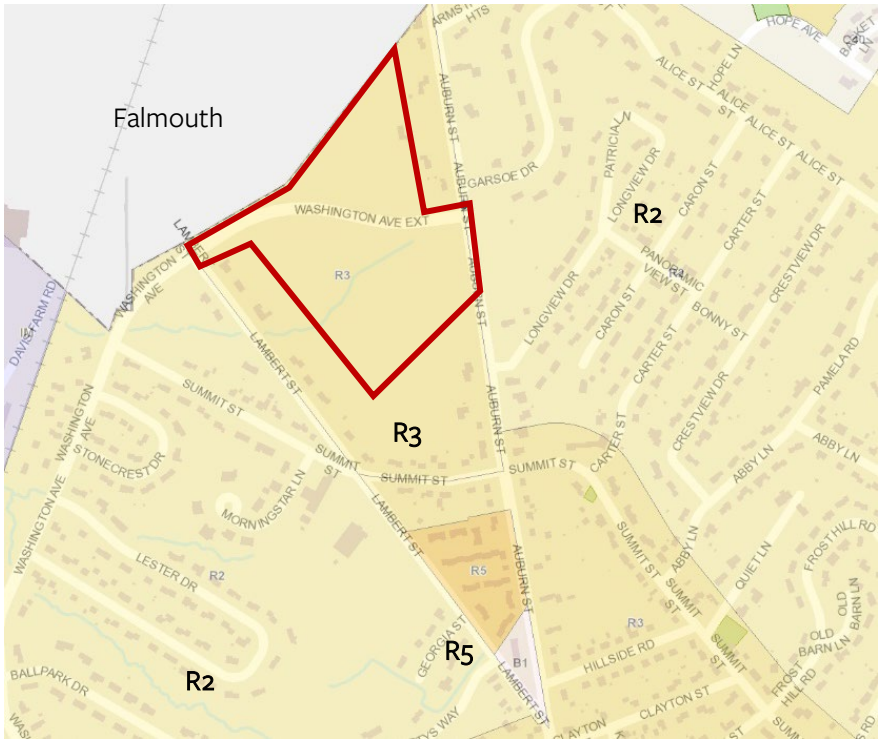


Figure 4: Zoning Map with Subject Parcel Outlined in Blue

The subject property is located in the R-3 Residential zone (Figure 4).

The proposed development proposes **162** units of housing which falls under a Planned Residential Unit Development (PRUD) use. According to Land Use Code Table 6-A, PRUDs are a permitted use in the R-3 Residential Zone.

Table 7-B of the City's Land Use Code, describes the PRUD dimensional standards. In addition to the base dimensional standards, any PRUD in which more than 50% of the units are low-income or workforce units for rent or for sale may utilize affordable housing density and dimensional bonuses and reductions as described in Section 18.2.4.B. and include the following provisions:

1. Minimum lot area per dwelling unit is reduced by 50%.
2. Maximum number of units and maximum length of buildings do not apply but may be set through site plan review.
3. Minimum building setbacks may be reduced to 10 feet.
4. The PRUD may cross public rights of way provided that the right of way does not count towards the minimum lot size nor towards any open space requirements.

5. Minimum recreation open space area is reduced to 200 square feet per dwelling unit of common area designated for recreational purposes by the residents. Minimum contiguous size and setbacks do not apply and shall be set through site plan review.
6. The Planning Board's Design Manual, design standards, and guidelines with respect to PRUDs shall apply in full to PRUDs utilizing this subsection.

The project provides more than 50% of the units as low-income or workforce units for rent or for sale[1] and therefore it may utilize dimensional bonuses available to PRUD developments under Section 18 of the City's Land Use Code, which is incorporated into the zoning review. Staff analyzed the proposal and found that the project complies with all dimensional requirements which are summarized below:

R-3 Residential Zone	*Permitted*	*PRUD Dimensional Bonus Applied*[1]	*Proposed*
Street Frontage (min.)	50 feet	N/A	>50 feet
Lot Width (min.)	65 feet	N/A	>65 feet
Front Setback (min.)	25 feet	10 feet	<10 feet[2]
Rear Setback (min.)	25 feet	10 feet	>25 feet
Right Side Setback (min.)	14-16 feet (varies)	10 feet	>16 feet
Left Side Setback (min.)	14-16 feet (varies)	10 feet	>16 feet
Stepbacks	N/A	N/A	N/A
Lot Coverage (max.)	35%	N/A	**21%**
Off Street Parking Spaces	N/A	N/A	**65** spaces
Lot Area (min.)	3 acres	N/A	17.95 acres
Net land area per dwelling unit (min.)	6,500 sq. ft.	3,250 sq. ft.	**3,316** sq. ft.
Units per building (max) PRUD > 5 acres	6	None	**16**
Average number of units per building (max.) PRUD > 5 acres	5	None	**11.5**
Structure Height	35 feet	N/A	35 feet
Building length (max.)	100 feet	None	163 feet
Bldg setback from external subdivision property lines (min.) 4 or more D.U. in bldg.	35 ft.	10 feet	24.5 feet
Distance between detached PRUD dwelling units (min.)	16 ft.	N/A	16 feet
Common recreation open space area (min.)	300 sq.ft./D.U	(200 sq. ft./D.U - Minimum contiguous size and setbacks do not apply and shall be set through site plan review)	**309 sq. ft./D.U.**

[1] Planned Residential Unit Developments (PRUD) developments with more than 50% of the units as low-income or workforce units for rent or for sale may utilize dimensional bonuses and changes listed under Land Use Code Section 18.2.4.B.

[2] Planned Residential Unit Developments (PRUD) may cross public rights of way provided that the right of way does not count towards the minimum lot size nor towards any open space requirements under Land Use Code Section 18.2.4.B.

XI. CONDITIONAL USE INCLUSIONARY ZONING (IZ)

As required by Section 18.2.3 of the City's Land Use Code, the City's Inclusionary Zoning Ordinance, residential developments with ten or more units are required to provide a minimum of twenty-five percent of the dwelling units as Workforce Housing units for sale or for rent. The ordinance under Section 18.2.3 C (5) also requires the number of bedrooms in the units to be 10% of the total number of bedrooms in the development.

Given the project proposes a total of **162** units, the project triggers Inclusionary Zoning as it would create ten or more new dwelling units through new construction. A minimum of **40** workforce housing units (25% at 80% AMI) pursuant to the Inclusionary Zoning requirements (Section 18.2.3). The term of affordability for the workforce units provided shall be defined as set forth in Table 18-B. At 25% of workforce units provided, the minimum term of affordability is thirty (30) years.

The applicant proposes making the remaining **122** units low-income (affordable) housing units for sale (75% at 100% AMI). All dwelling units are proposed for sale under the affordable housing requirement.

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

XII. SITE PLAN REVIEW STANDARDS (Section 14.6)

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

1. Transportation Standards (Section 14.6.1)

A. Impact on surrounding street systems

The proposed development is located off of Washington Avenue Extension, a major collector, which connects Auburn Street, a principal arterial to the east and Lambert Street, a major collector, to the west.

The site is along Metro transit routes 9A and 9B on Washington Avenue Extension and the applicant is proposing two transit shelters on each side of the street along with restroom facilities for Metro drivers during layover periods. The site has existing bus stops immediately available at the intersection of Auburn Street that Metro is requiring to remain in place. Metro has indicated that this will facilitate convenient access to bus service clockwise and counter-clockwise into downtown Portland.

The application anticipates minimal increases to traffic, and has mitigated truck turning movement to add truck aprons with sloped curbing at the intersections to accommodate proposed sidewalks and parking along Washington Avenue Extension. The applicant's traffic analysis has been reviewed by the City's traffic consultant who finds it to be reasonable to anticipate the proposed project to generate 60 vehicle trips in the weekday morning peak hour, 83 vehicle trips during the weekday evening peak hour, and 83 trips during the Saturday peak hour. The anticipated projected trips are below the Traffic Movement Permit (TMP) threshold of 100 trips at peak hour.

Additional investigation into high crash locations at Washington Avenue Extension & Lambert has been provided by the applicant, the proposed curb and truck apron has been reviewed by the City's traffic

consultant and City staff have found to be an acceptable solution. The applicant has provided a traffic analysis to convey an increase delay per vehicle (159.8 seconds to 231 seconds) due to development from Washington Avenue Extension onto Auburn Street, the City's Consulting Traffic Engineer and City staff find that a traffic signal is not required. The City's traffic consultant supports the reduction of two approach lanes to a single lane along Washington Avenue Extension at Auburn Street and supports the analysis at Washington Avenue Extension & Lambert Street intersection to operate at an acceptable level of service.

The applicant has proposed public right-of-way improvements to include new curbing, drainage, a pedestrian crossing, landscaping and transit shelters along Washington Ave. Extension for walkability and pedestrian safety. A pedestrian crossing, RRFB and improvements to bike lanes at Auburn Street south of Washington Avenue Extension is supported by the City's traffic consultant to improve bicycle and pedestrian safety.

The applicant has proposed to include three driveways from Washington Avenue Extension to provide access into the site. The applicant has provided the requested traffic analysis and the City's traffic consultant has indicated that the proposed driveways onto Washington Avenue Extension will not result in an unacceptable level of service.

The applicant is seeking a waiver of Site Plan Standard 14.6.B.3.a, which, requires all developments to provide curb and sidewalks along all frontages. The applicant is proposing to provide sidewalks and curbing along its Washington Avenue frontage on both the north and side sides as well as along portions of Auburn Street and is proposing not to provide sidewalks along its approximately 50 linear feet and 170 linear feet of mid-block frontage on Lambert Street. Lambert Street is a two-way street with no sidewalks on either side and is bordered by single-family homes. Staff support the proposed waiver because there is no reasonable expectation for pedestrian usage coming from, going to, and traversing the site along Lambert Street. In addition, there is no sidewalk along Lambert Street within 1,000 feet of the project and the construction of a small segment of sidewalk would not contribute to the development of pedestrian oriented infrastructure in this location.

Bus access is located on Washington Avenue Extension and Auburn Street where the applicant is proposing to install new sidewalks, bus shelters and a pedestrian crosswalk on Auburn Street.

B. Access and circulation

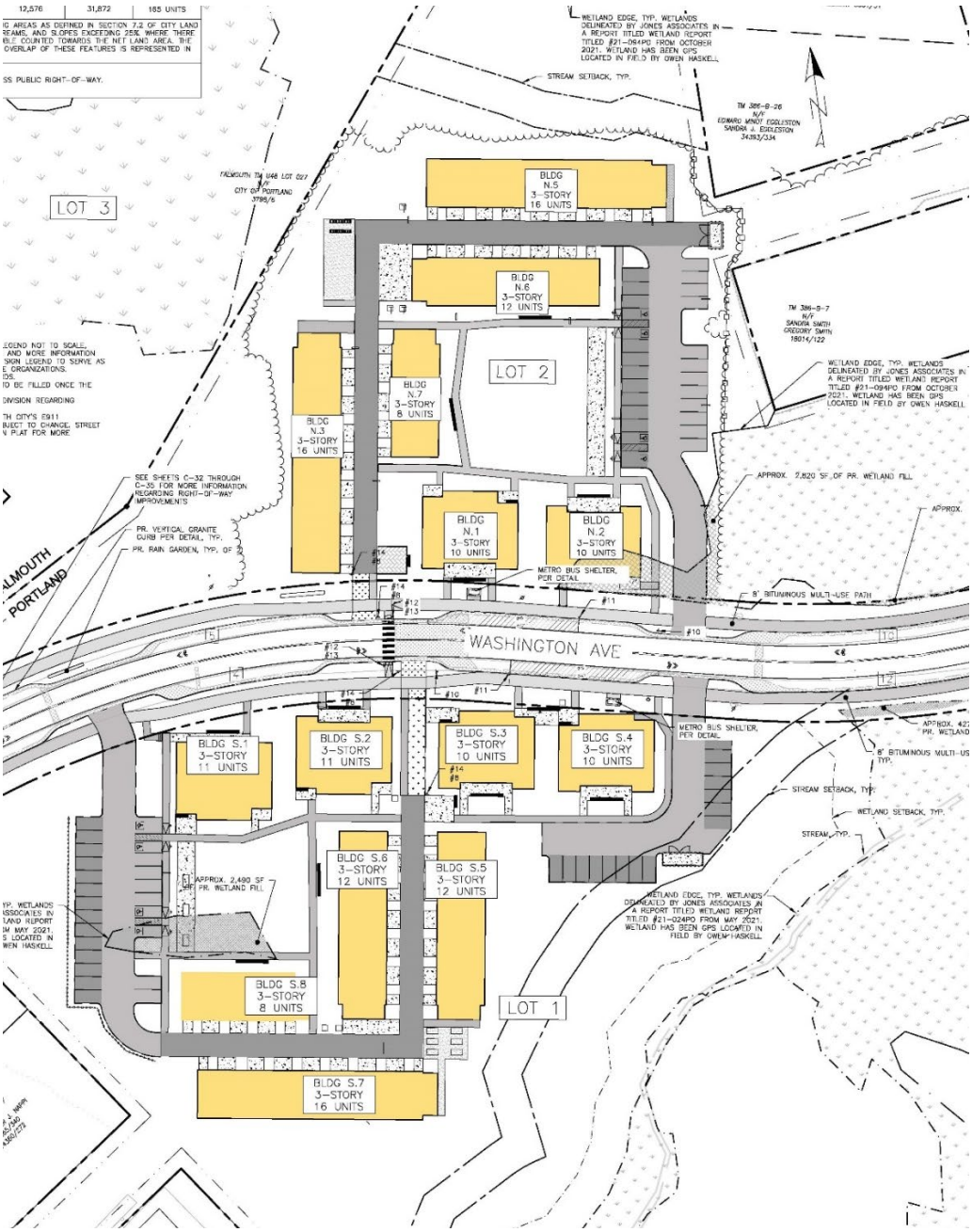


Figure 5: Overall Site Plan

New site circulation through the site includes main drive aisles connecting to parking areas throughout the site and shared "Mews", which provide a restricted access lane for emergency vehicles and pedestrians. Fire access is proposed with two points of access, which originate from the main drive aisles and continue towards the center of the site, providing a continuous loop via grass pavers and signage to distinguish it as being limited to emergency vehicle access. Infrequent loading for residents is proposed at the shared "Mews" with turn-around areas for vehicles. The majority of drive-up services

and drop-off needs is concentrated to Washington Avenue Extension where a pull-off is proposed behind the bus loading area to be striped per Metro standards.

The application also includes common open space areas with lawn, concrete paver plazas at "Mews" and pedestrian paved pathways throughout the site. The application also includes a pathway connection to an 8-foot multi-use path along Washington Ave. Extension and bituminous pavement sidewalks throughout the site connecting to the surface parking lots for pedestrian access.

Additionally, the Department of Public Works has received two formal petitions to evaluate speed conditions and consider the implementation of traffic calming measures within the vicinity of the project. Department of Public Works staff will complete an initial pre-development assessment of speed conditions in the Spring of 2023.

The applicant has requested a waiver relevant to the parking lot and space design:

Technical Manual Section 1.14.3 – Parking Lot Drive Aisle Width
The applicant is requesting to reduce the minimum drive aisle width from the required 24 feet to 22 feet, a two-foot reduction. Section 1.14.3 of the City's Technical Manual requires a minimum drive aisle width of 24 feet. The applicant has provided additional justification for waiving the standard explaining:

Based on the proposed land use, the residents' familiarity with the site, and a low rate of turnover, a width of 24' is not necessary to accommodate a functional parking lot. 22' allows for a reduction in impervious area.

The applicant has requested a waiver relevant to the amount of driveways allowed:

Technical Manual 1.7.2.8 – Number of driveways
The applicant is requesting to provide (2) driveways at the south site and (1) driveway at the north site. Section 1.7.2.8 of the City's Technical Manual requires that no more that (2) driveways shall be permitted for ingress and egress purposes to any residential (with 10 or more parking spaces) site. The applicant has provided additional justification as a basis for waiving the standard explaining:

The waiver is being sought to provide access through the site for several parties including the Portland Fire Department, residents, the solid waste contractor, and mail services. Given the project contains nearly 3,000 feet of legal street frontage, three curb cuts represents a modest approach to provide the necessary access while complying with the various other site plan and NFPA standards.

C. Public transit access
Existing transit access along Washington Avenue Extension includes Route 9A & 9B, along with existing bus stops at the Auburn Street intersection. The applicant will provide two bus shelters located towards the center of the development with convenient access, live feed display screens, and restroom facilities for Metro drivers during laydown periods. A pedestrian crosswalk with RRFB in the curb bulb-outs assist to reduce the crossing distance across the roadway.

D. Parking
In general, residential development is required to provide one parking space per dwelling unit unless a project is eligible for parking requirement exceptions as listed in Table 19-B of the Land Use Code. Per

Table 19-B, new development with floor area exceeding 10,000 square feet, which is located within a quarter mile of fixed-public transit service, and which provides a Transportation Demand Management (TDM) plan, is exempt from providing off-street parking. The applicant has chosen to seek the off-street parking exception, and has included **65** off-street parking spaces throughout the north and south developments. According to the applicant they will prioritize parking for residents at the 60% AMI range and allocate remaining parking permits for a monthly cost. In addition, 57 on-street parking spaces are proposed within the public right-of-way on a first come basis, which are to be available to the public.

E. Transportation demand management (TDM)

The applicant has resubmitted a TDM plan as a requirement for the categorical vehicular exception listed in Table 19-B of the Land Use Code. (Attachment U). The City's Transportation Program Manager is generally supportive of the TDM plan and observes a 25% multimodal trip target for all resident trips to and from the site for 3 years, clear strategies for infrastructure, incentives and information and annual surveying of residents to produce an annual TDM monitoring report.

2. Environmental Quality Standards (Section 14.6.2)

A. Preservation of significant natural features

The site is undeveloped and forested with extensive invasive species and several wetlands that are considered significant due to period of establishment. The contiguity of wetlands is proposed to be preserved to the greatest extent, and the development includes minimal disturbance with proposed grading and site improvements.

Technical Manual 8.2 Standards – Development in and adjacent to wetlands

The applicant is requesting an impact of wetland area to preserve contiguous, non-significant wetlands located adjacent to an existing stream and to increase residential density on site. The applicant has requested one waiver relevant to existing wetlands and preservation of significant natural features with additional justification as a basis for waiving the standard explaining:

The waiver is being sought to fill a small portion of the wetlands on site (approximately 5,807 sf is proposed). The site has been designed to minimize wetland impacts to the greatest extent feasible with a compact site design. The current design fills a small portion of wetlands (adjacent to the road and an isolated pocket) but in turn allows for the preservation of the high value wetlands located adjacent to the stream. We believe this approach to be desirable to increase residential density, provide safe and functional multi-modal transportation, and also prioritizing the preservation of natural resources.

Technical Manual 8.2.1 Standards – Avoid disturbance in wetlands

The applicant is requesting to reduce the 100-foot stream buffer to provide grading disturbance that meet the project's goals of a compact site development. The applicant has requested one waiver relevant to stream setback with additional justification as a basis for waiving the standard explaining:

The waiver is being sought to reduce the required 100′ stream buffer. The site has been designed to minimize natural resource impacts to the greatest extent feasible with a compact site design. The current design encroaches on the 100′ required buffer but is proposing to leave approximately 70′ of undisturbed buffer on the southeastern portion of the southern site. This is the only conflict areas, whereas the rest of the site will provide the 100′ buffer. We believe this approach to be desirable to increase residential density on site while also prioritizing the preservation of natural resources.

B. Landscape preservation

The site includes multiple existing tree species and thus the development shall minimize tree loss to the greatest extent possible. The City Arborist has reviewed the revised landscape plans and has prioritized the preservation of existing trees to remain within the development limit of work area and the planting of a native plant palette to mimic the wooded character of the existing site. The applicant has provided documents to outline invasive plant management per City Arborist's recommendations.

C. Site landscaping and buffers

The applicant has submitted revised Planting (Plans 53-56) plans which include locations and quantities for tree, shrub, groundcover and select preservation of existing trees. Existing trees loosely buffer all sides of the property site, the City Arborist encourages a high percentage of native species that reinforce the woodlands character of the site with groupings of plant material and more natural arrangement. A privacy fence and screening shrubs are proposed at the adjacent properties in compliance with this standard.

The creation of **162** residential units requires either planting a total of **162** street trees or an acceptable alternative as recommended by the City Arborist. The applicant has provided 25 new street trees within the right-of-way, street tree alternative per Technical Manual section 4.6.4 for 22 new street trees visible from right-of-way within twenty feet of the property line, and approximately 82 to be accepted as existing healthy trees that are six inches or more in caliper visible from the right of way along property frontages and on the site with twenty feet of the property line. A total of 129 street trees are calculated to meet the Technical Manual 4.6 street tree standard. Due to site constraints preventing the planting of required street trees, the remaining 33 street trees as required in Sec. 14.6.2.C.4 of the Site Plan Ordinance cannot be met and the applicant shall contribute to the tree fund in the amount of $400 per tree for a total of $13,200

D. Water quality/storm water management/erosion control

The project proposes managing stormwater by a series of systems including underdrained subsurface soil filters, porous pavement, proprietary rain gardens, and routing all stormwater outfalls and pipe sizes proposed at the existing drainage swale within the public right-of-way.

The applicant has submitted a Stormwater Management Report and Erosion and Sedimentation Control Report, which has been reviewed by the City's consulting stormwater reviewer for compliance with MaineDEP Chapter 500 and City of Portland Section 5 for stormwater management requirements (Attachment J). The City's consulting stormwater reviewer finds the resubmitted plans and documents address previous comments to be compliant with this standards.

Public Works and Water Resources is generally supportive of the revised stormwater management and erosion and sedimentation control plans and documents.

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

A. Consistency with City Master Plans

Portland's Plan 2030 Comprehensive Plan goals and policies (state and local) relevant to the proposed development are included below. The development proposal aligns with these vision statements and goals, by creating a new opportunity for an affordable, and well-connected new housing development accessible

to public transit supporting the Plans goal of *increasing, preserving, and modifying the overall supply of housing city-wide*. In addition, the proposed project supports the City's desire to *leverage underused properties* owned by the City. The proposed development allows for maximizing development on an underutilized lot, which creates the opportunity to provide affordable homes, with access to public transit, services, and open space.

B. Public safety and fire prevention

The applicant has stated that the project has been designed to promote safe and inviting public access connections to the development site with sidewalks, as well as providing adequate emergency access to new buildings via the restricted access loop road. The applicant has submitted a lighting plan, photometric plan and cut sheets for fixtures.

The proposal includes a new public hydrant assembly at the south side of Washington Avenue Extension to serve the buildings onsite within 450 feet from the furthest structure.

The City's Fire Marshal has reviewed the application materials, and generally finds the project to provide adequate emergency access based on the precedent of Douglass Commons.

C. Availability and capacity of public utilities

The applicant shall submit ability to serve letters from all respective utility providers as a condition of approval. The applicant proposes installing a new 8" sewer lateral from the existing 10" sewer line in Washington Avenue Extension at both the north and south development to accept the wastewater from each unit. Wastewater Capacity Authorization from Public Works is under review.

The applicant proposes electrical and communications (telephone, fiber and cable) service underground via a new pad-mounted transformer to serve each unit, single phase pole and riser proposed at both north and south development.

The applicant proposes new 6" water service at both the north and south development to tap into existing 12" water main along Washington Avenue Extension.

4. Site Design Standards (Section 14.6.4)

A. Massing, ventilation, and wind impact

The massing of the proposed rowhouses and community flats address the abutting single-family residents by use of landscape buffers and preservation of several existing trees. The 3-story buildings are located more central to Washington Avenue Extension and internal common spaces.

B. Shadows

A shadow study has not been submitted, as any shadows cast by the buildings at the site will not affect adjacent properties or City-owned parkland.

C. Snow and ice loading

The applicant has resubmitted locations for snow storage areas on the plans and stated that structures will not distribute snow and ice onto adjacent properties.

D. View corridors

There are no designated view corridors within the project vicinity.

E. Historic resources

The proposed development is not located in or within 100 feet of a historic district or historic landmark. Not applicable.

F. Exterior lighting

The applicant has submitted a lighting plan, photometric analysis and lighting cut sheets. City staff have found that the submitted materials comply with applicable standards related to site lighting, found in the City's site plan ordinance and Section 12 of the City's Technical Manual.

G. Noise and vibration

The applicant has stated that the HVAC system will meet applicable state and federal emissions requirements and will also be screened and directed away from abutters. The applicant has located HVAC units and utility connections internal to units and storage structure adjoining Rowhome buildings.

H. Signage and wayfinding

The applicant resubmitted plans for wayfinding signage to address City's traffic consultant comments and City staff find in compliance with this standard.

I. Zoning-related design standards

The proposal is subject to meeting the applicable PRUD design standards under Section (h) of the City's Design Manual. The applicant has submitted revised elevations and floor plans with an accompanying architectural narrative that identifies proposed variation in the facades to meet design standards (Attachment Y). The City's Urban Designer generally finds the proposed building types, placement and materiality to be consistent with the PRUD design standards (Attachment 13) that support the neighborhood character the applicant has submitted.

Figure 6: Rendering of open space

XIII. PUBLIC COMMENT

Planning staff have received seventeen written comments and two petitions for traffic calming outside of the development area (PC1 through PC19) to date. In general, feedback included concerns of improvements proposed along Washington Avenue Extension related to the existing truck route, roadway traffic calming, pedestrian safety, seeking more information about snow management operations, and concerns about landscape buffering at adjacent residential properties.

XIV. STAFF RECOMMENDATION

Subject to the proposed motions and conditions of approval listed below, Planning & Urban Development Department staff recommends that the Planning Board approve application #PL-002078-2022 to construct 162 residential units at 165 Lambert Street which meet the applicable standards of Portland's Land Use Code.

XV. 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 held on February 28, 2022 for application # PL-002078-2022 relevant to the Site Plan Standards of the Land Use Code and Portland's Technical and Design Standards, and other regulations, and testimony presented at the Planning Board public hearing:

1. Curb and sidewalk along frontage

   The Planning Board [finds/does not find] based upon the City's Public Works Review, that extraordinary conditions exist or undue hardship may result from strict compliance with Land Use Code Chapter 14.6.1.B.3) which states all development shall provide curb and sidewalks along all frontages, 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 Land Use Code Chapter 14.6.1.B.3 to not require installation of curb and sidewalk along Lambert Street frontage and reduce the required installation of curb and sidewalk along Auburn Street.

2. Number of driveways

   The Planning Board [finds/does not find] based upon the Consulting Traffic Engineer's Review, that extraordinary conditions exist or undue hardship may result from strict compliance with Technical Manual Section 1.7.2.8) which states no more than two driveways shall be permitted for ingress and egress purposes to any residential site, 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 standard. The Planning Board [waives/does not waive] the Technical Manual Section 1.7.2.8 to allow for a total of three proposed driveways into the site, one driveway at the north development and two driveways at the south development.

3. Parking Lot Drive Aisle Width

   The Planning Board [finds/does not find] based upon the Consulting Traffic Engineer's Review, that extraordinary conditions exist or undue hardship may result from strict compliance with Technical Manual Section 1.14.3) which requires parking lot layouts provide a minimum drive aisle of

24 feet, 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 standard. The Planning Board [waives/does not waive] the Technical Manual Section 1.14.3 to allow a reduced drive aisle width of 22 feet.

4. Impacts to existing wetlands

The Planning Board [finds/does not find] based upon the City's Water Resource Review, that extraordinary conditions exist or undue hardship may result from strict compliance with Technical Manual Section 8.2) which states to design the development to minimize wetland impacts by either avoiding direct wetland impacts or minimizing them when unavoidable, 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 standard. The Planning Board [waives/does not waive] the Technical Manual Section 8.2 to allow for a portion of wetlands under ten thousand square feet be filled.

5. Stream buffer

The Planning Board [finds/does not find] based upon the City's Water Resource Review, that extraordinary conditions exist or undue hardship may result from strict compliance with Technical Manual Section 8.2.1) which states the development located adjacent to perennial streams a minimum one hundred foot buffer strip on either side of the stream should be maintained, 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 standard. The Planning Board [waives/does not waive] the Technical Manual Section 8.2.1 to allow for a reduction in of the required one hundred foot stream buffer.

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 February 28, 2023 for application # PL-002078-2022 relevant to Portland's Inclusionary Zoning Conditional Use Standards and other regulations, and the testimony presented at the Planning Board hearing, the Planning Board, [finds/does not find] the proposed conditional use for workforce housing meets the standards of Section 18.2 with the following conditions:

PRIOR TO ISSUANCE OF A BUILDING PERMIT

1. That the Applicant and the City enter into an agreed upon Affordable Housing Agreement (AHA) for workforce housing units, or as an alternative to providing workforce housing units, the project may pay a fee-in-lieu for some or all of the required units;

PRIOR TO ISSUANCE OF CERTIFCATE OF OCCUPANCY

2. That the Affordable Housing Agreement (AHA) be filed as covenant to the property's deed with the Cumberland County Registry of Deeds.

C. SITE PLAN REVIEW

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board Report for the public hearing on May

24, 2022 for application # PL-001888-2021 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 ISSUANCE OF A BUILDING PERMIT

1. That the applicant shall provide ability to serve letters from utility companies for City staff review.

PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY

2. Due to site constraints preventing the planting of required street trees, the remaining 33 street trees as required in Sec. 14.6.2.C.4 of the Site Plan Ordinance cannot be met; the applicant shall contribute to the tree fund in the amount of $400 per tree for a total of $13,200.

3. The applicant shall provide installation of permanent demarcation and signage to prevent moving within the 100-foot stream setback.

PRIOR TO PERFORMANCE GUARANTEE RELEASE/CONVERSION TO DEFECT GUARANTEE

4. Final acceptance by City Staff for the two proposed rain gardens in the public right-of-way shall require a two-year maintenance agreement for all plant material within the rain garden stormwater treatment system.

XVI. ATTACHMENTS

REPORT ATTACHMENTS

A1. Inclusionary housing
A2. Inclusionary housing-supplemental
A3. Inclusionary housing-supplemental
A4. Zoning review
A5. City arborist review
A6. Traffic analysis
A7. Public Works review
A8. Metro transit review
A9. Consulting Stormwater Engineer review
A10. Staff comment letter
A11. RFP-165 Lambert Street
A12. Transportation program manager review
A13. PRUD Design review memo
A14. City arborist review on resubmitted materials
A15. Public works senior engineer on resubmitted materials
A16. Traffic consultant review on resubmitted materials
A17. Transportation program manager TDM comments

A18. Wastewater capacity authorization

APPLICANT'S SUBMITTAL

A. Cover letter
B. Site plan checklist
C. Right, title and interest – Purchase and sale agreement
D. Zoning assessment
E. Easements
F. Waivers
G. Financial capability
H. Technical capability
I. Conformity with land use ordinance
J. Stormwater management report
K. Erosion and sedimentation control
L. Fire department letter
M. Wastewater capacity
N. Lighting
O. Architectural design narrative
P. Utility cover letter
Q. Construction management plan
R. Solid waste
S. Traffic report
T. Turning templates
U. Transportation demand management report
V. Public meeting notice sign – 07-27-2022
W. Applicant comment response letter 8-2-2022
X. Applicant comment response letter 9-26-2022
Y. Architectural design review response
Z. Alternative street design analysis
AA. Public meeting notice sign – 09-29-2022
BB. Applicant comment response letter 12-27-2022
CC. Architectural Design Review Response letter 12-20-2022
DD. Open space exhibit
EE. Landscape design narrative
FF. Neighborhood meeting certification
GG. Applicant comment response letter 1-31-2023
HH. Stream setback exhibit
II. Lambert at Washington Turning Template 2-8-2023

PLANS

1. Cover sheet and legend
2. General notes
3. Existing conditions plan
4. Construction management and erosion control plan - North
5. Construction management and erosion control plan - South
6. Overall site plan
7. Site plan – North

8. Site plan – South
9. Utility plan – North
10. Utility plan – South
11. Grading and drainage plan – North
12. Grading and drainage plan – South
13. Right of Way grading and site plan - +0 - +6
14. Right of Way grading and site plan - +6 - +12
15. Right of Way grading and site plan - +11 - +13.5
16. Right of Way grading and site plan – Auburn intersection
17. Subdivision Plat
18. Site details – 1
19. Site details – 2
20. Site details – 3
21. Site details - 4
22. Utility details – 1
23. Utility details – 2
24. Drainage details – 1
25. Drainage details – 2
26. Drainage details – 3
27. Drainage details - 4
28. Erosion and sedimentation control notes
29. Erosion and sedimentation control details
30. Architectural cover sheet
31. A-.01 Wall types
32. A-0.2 Floor types and roof types
33. A-1.2 Community flats Enlarged ground floor
34. A-1.3 Community flats Enlarged second floor
35. A-1.4 Community flats Enlarged third floor
36. A-1.2 Rowhomes 8-unit Enlarged ground floor
37. A-1.3 Rowhomes 8-unit Enlarged second floor
38. Not used
39. A-1.2 Rowhomes 12-unit Enlarged ground floor
40. A-1.3 Rowhomes 12-unit Enlarged second floor
41. A-1.4 Rowhomes 12-unit Enlarged third floor
42. A-2.1 Community flats elevations
43. A-2.1 Rowhomes elevations – 8 unit
44. A-2.1 Rowhomes elevations - 16 unit
45. A-3.1 Building sections
46. A-4.1 Wall sections
47. Landscape cover sheet
48. Landscape notes
49. Landscape overall materials plan
50. Landscape overall planting plan
51. Landscape North site planting plan enlargement
52. Landscape South site planting plan enlargement
53. Landscape enlarged Right of Way planting plans
54. Landscape site details

55. Landscape site details – 2
56. Landscape site details - 3
57. Landscape planting details

PUBLIC COMMENT

PC1- Ed Eggleston
PC2- Ed Eggleston
PC3 – Lauren Manera
PC4- Ed Eggleston
PC5- Anonymous
PC6- Ed Eggleston
PC7- Phil Requia
PC8– Ruth Bettinger
PC9– Lauren Manera
PC10– Ed Eggleston
PC11- Anonymous
PC12- Don Miller
PC13- North Deering neighborhood
PC14- Chris Misener
PC15-Ed Eggleston
PC16-Kenneth Myers
PC17- Frank Sanfilippo
PC18- Neighborhood petition
PC19- Neighborhood petition #2

165 Lambert Street

Victoria Volent <vvolent@portlandmaine.gov> Mon, Jul 11, 2022 at 2:09 PM
To: Sean King <sking@portlandmaine.gov>, Ann Machado <amachado@portlandmaine.gov>

Hi Sean and Ann,

A Phase I Environmental Site Assessment was conducted on the site on March 26, 2021. The following information is from the report:

Site location: 165 Lambert
Upland Area: 4.53 acres
1,830 feet from the Presumpscot River
Site is not located in a FEMA Special Floor Hazard Area
An tributary stream (MEDEP Category B stream) flows from the east to the west of the site (see attached map)

Also attached is the wetland sketch by Jones Associates; narrative from the zoning amendment application; and "developable area" map from New paradigm.

As for the Citizens' Referendum; attached is the ballot enclosure indicating the proposed amendments. Please note, on page 8, the definition of "workforce housing unit for rent" and "workforce housing unit for sale" were proposed for amended from 100% to 80% and 120% to 80% respectively. The definition of low-income housing for sale was not proposed for amendment which I believe was an oversight by the people who drafted the referendum rather than an error by Corporation Counsel and the City Clerk.

Thank you,

Victoria

Victoria Volent
Housing Program Manager
City of Portland
389 Congress Street
Phone: 207-482-5028
www.portlandmaine.gov
housing & economic development

5 attachments

Perennial stream.pdf
286K

Jones Associates Report 165 Lambert Street.pdf
1333K

Lambert Woods - Zoning Matrix.pdf
506K

Developable-Area-12-11-2020.pdf
232K

City of Portland Ballot Enclosure 9 10 20 V3.pdf
125K

165 Lambert Street

Ann Machado <amachado@portlandmaine.gov> Mon, Jul 11, 2022 at 3:57 PM
To: Victoria Volent <vvolent@portlandmaine.gov>
Cc: Sean King <sking@portlandmaine.gov>

Thanks Victoria.

This information is helpful.

Whether those drafting the "green new deal" omitted changing the definition of low-income housing by accident, section 18.2.4.B allows the developers to use the density and dimensional bonuses and reductions for a PRUD. They are providing more than 50% of low income housing units for sale that are affordable to a household earning 100% or less of AMI.

Maybe the 25% of workforce housing units at 80% AMI are to satisfy section 18.2.3.2.that was changed as part of the green new deal.

The report from Jones Associates states that there is approximately 236,727.92 sf (5.43 acres) of delineated wetlands on the two properties. That is part of what needs to be subtracted from the net land area, but we still need to know the square footage of the watercourse (stream) and the slopes of 25% or greater. The overall site plan (sheet C-09) under Net Land Area states that 244,738 sf has been deducted from the property area to reach the netland area of 537,251 sf. The number deducted is less than the delineated square footage of the wetland area.

Ann

Ann Machado
Zoning Administrator
Permitting and Inspections Department
City of Portland, Maine
(207) 874-8709
amachado@portlandmaine.gov

[Quoted text hidden]

165 Lambert Street

Ann Machado <amachado@portlandmaine.gov> Mon, Jul 11, 2022 at 3:57 PM
To: Victoria Volent <vvolent@portlandmaine.gov>
Cc: Sean King <sking@portlandmaine.gov>

Thanks Victoria.

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Maybe the 25% of workforce housing units at 80% AMI are to satisfy section 18.2.3.2.that was changed as part of the green new deal.

The report from Jones Associates states that there is approximately 236,727.92 sf (5.43 acres) of delineated wetlands on the two properties. That is part of what needs to be subtracted from the net land area, but we still need to know the square footage of the watercourse (stream) and the slopes of 25% or greater. The overall site plan (sheet C-09) under Net Land Area states that 244,738 sf has been deducted from the property area to reach the netland area of 537,251 sf. The number deducted is less than the delineated square footage of the wetland area.

Ann

Ann Machado
Zoning Administrator
Permitting and Inspections Department
City of Portland, Maine
(207) 874-8709
amachado@portlandmaine.gov

On Mon, Jul 11, 2022 at 2:10 PM Victoria Volent <vvolent@portlandmaine.gov> wrote:

> Hi Sean and Ann,
>
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>
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> Upland Area: 4.53 acres
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> Site is not located in a FEMA Special Floor Hazard Area
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Also attached is the wetland sketch by Jones Associates; narrative from the zoning amendment application; and "developable area" map from New paradigm.

As for the Citizens' Referendum; attached is the ballot enclosure indicating the proposed amendments. Please note, on page 8, the definition of "workforce housing unit for rent" and "workforce housing unit for sale" were proposed for amended from 100% to 80% and 120% to 80% respectively. The definition of low-income housing for sale was not proposed for amendment which I believe was an oversight by the people who drafted the referendum rather than an error by Corporation Counsel and the City Clerk.

Thank you,

Victoria

Victoria Volent
Housing Program Manager
City of Portland
389 Congress Street
Phone: 207-482-5028
www.portlandmaine.gov

165 Lambert St - PL-002078-2022

Ann Machado <amachado@portlandmaine.gov> Mon, Jul 11, 2022 at 2:08 PM
To: Sean King <sking@portlandmaine.gov>

Sean -

Here are some of my initial zoning comments for the site plan.

1. As discussed with Victoria, what is the "correct" definition of low-income housing unit for sale? Article 3 defines low-income housing as:*A dwelling unit for which:*

> *A. The sale price is affordable to a household earning 100% or less of Area Median Income (AMI).*
> *B. The unit is sold to a household earning 100% or less of AMI.*
> *C. The requirements of (A) and (B) above are limited by deed restriction or other legally binding agreement for future sales for the applicable length of time in this ordinance*.

Was there a definition for a low-income housing unit for sale in the "green new deal" referendum that changed the definition for low-income housing from a household earning 100% AMI to a household earning 80% of AMI, and it was not changed in the ordinance in Article 3? Victoria is looking into this. This is important because it determines whether the applicants can use section 18.2.4.B.

2. They need to provide their net land area calculations and show the areas on a site plan.

3. With the dimensional requirements, Table 7-B outlines the R-3 PRUD requirements. If 50% or more of the units in the development are low income or workforce housing, then section 18.2.4.B can be used to reduce the minimum net land area by 50% per dwelling unit and.setbacks and open space area can be reduced as well.

3. Section 18.2.4.B does not allow for the minimum distance of 16' between buildings in Table 7-B.to be reduced. The developer needs to confirm that there is a minimum distance of 16' between the footprints of each building.

4. The applicant needs to designate the recreation open space areas and provide the overall square footage of recreation open space.

5. The applicant is going to need to provide the elevation from average grade for each of the buildings.

6. Table 19-A requires one space per dwelling unit. There are two exceptions under Table 19-B. Under affordable housing the Planning Board can establish a parking requirement that is less than one space per workforce or low-income housing unit. The second is for Transit Proximate development and uses but a Transportation Demand Management Plan must be provided to allow this exception.

We will continue to work together on this review as we receive more information.

Ann

Ann Machado
Zoning Administrator
Permitting and Inspections Department

City of Portland, Maine
(207) 874-8709
amachado@portlandmaine.gov

165 Lambert Street

Jeff Tarling <jst@portlandmaine.gov> Thu, Jul 14, 2022 at 1:15 PM
To: Sean King <sking@portlandmaine.gov>
Cc: "lswett@woodardcurran.com" <lswett@woodardcurran.com>, Jodie Keene <jkeene@portlandmaine.gov>, Alex Marshall <amarshall@portlandmaine.gov>

Hi Sean -

This is a big project site on a challenging somewhat native forest with numerous invasive plants as well.
The proposed 165 Lambert Street residential project on both the north and south sides of the Washington Avenue connector road is located on an existing forested landscape that also contains wetlands.

Thus we would ask as a condition of approval that recommendations include:

a) TREE SAVE / Limit of Work - The final plan should include a 'Tree Save' / Limit of Work designation and plan to be used prior to clearing and during construction. This would include a written plan, signage and construction fencing to prevent off site storage or materials and equipment. "Tree Save' trees should be protected with signage and fencing around the drip line. To date the plan does not show either a tree save or limit of work. The proposed project clears an extensive amount of existing forest without any tree saves or forest management suggestions? The site work clearing should include nearby forest thinning improvements for sustainable landscape and safety.

b) Invasive plant management - The northern side of the project especially contains extensive Common Buckthorn shrubs, the project should identify, plan and remove all invasive plants as part of their clearing portion of site work. This has been a standard on other project sites where high numbers of invasive plants are located.

c) Tree & Landscape treatment - We encourage high percentage use of native plants on wood sites like the proposed 165 Lambert Street project. Stevens Commons for example next to Baxter Woods successfully modified their landscape plan to a higher percentage of native species. This should be a condition of approval. The site is surrounded by natural appearing woodlands, the project should appear part of the surrounding landscape vs 'suburban'. The 'Woods at Canco' development is another successful landscape example.

Thus we would ask the project not to use plants like 'Feather Reed Grass' and 'Maiden Grass' for example, and increase the native grasses like 'Little Bluestem', 'Prairie Dropseed' and other plants compatible to the New England region.
The proposed tree pallet should also diversify, currently over 100 trees using only four species, recommend reducing numbers on the 'Armstrong' Red Maples from 40 to perhaps half of that and consider other tree types like the 'Beacon' and 'Regal Prince' Oak, though they are cultivars it would be nice to have a greater mix of tree types. Tree types missing: Red Oak, Swamp White Oak (use instead of the hard to establish White Oak), Tupelo, Shagbark Hickory, River Birch, Yellow Birch, White Spruce, Larch, 'Bowall', 'Red Pointe', 'Karpick' Red Maples offer a variety of other maple types depending on the desired planting space size.

Tree planting spacing and sizes - While regular spaced trees all in certain order adds a degree of structure to the landscape, this site might be better served by including groves of trees in a more natural arrangement. This might include a mix of plant heights like 5-6' conifers and 2" caliper trees with the larger sizes proposed. Knowing the more orderly plantings might be closer to the buildings and the natural groves of trees near the edges.

Street trees - We would like to work closer with the project team to review the public 'Street tree' portion of the project. This would include species types, spacing.

Buffering - The proposed site contains existing residential boundaries with Auburn Street, and Falmouth properties on the North side and Auburn Street and Lambert Street residents on the South side, the landscape plan should address adequate buffer planting and treatment.

Wetlands / drainage treatment - the use of restored wetlands, intermittent streams, raingardens was not noticed during my review and wanted to check to see if the project is favoring natural drainage features?

d) Recreational / Open Space - It is essential to include a variety of on site recreational and trail amenities for this project. The geographic location is out of walking distance to existing playgrounds and trails. (The future Haverty Field may in time offer somewhat close trails). Recreation features for youngsters could include playground structure, adventure play items, benches. Walking trails on or around the existing site should be a requirement and could match up with Fire Safety access.

I am willing to meet to discuss and recommend modificiations.

Thanks,

Jeff

==========

Extras -

https://www.maine.gov/dacf/mnap/features/invasive_plants/invasives.htm

Buckthorn -
https://www.maine.gov/dacf/mnap/features/invasive_plants/rhamnus.htm

Invasive Plants - Why should you care?

Invasive plants are a direct threat to what we value about Maine's natural and working landscapes. The aggressive growth of invasive plants increases the costs of agriculture, can affect forest regeneration, threatens our recreational experiences, and potentially decreases property values. Species like Japanese barberry and multiflora rose can form thorny, impenetrable thickets in forests and agricultural fields. Aquatic invasives can choke waterways, making it difficult to boat or swim.

Invasive species are the second-greatest threat to global biodiversity after loss of habitat. Invading plants outcompete native species by hogging sunlight, nutrients, and space. They change animal habitat by eliminating native foods, altering cover, and destroying nesting opportunities. Some invaders are so aggressive they leave no room for our natives.

[Quoted text hidden]

Lambert Woods Residential Development - Initial Traffic Review Comments DRAFT

Tom Errico <thomas.errico@tylin.com> Mon, Jul 18, 2022 at 9:34 AM
To: Sean King <sking@portlandmaine.gov>
Cc: Jeremiah Bartlett <jbartlett@portlandmaine.gov>, Bruce Hyman <bhyman@portlandmaine.gov>, Justin Pellerin <jrp@portlandmaine.gov>

Sean - These are **draft** for others to comment on. I wanted to be sure that we don't have conflicting comments from the reviewers. Thanks

Hi Sean – Please find below my initial traffic review comments following a review of the application materials.

- The following comments are related to the Traffic Assessment prepared by Barton & Loguidice dated June 28, 2022.
  - The applicant has conducted a Trip Generation analysis and assuming an Affordable Housing development 83 peak hour trips will be generated by the project during the worst-case peak hour. I find the methods used to estimate trip generation to be reasonable. I would further note that this level of trip generation does not require a Traffic Movement Permit.
  - As noted in the report acceptable sight distance will be provided from the proposed driveways assuming vehicle speeds of 25MPH. I find conditions to be acceptable.
  - The Traffic Assessment did not identify any High Crash Locations. Although the Washington Avenue/Lambert Street intersection is not a High Crash Location (Historically it has been a High Crash Location), I would like to understand the contributing factors for crashes. The applicant shall provide the requested information.
  - Given the level of traffic generation by the project, the applicant shall conduct a traffic analysis at the Auburn Street/Washington Avenue Extension and Lambert Street/Washington Avenue Extension intersections. This shall include conducting existing traffic counts. The counts and analysis shall be performed for the weekday AM and PM peak hours.
- Three driveways are proposed to the development. The applicant shall provide information in support of a waiver from the City's Technical Standards. I would note that Washington Avenue Extension is classified as a Major Collector and thus minimizing access points is preferred.
- The plans depict a shared use path from the site to Auburn Street. The minimum width for a shared use path without constraints is 10 feet.
- The use of on-street parking spaces to meet parking demand requirements for a project has not been permitted during project reviews. It is also my understanding that zoning requires parking demand to be accommodated on site.
- If parking is provided on-site – I don't see a need for on-street parking. I would suggest on-road bike facilities.
- The number of crosswalks – I think two would seem sufficient from a spacing perspective.
- The waiver for aisle width (24'to 22') is being justified on reducing impervious surface. This has come up several times on Acorn projects. Any project can make this case – reducing pavement.
- In terms of cross-section – they are proposing 11-foot lanes and 8-foot parking lanes. The exception is at the bus stop where it will be 10.5' lanes and 10-foot shoulders. This seems okay to me.
- The improvements at Auburn Street need a detailed review and approval. ADA ramps need to be revised. I don't understand the truck apron and curbing (I understand they are trying to narrow the intersection). I would like to see turning templates and assumed design vehicle. They are eliminating an approach lane (I asked for a traffic analysis previously).
- Lambert also need detailed design review. They are also proposing a truck apron. And the curb alignment is strange. Again, understanding turning template movements is important.
- They are proposing slipform concrete curbing.

Please contact me if you have any questions.

Best regards,

Tom Errico, PE

NE TRAFFIC ENGINEERING DIRECTOR

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E thomas.errico@tylin.com

TYLin

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Falmouth, ME 04105, United States

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PL-002078-2022 165 Lambert DPW Preliminary Review Comments

Justin Pellerin <jrp@portlandmaine.gov> Wed, Jul 27, 2022 at 1:25 PM
To: Sean King <sking@portlandmaine.gov>
Cc: "Thomas.errico@tylin.com" <thomas.errico@tylin.com>, Lauren Swett <lswett@woodardcurran.com>, Jeremiah Bartlett <jbartlett@portlandmaine.gov>

Hi Sean
Please see DPW's preliminary review comments below for the Lambert Woods Project. Let me know if you want me to put these on the project Dev Rev spreadsheet.

Project Number: PL-002078-2022
165 Lambert Street (Lambert Woods)
DPW Development Review Comments
Justin Pellerin, P.E- DPW
7/27/2022

DPW Transportation Comments

- Accommodations for on-road bike facilities in this section of Washington Avenue Extension shall be implemented as part of the design. There appear to be two outcomes to provide consistent bike facilities through this corridor:
  - Eliminate the proposed curb extensions and on-street parking to provide an 8' wide dedicated bike lane on each side of the street.
  - Create shared bike/motor vehicle travel lanes as currently being proposed with additional traffic calming measures such as reducing the travel lane widths down to 10'-10.5' in an effort to provide more space between on-street parking stalls and the travel lane. This could be accomplished by striping an outer fog lane line to the desired width.
  - DPW would like further rationale for the development's proposed parking strategy before providing formal comments/acceptance of the proposed Washington Avenue Extension layout.
- The applicant should revise the width of the proposed curb extensions to 6'-7' to provide more lane width for cyclists using the proposed shared travel lane on Washington Avenue Extension. The applicant should provide a minimum transition length of 20' at the start/end of each curb extension.
- DPW suggests eliminating the easterly and westerly mid block Washington Avenue Extension crossings and consider creating one raised crosswalk at the crossing location near station 6+80 to provide enhanced pedestrian visibility and further traffic calming in this corridor.
- DPW will not be supportive of the applicant's waiver request to utilize slip form concrete curbing on Washington Avenue Extension in lieu of granite curbing. The applicant should also note that the full radius of each driveway entrance shall be constructed of granite curbing per tech manual standard 1.7.2.5.
- DPW is requesting that the applicant install a RRFB unit at the proposed Auburn Street at Garsoe Drive crosswalk location.
- **DPW is requesting to meet with the applicant's engineer to better understand the design intent of the proposed horizontal alignment and curbing changes being proposed at the Washington Avenue intersections with Lambert Street and Auburn Street.**
- Changes to the design of the Washington Avenue ADA ramps at Lambert Street should be considered to better align the ramp with the direction of egress across the proposed crosswalk.
- DPW is requesting further information to better understand the design intent of the multi-use path being proposed on the northside of Washington Avenue Extension. If implemented, the path would ideally be a minimum of 10' wide and extend the entire length of Washington Avenue from Lambert Street to Auburn Street to help provide further connectivity for the Portland Trail network.
- The applicant should consider ways to provide a 3' minimum esplanade for the proposed sidewalks and pathways being proposed on Washington Avenue extension.

- The applicant should provide further information on how proposed tree placement within the Washington Avenue Extension right of way could affect site line visibility of pedestrians at proposed crosswalk ramp locations.
- The site plan refers to a driveway detail which could not be located in the plan set. The applicant should provide this driveway detail and provide information how the proposed driveway designs will meet sidewalk ADA requirements.
- Per section 10 of the City's technical manual *"Developments subject to site plan review, with the exception of minor residential or low impact site development projects, as defined in Chapter 16 of this Technical Manual, 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."* The applicant should address this standard.

DPW Water Resources Comments:

- DPW is seeking further clarification and rationale for the number of stormwater outfalls and the corresponding pipe sizes being proposed to tie into the City's existing ditch lines on Washington Avenue Extension. It appears that the applicant is anticipating greater stormwater flows leaving the development site than what is indicated in the stormwater management report post development POI # 1 flow rate. The existing closed storm drain system at the SW corner of Lambert and Washington is a 15" circular pipe. DPW is concerned that any additional flows may cause downstream system capacity issues especially during large/high intensity rain events.
- The applicant shall provide further information regarding flows anticipated within the ditch lines and shall complete an analysis to determine if further improvements to the existing ditch lines are necessary to accommodate the additional stormwater flow and to protect against potential scouring of the ditch channel and embankments.
- The storm water pipe discharge angles of SD 1.1, 6.1 and 8.1 into the Washington Avenue Extension ditch lines should be revised such that flow is discharged more in line with the main flow line of the ditch.
- DPW has concerns that the proposed south side level spreader # 2 discharge will flow towards private property.
- The applicant shall provide further detail about the proposed catch basin inlet improvements at the end of the southerly and northerly Washington Ave extension ditch lines. The applicant should specify a beehive grate with proper inlet capacity to drain the proposed ditch line flows. These proposed inlets should be surrounded with a 5' riprap/geotextile fabric perimeter at least 12"-18" thick below the proposed inlet rim elevations. The applicant should provide a detail in the plan set for the proposed improvements to this inlet.
- The applicant shall submit further information and design detail for the rip-rap energy dissipation pads at locations where the development's proposed storm drain systems daylight into the existing Washington Avenue ditch line.
- The applicant should specify on the plans how the southerly and northerly ditch lines will be permanently stabilized.
- The applicant should update the project erosion control and construction management plans to include work in the right of way and specify measures to prevent erosion of the City's ditchline and sediment transport into the City's separated storm drain system.
- DPW Water Resources is not supportive of the proposed rain gardens located within the Washington Avenue Extension right of way. If further treatment/flow attenuation is needed to meet regulatory requirements, it shall be provided on the development site.
- DPW is requesting that the applicant grants the City of Portland permanent drainage easements for any proposed stormwater inlet or discharge points on private property providing drainage for the Washington Avenue Extension Street right of way. These drainage easements shall be a minimum of 30' long by 30' wide.

DPW General Site Comments:

- It appears that a fire truck will have trouble circulating through the site without driving over proposed curbing based on a review
- DPW suggests moving the development's proposed internal sanitary sewer outside of the footprint of the proposed porous pavement system.
- The applicant should consider signage to discourage on-site drivers from driving down and parking along the proposed emergency access roads corridor.

Justin Pellerin, P.E.
Senior Engineer
Department of Public Works

jrp@portlandmaine.gov
207-874-8881

public works

Re: Fore Street

Mike Tremblay <mtremblay@gpmetro.org> Wed, Jul 27, 2022 at 10:12 AM
To: Justin Pellerin <jrp@portlandmaine.gov>
Cc: Sean King <sking@portlandmaine.gov>

Justin (and Sean, copied):

This applicant has regularly engaged Metro in discussions about this project, including in the site design and in discussions about providing residents with discounted or free Metro fares.

This project is located along two existing Metro routes, the 9A and 9B, which run clockwise and counterclockwise, respectively. While not obvious from the schedules, both routes often use this segment of Washington Avenue as a brief layover spot, as it is the turnaround point for both routes before they converge again near Morrill's Corner. The Applicant has enthusiastically offered to make this layover location more formal, with dedicated pull-offs and shelters for buses, and a restroom that would be available to drivers during most or all of the service period. The applicant would also provide shelter pads for both the 9A and 9B. No written agreement has been signed, but we believe the Applicant is enthusiastic about a transit-oriented site here, despite its suburban location.

Metro plans to improve off-peak service on the 9A and 9B routes with ARPA funding in the short term. Assuming that is successful, we would hope to maintain this improved service. This would mean that residents of this development would have bus service roughly every 15 minutes throughout the day, if they are not picky about which direction they are going (e.g. if their destination is downtown Portland). That said, GPCOG is conducting a study called Transit Together, which is recommending route changes. We do not expect the 9A/9B service to change substantially; however, there is a possibility that these routes, including service to this site, would be affected by system service optimizations. In this case, Metro would likely look to serve this area with an on-demand transit alternative, which can be more efficient at serving low-density areas. Recommendations on Transit Together are expected this fall.

Comments on the site plan:

- Bus shelters should be placed closer to the front of the bus stop pull-offs, if possible. Passengers wait to board the bus, which occurs at the front door.

- Metro supports the lower parking ratio proposed. The additional ridership generated by residents who are not exceedingly incentivised to drive due to being provided abundant parking will support continued, and hopefully improved, bus service to this area in the future.

- Metro supports the aprons being proposed at the intersections as a traffic calming measure. These aprons should be sized so that buses do not need to mount them in order to turn, which would be very uncomfortable for bus passengers. The turns in question are the right turn from Lambert onto Washington, and the right turn from Washington onto Auburn.

- Existing bus stop signs should be used.

- Bus stops may be denoted with specialty pavement markings (BUS STOP legends) to help reinforce that no parking is permitted in bus stops (this is recommended city/systemwide).

- The Applicant will be required to submit a Transportation Demand Management (TDM) plan as part of this project. Metro-specific items to support reduced automobile dependence include, but are not necessarily limited to, providing bus passes to all residents; providing shelter infrastructure as proposed, providing real-time information signage at shelters and in common spaces, and providing bus schedules and maps in common spaces.

Please let me know if you have any questions. I'm happy to review again if anything changes to the transit elements on this plan.

-Mike

--

Mike Tremblay, P.E. *(he, him, his)*

Director of Transit Development

Greater Portland Metro

114 Valley Street | Portland, ME 04102

Office: 207.517.3023 | Mobile: 508.451.0208

e-mail: mtremblay@gpmetro.org | website: www.gpmetro.org

165 Lambert Street Comments

Lauren Swett <lswett@woodardcurran.com>
To: Sean King <sking@portlandmaine.gov>
Cc: Justin Pellerin <jrp@portlandmaine.gov>

Wed, Jul 27, 2022 at 4:51 PM

Hi Sean,

I have reviewed the 165 Lambert Street project, and have the following comments.

- The project is required to comply with MaineDEP Chapter 500 and City of Portland Section 5 standards for stormwater management.
  - Basic Standards – The project is providing for erosion and sedimentation controls on the site, and has provided two plans one each for the areas north and south of Washington Avenue. On Plan C-04, some of the work area extends off of the page and there is also an area where site drainage could exit the site that does not have perimeter erosion control – these areas should be updated. Work is also proposed for areas along Washington Avenue, and similar erosion control measures should be identified for those impact areas as well.
  - General Standards – Stormwater treatment is being provided on the site using underdrained subsurface sand filters and porous pavement.
    - The Applicant should address the depth of groundwater. The subsurface sand filter and soil filter details include an impermeable liner, but the porous pavement detail does not.
    - The report does not address the design of the proposed soil filters along Washington Avenue. The City has expressed some concern with utilizing these underdrained soil filters, so further coordination will be required.
  - Flooding Standards – The Applicant has noted that the Flooding Standard has been met, primarily maintaining flows at the pre-development condition. I have reviewed the HydroCAD model and have the following comments.
    - The Applicant is utilizing a method of evaluating flow through porous pavement with a large time of concentration that I am not familiar with, but I am continuing to review. I am specifically interested in understanding more about how the use of the large time of concentration works with also separately modeling the porous pavement's storage and flow-through. I will continue to review and will provide additional comment as required.
    - The Applicant should review the time of concentration calculations for areas that are remaining as undeveloped. In some cases it appears that surface types may have been modified from the pre-development to post-development models resulting in larger TC values in the post-development condition.
    - The North and South grading and drainage plans both include drainage structures and stormdrain pipes. The numbering of these structures and pipes includes the same numbers on both the north and south project areas. It is suggested that the Applicant consider some kind of naming distinction as there could be some confusion when distinguishing the different project areas.
    - The Applicant should review the drainage structure rims with the proposed site grading that is shown on the plans – in some areas of the site the grades seem to be different than the structure rims. For example, CB6 on the southern project area appears higher than site grades; similarly CB2 on the northern project area is also slightly higher. The catch basins will provide the overflow backup for the permeable pavement, so they should be set at low points to be able to collect stormwater in higher intensity storm events or in the event that areas of the permeable pavement becomes clogged.
- The utility plan shows the proposed locations of an electric utility pole and guywire east of the driveway and north of Washington Avenue. Please clarify what work may be necessary to install this utility infrastructure, and if this is part of the identified wetland impacts.
- The potential snow storage locations that have been identified on the plans should be reviewed with proposed landscaping for conflicts. It appears that some areas may overlap with proposed trees.
- The proposed landscape plans for the Washington Avenue work should be coordinated with the site plans. The landscape plans do not appear to show the entire area, they do not account for proposed stormwater features, and it appears that trees are proposed within stormwater swales, and in some cases on slopes that are identified on the site plans as rip rap. Any proposed on-street vegetation should also be coordinated with utilities.
- City of Portland Department of Public Works has provided a number of comments about the proposed stormwater management system, in particular for the work proposed within the Washington Avenue Right of Way. I would echo their comments, and would note that one area that needs some further clarification is the section from stations 9+00 to 13+50. Based on the grading plan, it is not completely clear where drainage will be directed, and what impacts drainage my have on off-site areas.

Please let me know if you have any questions!

Thanks,

Lauren

Lauren Swett, PE
Technical Manager | Principal

Woodard & Curran

207-558-3763 207.219.3591 woodardcurran.com

lswett@woodardcurran.com

41 Hutchins Drive, Portland, ME 04102

Project: 165 Lambert Street (PL-002078-2022)

Planner: Sean King

Comments (originally shared with applicant 7/22/2022, items in red dated 7/27/2022):

Planning

- Kevin Kraft (Deputy Director)
  - Document the existing conditions by boundary and ownership of the 0 Gray Street property in Falmouth, ME. Indicate the property and acreage for conservation use on a surveyed plan.
- Sean King (Urban Designer)
  - Advance design of proposed facilities for the Community Pavilion, and include the intent for use. With the majority of household services (ie. grocery, playground, community and social such as child care services) are beyond the 1-mile radius, consider community pavilion as building for access to essential goods and services within the development.
  - Maine Cooperative Development Partners plans to provide a list of major employers within a 1/4 mile of bus stops on the 9A/9B, for sharing with residents and to conduct outreach to those employers regarding housing availability at Lambert Woods.
  - Provide rationale for the proposed surface material selection, consider the addition of more concrete pavers (potentially permeable) for the mews to connect building entries and assist to delineate vehicular and pedestrian use. Maintain parking and driveways as asphalt.
  - Clarify the interior circulation pathway materials, it appears asphalt is proposed at the north and concrete pavers proposed at the south. Consider a unified surface material of concrete for the interior pathways and building entries with concrete pavers.
  - Provide site lighting locations and photometrics. Provide street lighting locations and photometrics along Washington Ave Extension.
  - Indicate where storage is provided for each dwelling unit per building type.
  - Building design comments:
    - Confirm Guest suite as Studio apartments in Community Flats
    - Provide variation in façade character along building facades that face Common (Building B.5, B.4, B.2 & B.1) as a more activated elevation. Consider delineation of first floor (ie. window awning, secondary entry or variation in façade material) that breaks horizontal scale of buildings longer than 40 feet.
  - Outline the organization structure of the Co-op development to acknowledge common area maintenance vs. tenant responsibilities. Applicant to describe or direct planner to documents submitted.

Transportation & Traffic

- Tom Errico (traffic consultant with TYLin)

  The following comments are related to the Traffic Assessment prepared by Barton & Loguidice dated June 28, 2022.

- The Traffic Assessment did not identify any High Crash Locations. Although the Washington Avenue/Lambert Street intersection is not a High Crash Location (Historically it has been a High Crash Location), I would like to understand the contributing factors for crashes. The applicant shall provide the requested information.
- Given the level of traffic generation by the project, the applicant shall conduct a traffic analysis at the Auburn Street/Washington Avenue Extension and Lambert Street/Washington Avenue Extension intersections. This shall include conducting existing traffic counts. The counts and analysis shall be performed for the weekday AM and PM peak hours.

- Three driveways are proposed to the development. The applicant shall provide information in support of a waiver from the City's Technical Standards. I would note that Washington Avenue Extension is classified as a Major Collector and thus minimizing access points is preferred.
- The plans depict a shared use path from the site to Auburn Street. The minimum width for a shared use path without constraints is 10 feet, although existing constraints by drainage system shall be considered. Applicant shall provide the design intent of the proposed multi-use path on the north side of Washington Avenue Extension. Confirm if share use path provides linkage of the Portland Trails Sebago to the Sea trail head and the Presumpscot Falls portion of the trail.
- The use of on-street parking spaces to meet parking demand requirements for a project has not been permitted during project reviews, zoning requires parking demand to be accommodated on site. Applicant to provide rationale behind the proposal to include the amount of on-street parking along with further justification for the amount of total parking provided for the development with the exemption for 1/4 mile from a fixed transit route.
- Suggest on-road bike facilities in this section of Washington Avenue Extension with the following options:

  1.) Eliminate the proposed curb extensions and on-street parking to provide a dedicated 8' wide bike facility (6' width bike lane, 2' width buffer) on each side of the street.

  2.) Create a shared lane bike facility as they are proposing with additional traffic calming measures such as reducing the travel lane width's down to 10.5' to provide more space between the on-street parking stalls and the travel lane by striping an outer fog lane line.

- The waiver for aisle width (24'to 22') is being justified on reducing impervious surface. Any project can make this case – reducing pavement. The development is proposing to create 2.69 acres of impervious area. The threshold of a Maine DEP SLODA permit is the creation of 3 acres of impervious area. So that could be the angle here.

Public Works & Engineering

- Justin Pellerin (Public Works Senior Engineer)

- Recommend to eliminate the easterly and westerly crossing and have one dedicated crossing at the middle location with an RRFB, it seems like westerly and easterly crossing locations are in very close proximity to driveways being proposed.
- DPW will **NOT** supportive of slip form curbing to be installed on a major collector such as Washington Avenue Extension.

- Accommodations for on-road bike facilities in this section of Washington Avenue Extension shall be implemented as part of the design. There appear to be two outcomes to provide consistent bike facilities through this corridor:
    - Eliminate the proposed curb extensions and on-street parking to provide an 8' wide dedicated bike lane on each side of the street.
    - Create shared bike/motor vehicle travel lanes as currently being proposed with additional traffic calming measures such as reducing the travel lane widths down to 10'-10.5' in an effort to provide more space between on-street parking stalls and the travel lane. This could be accomplished by striping an outer fog lane line to the desired width.
    - DPW would like further rationale for the development's proposed parking strategy before providing formal comments/acceptance of the proposed Washington Avenue Extension layout.
- The applicant should revise the width of the proposed curb extensions to 6'-7' to provide more lane width for cyclists using the proposed shared travel lane on Washington Avenue Extension. The applicant should provide a minimum transition length of 20' at the start/end of each curb extension.
- DPW suggests eliminating the easterly and westerly mid block Washington Avenue Extension crossings and consider creating one raised crosswalk at the crossing location near station 6+80 to provide enhanced pedestrian visibility and further traffic calming in this corridor.
- DPW will not be supportive of the applicant's waiver request to utilize slip form concrete curbing on Washington Avenue Extension in lieu of granite curbing. The applicant should also note that the full radius of each driveway entrance shall be constructed of granite curbing per tech manual standard 1.7.2.5.
- DPW is requesting that the applicant install a RRFB unit at the proposed Auburn Street at Garsoe Drive crosswalk location.
- **DPW is requesting to meet with the applicant's engineer to better understand the proposed horizontal alignment and curbing changes being proposed at the Washington Avenue intersections with Lambert Street and Auburn Street**
- Changes to the design of the Washington Avenue ADA ramps at Lambert Street should be considered to better align the ramp with the direction of egress across the proposed crosswalk.
- DPW is requesting further information to better understand the design intent of the multi-use path being proposed on the northside of Washington Avenue Extension. If implemented, the path would ideally be a minimum of 10' wide and extend the entire length of Washington Avenue from Lambert Street to Auburn Street to help provide further connectivity for the Portland Trail network.
- The applicant should consider ways to provide a 3' minimum esplanade for the proposed sidewalks and pathways being proposed on Washington Avenue extension.

- The applicant should provide further information on how proposed tree placement within the Washington Avenue Extension right of way could affect site line visibility of pedestrians at proposed crosswalk ramp locations.
- The site plan refers to a driveway detail which could not be located in the plan set. The applicant should provide this driveway detail and provide information how the proposed driveway designs will meet sidewalk ADA requirements.
- DPW General Site Comments:
    - It appears that a fire truck will have trouble circulating through the site without driving over proposed curbing based on a review
    - DPW suggests moving the development's proposed internal sanitary sewer outside of the footprint of the proposed porous pavement system.
    - The applicant should consider signage to discourage on-site drivers from driving down and parking along the proposed emergency access roads corridor.

- Jeremiah Bartlett (Public Works Transportation Systems Engineer)
    - Current configuration of Washington Ave Ext. not sufficient. Cross section needs revisions by the applicant to consider curb bump out to account for a reduced bike lane width, striping travel lane and reduce to 10', elevated crosswalks for traffic calming. On-street parking should accommodate the development and not create overflow into the adjacent neighborhood.

DPW Water Resources Comments:

- DPW is seeking further clarification and rationale for the number of stormwater outfalls and the corresponding pipe sizes being proposed to tie into the City's existing ditch lines on Washington Avenue Extension. It appears that the applicant is anticipating greater stormwater flows leaving the development site than what is indicated in the stormwater management report post development POI # 1 flow rate. The existing closed storm drain system at the SW corner of Lambert and Washington is a 15" circular pipe. DPW is concerned that any additional flows may cause downstream flooding issues, especially during large events.
- The applicant shall provide further information regarding flows anticipated within the ditch lines and shall complete an analysis to determine if further improvements to the existing ditch lines are necessary to accommodate the additional stormwater flow and to protect against potential scouring of the ditch channel and embankments.
- The storm water pipe discharge angles of SD 1.1, 6.1 and 8.1 into the Washington Avenue Extension ditch lines should be revised such that flow is discharged more in line with the main flow line of the ditch.
- DPW has concerns that the proposed south side level spreader # 2 discharge will flow towards private property.
- The applicant shall provide further detail about the proposed catch basin inlet improvements at the end of the southerly and northerly Washington Ave extension ditch lines. The applicant should specify a beehive grate with proper inlet capacity to drain the proposed ditch line flows. These proposed inlets should be surrounded with a 5' riprap/geotextile fabric perimeter at least 12"-18" thick below the proposed inlet rim elevations. The applicant should provide a detail in the plan set for the proposed improvements to this inlet.

- The applicant shall submit further information and design detail for the rip-rap energy dissipation pads at locations where the development's proposed storm drain systems daylight into the existing Washington Avenue ditch line.
- The applicant should specify on the plans how the southerly and northerly ditch lines will be permanently stabilized.
- The applicant should update the project erosion control and construction management plans to include work in the right of way and specify measures to prevent erosion of the City's ditchline and sediment transport into the City's separated storm drain system.
- DPW Water Resources is not supportive of the proposed rain gardens located within the Washington Avenue Extension right of way. If further treatment/flow attenuation is needed to meet regulatory requirements, it shall be provided on the development site.
- DPW is requesting that the applicant grants the City of Portland permanent drainage easements for any proposed stormwater inlet or discharge points on private property providing drainage for the Washington Avenue Extension Street right of way. These drainage easements shall be a minimum of 30' long by 30' wide.

Stormwater

- Lauren Swett (Stormwater management consultant with Woodard and Curran)

  - The project is required to comply with MaineDEP Chapter 500 and City of Portland Section 5 standards for stormwater management.
    - Basic Standards – The project is providing for erosion and sedimentation controls on the site, and has provided two plans one each for the areas north and south of Washington Avenue. On Plan C-04, some of the work area extends off of the page and there is also an area where site drainage could exit the site that does not have perimeter erosion control – these areas should be updated. Work is also proposed for areas along Washington Avenue, and similar erosion control measures should be identified for those impact areas as well.
    - General Standards – Stormwater treatment is being provided on the site using underdrained subsurface sand filters and porous pavement.

      - The Applicant should address the depth of groundwater. The subsurface sand filter and soil filter details include an impermeable liner, but the porous pavement detail does not.
      - The report does not address the design of the proposed soil filters along Washington Avenue. The City has expressed some concern with utilizing these underdrained soil filters, so further coordination will be required.

    - Flooding Standards – The Applicant has noted that the Flooding Standard has been met, primarily maintaining flows at the pre-development condition. I have reviewed the HydroCAD model and have the following comments.

      - The Applicant is utilizing a method of evaluating flow through porous pavement with a large time of concentration that I am not familiar with, but I am continuing to review. I am specifically interested in understanding more about how the use of the large time of concentration works with also separately

modeling the porous pavement's storage and flow-through. I will continue to review and will provide additional comment as required.

  - The Applicant should review the time of concentration calculations for areas that are remaining as undeveloped. In some cases it appears that surface types may have been modified from the pre-development to post-development models resulting in larger TC values in the post-development condition.
  - The North and South grading and drainage plans both include drainage structures and stormdrain pipes. The numbering of these structures and pipes includes the same numbers on both the north and south project areas. It is suggested that the Applicant consider some kind of naming distinction as there could be some confusion when distinguishing the different project areas.
  - The Applicant should review the drainage structure rims with the proposed site grading that is shown on the plans – in some areas of the site the grades seem to be different than the structure rims. For example, CB6 on the southern project area appears higher than site grades; similarly CB2 on the northern project area is also slightly higher. The catch basins will provide the overflow backup for the permeable pavement, so they should be set at low points to be able to collect stormwater in higher intensity storm events or in the event that areas of the permeable pavement becomes clogged.

- The utility plan shows the proposed locations of an electric utility pole and guywire east of the driveway and north of Washington Avenue. Please clarify what work may be necessary to install this utility infrastructure, and if this is part of the identified wetland impacts.
- The potential snow storage locations that have been identified on the plans should be reviewed with proposed landscaping for conflicts. It appears that some areas may overlap with proposed trees.
- The proposed landscape plans for the Washington Avenue work should be coordinated with the site plans. The landscape plans do not appear to show the entire area, they do not account for proposed stormwater features, and it appears that trees are proposed within stormwater swales, and in some cases on slopes that are identified on the site plans as rip rap. Any proposed on-street vegetation should also be coordinated with utilities.
- City of Portland Department of Public Works has provided a number of comments about the proposed stormwater management system, in particular for the work proposed within the Washington Avenue Right of Way. I would echo their comments, and would note that one area that needs some further clarification is the section from stations 9+00 to 13+50. Based on the grading plan, it is not completely clear where drainage will be directed, and what impacts drainage my have on off-site areas.

- Jodie Keene (Public Works Stormwater Coordinator)

  - Recommends a realistic limit of work to include staging, equipment and earthwork anticipated adjacent to wetlands to accurately depict disturbance area. Riprap is not recommended as a permanent solution and promotes a robust vegetated solution and

erosion matting solution at steep grades adjacent to wetland. Consider appropriate vegetated buffers at wetland edges.

Open Space & Trails

- Jeff Tarling (Parks Operational Manager / City Arborist)
    - Advocate for trails in passive wooden areas, applicant to clarify how open space requirement is being met. Coordinate with Falmouth Land Trust & Portland Trails for potential opportunities for trail connections and future recreation use.
    - **TREE SAVE / Limit of Work -** The final plan should include a 'Tree Save' / Limit of Work designation and plan to be used prior to clearing and during construction. This would include a written plan, signage and construction fencing to prevent off site storage or materials and equipment. "Tree Save' trees should be protected with signage and fencing around the drip line. To date the plan does not show either a tree save or limit of work. The proposed project clears an extensive amount of existing forest without any tree saves or forest management suggestions? The site workclearing should include nearby forest thinning improvements for sustainable landscape and safety.
    - **Invasive plant management -** The northern side of the project especially contains extensive Common Buckthorn shrubs, the project should identify, plan and remove all invasive plants as part of their clearing portion of site work. This has been a standard on other project sites where high numbers of invasive plants are located.
    - **Tree & Landscape treatment -** We encourage high percentage use of native plants on wood sites like the proposed 165 Lambert Street project. Stevens Commons for example next to Baxter Woods successfully modified their landscape plan to a higher percentage of native species. This should be a condition of approval. The site is surrounded by natural appearing woodlands, the project should appear part of the surrounding landscape vs 'suburban'. The 'Woods at Canco' development is another successful landscape example. Thus we would ask the project not to use plants like 'Feather Reed Grass' and 'Maiden Grass' for example, and increase the native grasses like 'Little Bluestem', 'Prairie Dropseed' and other plants compatible to the New England region. The proposed tree pallet should also diversify, currently over 100 trees using only four species, recommend reducing numbers on the 'Armstrong' Red Maples from 40 to perhaps half of that and consider other tree types like the 'Beacon' and 'Regal Prince' Oak, though they are cultivars it would be nice to have a greater mix of tree types. Tree types missing: Red Oak, Swamp White Oak (use instead of the hard to establish White Oak), Tupelo, Shagbark Hickory, River Birch, Yellow Birch, White Spruce, Larch, 'Bowall', 'Red Pointe', 'Karpick' Red Maples offer a variety of other maple types depending on the desired planting space size.

        - **Tree planting spacing and sizes -** While regular spaced trees all in certain order adds a degree of structure to the landscape, this site might be better served by including groves of trees in a more natural arrangement. This might include a mix of plant heights like 5-6' conifers and 2" caliper trees with the larger sizes

proposed. Knowing the more orderly plantings might be closer to the buildings and the natural groves of trees near the edges.

- **Street trees -** We would like to work closer with the project team to review the public 'Street tree' portion of the project. This would include species types, spacing. Applicant to include total tree count proposed.

- **Buffering -** The proposed site contains existing residential boundaries with Auburn Street, and Falmouth properties on the North side and Auburn Street and Lambert Street residents on the South side, the landscape plan should address adequate buffer planting and treatment.

- **Wetlands / drainage treatment -** the use of restored wetlands, intermittent streams, raingardens was not noticed during my review and wanted to check to see if the project is favoring natural drainage features?

- **Recreational / Open Space -** It is essential to include a variety of on site recreational and trail amenities for this project. The geographic location is out of walking distance to existing playgrounds and trails. (The future Haverty Field may in time offer somewhat close trails). Recreation features for youngsters could include playground structure, adventure play items, benches. Walking trails on or around the existing site should be a requirement and could match up with Fire Safety access.

Fire & Life Safety

- Jason Grant (Fire Prevention staff)
  - Fire truck access shall be well marked and visible from public street.
  - Indicate appropriate snow storage and maintenance agreement to ensure fire access is clear at all times.
  - Consider loop connection at the south development lot to gain access behind back of buildings to eliminate backing out onto Washington Ave Extension.
  - Prefer alignment of fire truck access lanes where grasscrete is proposed, applicant to justify design intent.

Zoning

- Ann Machado (Zoning Administrator)
  - Applicant to quantify and show on plans the net land area. The report from Jones Associates states that there is approximately 236,727.92 sf (5.43 acres) of delineated wetlands on the two properties. That is part of what needs to be subtracted from the net land area, but we still need to know the square footage of the watercourse (stream) and the slopes of 25% or greater. The overall site plan (sheet C-09) under Net Land Area states that 244,738 sf has been deducted from the property area to reach the netland area of 537,251 sf.

- Applicant to confirm density bonus under section 18.2.4.B for PRUDs. Applicant to outline minimum lot area per dwelling unit in table.
- Applicant to confirm if seeking minimum recreation open space reduction to 200/square feet of common area.
- Proposed 122 parking (67 off street, 55 on street). The proposed 55 on-street parking stalls would not be counted towards required parking. R3 requires 1 parking stall per unit. Planning Board may establish a parking requirement less than 1 per unit based on affordable housing development. Applicant has provided TDM to pursue Land Use Code, Article 19, Table 19-B: Categorical Exceptions to Off-Street Parking Minimums, "No off-street parking shall be required within ¼ mile of fixed route transit service. New uses or changes of use of more than 10,000 SF taking advantage of this exception shall be required to provide a Transportation Demand Management Plan if they use this provision in lieu of parking requirements."
- Confirm the minimum building setbacks being observed for the development, zoning requirement for PRUD is 16 foot separation between buildings. Affordable housing of more than 50% can be reduced to 10 feet.

Inclusionary Housing

- Victoria Volent (Housing Coordinator)
    - 165 Lambert Street would meet the IZ requirement of 25% of the units being workforce housing at 80% AMI and over 50% low income housing at 100% AMI for the density allowed under section 18.2.4.B. There will be 12 two-story townhouses, 48 three-story rowhomes, and 105 three-story flats - consisting of a total of 5 studios, 64 one-bedroom, 50 two-bedroom, and 46 three-bedroom units.

Observations:

Transportation & Traffic

- Tom Errico (traffic consultant with TYLin) –

  The following comments are related to the Traffic Assessment prepared by Barton & Loguidice dated June 28, 2022.

    - The applicant has conducted a Trip Generation analysis and assuming an Affordable Housing development 83 peak hour trips will be generated by the project during the worst-case peak hour. I find the methods used to estimate trip generation to be reasonable. I would further note that this level of trip generation does not require a Traffic Movement Permit.
    - As noted in the report acceptable sight distance will be provided from the proposed driveways assuming vehicle speeds of 25MPH. I find conditions to be acceptable.

- In terms of cross-section – they are proposing 11-foot lanes and 8-foot parking lanes. The exception is at the bus stop where it will be 10.5’ lanes and 10-foot shoulders. This seems okay to me.

Further Review Required:

Planning

- R3 PRUD Design Review Memo

Transportation & Traffic

- The improvements at Auburn Street need a detailed review and approval. ADA ramps need to be revised.
- The improvements at Lambert Street need a detailed review and approval. DPW observes that the curbing alignment at this intersection might have an adverse impact on plowing operations.

CITY of PORTLAND, MAINE
Request for Proposals for Disposition of City-Owned Property
Located at 165 Lambert Street

I. NOTICE AND SPECIFICATIONS

The City of Portland, Maine seeks proposals from qualified developers for the creation of residential housing at 165 Lambert Street. The site is designated on the City of Portland Tax Assessor's Map as lots CBL 385 A001, and 386 C001.

Sealed proposals for the project, including an original, seven (7) copies, and one (1) digital copy, as specified herein, will be received by the Purchasing Office, Room 103, City Hall, 389 Congress Street, Portland, Maine 04101, until 3:00 p.m., Tuesday May 12, 2020, at which time they will be publicly opened.

Proposals shall be submitted, and returned in sealed envelopes plainly marked on the outside "Disposition and Development of Property Located at 165 Lambert Street".

Proposals that are late, unsigned or submitted via fax will not be accepted. Proposals from individuals not registered with the Purchasing Office may be rejected; receipt of this document directly from the City of Portland indicates registration. Should a person receive this Request from a source other than the City, please contact 207-874-8654 to ensure that you are listed as a recipient for this proposal.

All questions must be submitted in writing to the Purchasing Office. These may be mailed, hand delivered, faxed to (207) 874-8652 or e-mailed to mff@portlandmaine.gov and be received no later than five (5) business days prior to the opening date. Questions received after this time will not be addressed. Any interpretation, correction, or change of this document will be made only by written addenda. Changes in any other manner will not be binding on the City and proposers should not rely on. Proposers should not have contact with any City staff with regard to this proposal unless to obtain general public information as specified in the document.

The disposal of this real estate shall be on the basis of a negotiated proposal, with the City of Portland reserving the right to refuse any and all proposals. *All proposers are advised that the property will be sold "as-is" and "where is", in its existing condition, with no warranties either expressed or implied.* The City makes no representations or warranties about of any of the information about the property set forth herein, which is provided to proposers for their convenience only. The successful proposer shall be responsible to inspect the property, or to hire its own professionals to do so. The City, and its agents, make no representations or warranties with respect to the title of the property, the accuracy of any statement as to boundaries or acreage, or as to any other matters contained in any description of the property, or as to the fitness of the property for a particular purpose, or as to development rights, merchantability, habitability, or as to any other matter, including without limitation, land use, zoning and subdivision issues or the environmental, mechanical, or structural condition of the property. The City disclaims any and all responsibility for injury to proposers, their agents or others while examining the property or at any other time. The City will not be responsible for any broker's commission.

Any and all improvements made to said property must be done in accordance with existing City Codes and Ordinances.

II. GENERAL INFORMATION

Summary of Request:

The City of Portland is committed to providing housing opportunities and has set a goal to evaluate the use of City-owned property to construct housing. As one-step in accomplishing this goal, the City of Portland will accept proposals for the development of housing on the lot located at 165 Lambert Street, which currently is vacant.

This request for proposals results from the December 16, 2019 approval by the Portland City Council (Resolve 10-19/20) of the recommendations of the Housing Committee to market the City-owned vacant property located at 165 Lambert Street.

The City of Portland uses the RFP process to ensure that public resources are utilized for maximum public benefit while accomplishing specific objectives and providing fair access to all applicants.

Site Information:

a. **Location:** 165 Lambert Street, as identified in the City of Portland Assessor's records as lot CBL 385 A001and 386 C001 (See Attachment 2).

b. **Existing Conditions:** 165 Lambert Street is located on two parcels totaling 13.3874 acres with frontage on Lambert Street in the North Deering neighborhood. The surrounding context is predominantly residential with the majority of homes in the area being one-family structures. The topography is quite steep and much of the parcel is designated as wetlands. A large portion of Auburn Street storm drain discharges to this area.

c. **Current use:** Vacant lot.

d. **General Dimensions:** Together these lots are approximately 13.3874 acres or 583,157 square feet.

e. **Current Zoning:** R-2. The R-2 zone allows for the creation of single-family detached dwelling units on minimum lot sizes of 10,000 square feet. At 13.39 acres (583,157 square feet), this parcel could permit a maximum residential density of 58 single-family homes. However, there are extensive wetlands on approximately 8 acres on the site that will limit maximum development potential. For complete zoning requirements, please refer to Chapter 14, Land Use, of the City Code.

f. **Rezoning**: Higher density zoning that furthers exceptional projects and city goals as outlined in Section III will be considered. For example, the R-3 residential zone allows for Planned Residential Unit Development (PRUD) on properties of 3 acres of more, and a higher maximum residential density of 6,500 square feet per dwelling unit. A PRUD would allow for alternative site layouts, and the ability to avoid impacts to on-site wetlands. It should be noted that changes to zoning require both Planning Board and City Council approval.

g. **Condition of the property at the time of disposition:** Wetlands present. See Boyle

Associates report and Jones Associates report available online.

h. Environmental Conditions: Boyle Associates conducted a wetland delineation in July of 2009 and prepared a wetland sketch plan for the City of Portland; 4.53 acres of uplands were identified during their review. During a site visit in October of 2019, Jones Associates confirmed there had been no changes to the wetlands and the wetland delineations done by Boyle Associates were still appropriate to use. The City of Portland reserves the right to establish a conservation easement on the non-developable portions of the parcel. The Jones Associates report is available on-line.

i. Proposers are urged to investigate water sources and utility connection requirements with the Department of Public Works.

III. CITY GOALS

The City's primary goals for the use of the property are:

1. Developments shall provide mixed income units. All units must be affordable to households earning 60% to 120% of the area median income – which 60% is now $55,800 for a family of four and 120% is now $111,600 for a family of four.

   Affordable means that the percentage of income a household is charged in rent and other housing expenses including utilities, or must pay in monthly mortgage payments (including real estate taxes, mortgage insurance, condominium/HOA fees, insurance and utilities), does not exceed 30% of a household's gross income, or other amount established in city regulations that does not vary significantly from this amount.

   Restrictions on the affordability of units must be in place for a minimum of 30 years for homeownership units, and the longest period allowed by law for rental units.

2. Development of mixed income homeownership or rental housing of excellent building and site design. Design principles should promote efficient use of land to create a development that is compatible with the existing pattern, scale, massing, and materials of the surrounding neighborhood. The development's buildings shall be designed to meet the City's Green Building Code.

3. Environmental preservation should be identified to retain a balance between development and conservation of open space important for wildlife, ecological, and environmental values.

4. Rezoning may be considered to support increase housing development opportunities or maximize the number of allowable housing units on the property.

5. Developments shall create housing options that are age inclusive.

The general terms for this real estate transaction include:

- Units must be used as the principal residence of the owner/tenant and owner/tenant shall not use the unit for the conduct of business (except for a home occupation allowed under the City of Portland zoning ordinance) or as an investment property. Units shall not be rented for short-term periods of one to thirty days.
- The sale or long term lease of the property below fair market value may be considered to support housing development that meets the City's stated goals.
- Alternative Ownership Models. Alternative ownership models that will encourage a mixed income community with long term affordability for the maximum number of units, such as limited equity units, co-housing, cooperative, or a community land trust, may be considered in order to ensure the units affordability over time.
- Proposals must outline how they will maintain affordability.
- Other City Incentives. Other city financial incentives may be considered to support increase housing development opportunities or maximize the number of allowable housing units on the property.

IV. PROPOSED SCORING

An internal staff Committee will review proposals received, and will apply the following selection criteria in reviewing and scoring the applications.

Proposed use to achieve the City of Portland's goals **40 points**

1. Market Demand - 20 points
    a. 20 points - all units meet the City's Goals and Terms noted in Section III
    b. 15 points - at least 75% of the units meet the City's Goals and Terms noted in Section III
    c. 10 points - at least 50% of the units meet the City's Goals and Terms noted in Section III
    d. 0 points - project does not does not meet the City's Goals and Terms noted in Section III
2. Economic diversity - 10 points
    a. 10 points - creates housing options which promote economic diversity in the neighborhood in which the development is located
    b. 0 points - does not promote economic diversity
3. Age Inclusive – 10 points
    a. 10 points – creates housing which is age inclusive
    b. 0 points – does not create housing which is age inclusive

Impact on surrounding neighborhood, including design. 25 points

1. Project Design - 15 points
    a. 15 points - the proposal is consistent with design characteristics
    b. 10 points - the proposal is an adequate fit with neighborhood characteristics
    c. 0 points - the design is a significant outlier
2. Amenities and unit design -- 10 points
    a. 10 points - amenities & unit design are well thought out and appropriate for residents
    b. 5 points - amenities & unit design are adequate

c. 0 points - amenities and unit design raise significant concerns that resident needs will not be adequately addressed

Applicant's ability to complete project, including financial feasibility, development team experience, capacity, and timeframe for completion. 35 points

1. Readiness to proceed - 15 points
    a. 15 points - all projected sources of funding include letters of commitment or interest are projected at terms and conditions consistent with the City's prior experience with the funder
    b. 10 points - most projected sources of funding include letters of commitment, letters of interest, or, if no letter is included, are projected at terms and conditions consistent with the City's prior experience with this funder
    c. 0 points - one or more sources are projected on terms that are not consistent with the City's prior experience with the funder and are not documented by letter(s) from funder(s)
2. Track record of development team - 10 points
    a. 10 points - every development team member has a successful track record with this type of project and at this scale
    b. 8 points - all but one development team members have a successful track record with this type of project and at this scale; one development team member has relevant experience but at a smaller scale or not of this project type
    c. 5 points - two development team members, while having relevant experience, are new to this type of project or this scale of development
    d. 0 points - the development team does not meet the criteria above
3. Current Capacity of development team - 10 points
    a. 10 points - development team members have exceptional depth of human and financial resources to complete this project
    b. 8 points - development team members have the human and financial resources to complete this project
    c. 5 points - development team has a staffing gap in a significant role and a plan to address that gap, OR there are some concerns about the financial resources of the team to move the development forward
    d. 0 points - the development team does not meet the criteria described above

SUMBMISSION INFORMATION

Interested parties are asked to submit a concept development (including preliminary drawings) and a brief description of the project, no longer than two pages, to include the number and type of units, occupants (owners/renters) to be served, special features, the impact on the neighborhood and other ways the proposal meets the primary goals of the City. A general project budget with projected funding sources, development timeline, and development team qualifications and financial capabilities is also required. This RFP does not require detailed architectural drawings or development pro formas.

Photographs and maps of the site and area are required.

a) **Developer:** Name, address, telephone, email, fax number of the proposed owner/developer and the name(s) of an alternative contact person(s).

b) **Proposal:** Each proposal submitted must specifically outline the proposed use of the property and any proposed rezoning requests.

c) **Financial Feasibility:** Provide a business plan, which shall include prospective and committed sources of funding, development and operating budgets; a letter from a lending institution indicating the applicant's ability to finance the projected costs; and provide examples of prior projects that indicate the proven ability to develop a project of similar type and scale from a fiscal perspective.

d) **Timetable:** Provide an overview of how the proposal will be implemented. Include approximate schedule for completion of each element, closing, construction start-up, substantial completion, final completion, and occupancy. Include applications for public or private financing.

e) **Developer Capacity:** Identify the qualifications and experience of the development team for the project including a list of previously completed projects similar to the proposed project. This team may include key staff of the developer, architect, general contractor and future property management. Also, discuss the ability to complete the project including the qualifications of the development team, management plan, experience, capacity, project readiness to proceed, and timeframe for completion.

f) **Occupancy and Management Plan:** Present a plan detailing the ownership structure (condominium, cooperative, etc.), resale restrictions and resale process to ensure mixed income and long-term affordability.

g) **Purchase Price or Lease Terms:** Proposed purchase price or lease terms for this property.

h) **Copies:** Seven (7) copies, with the original so marked, of each proposal shall be submitted.

V. DISPOSITION INFORMATION

After proposals are opened, city staff will make a recommendation to the City Council's Economic Development Committee (EDC) and the Housing Committee (HC). The EDC and HC will make a recommendation to the City Council.

VI. OTHER INFORMATION

Confidentiality: Proposals received by the City shall become a matter of public record, subject to public inspection, except to the extent, which an applicant designates in writing, proprietary data to be confidential and submits that data under separate cover, such information may, to the extent permitted by law, be held from public inspection, as provided in applicable Maine law, including, without limitation, 5 MRSA Sections 13119-A and 13119-B.

VII. LEGAL REQUIREMENTS

The contract for the disposition of the property will be executed only after review and final approval by the City Council.

VIII. RESERVATION of RIGHTS

The City of Portland reserves the right, at its sole discretion, to award as well as reject any and all proposals for the city-owned property, based on the quality and merits of the proposals received, or when it is determined to be in the public interest to do so. Furthermore, the City may extend deadlines and timeframes, as needed.

The City reserves the right to substantiate any proposer's qualifications, capability to perform, availability, past performance records, and to verify that the proposer is current in its financial obligations to the City.

The City of Portland, Maine, reserves the right to waive any informalities in proposals, to accept any proposal or portion thereof, and, to reject any and all proposals, as well as negotiate with the successful proposer(s) should it be in the best in the best interest of the City to do so for a final purchase and sale agreement and ultimate sale or lease of the property.

Pursuant to City procurement policy and ordinance, the City is unable to contract with businesses or individuals who are delinquent in their financial obligations to the City. These obligations may include but are not limited to real estate and personal property taxes and sewer user fees.

Proposers who are delinquent in their financial obligations to the City must do one of the following: bring the obligation current, negotiate a payment plan with the City's Treasury office, or agree to an offset, which shall be established by the contract, which shall be issued to the successful proposer

April 1, 2020

Matthew F. Fitzgerald
Purchasing Manager

Attachments:
A. Proposal Signature Page
B. Portland Assessor's Record
C. GIS Map
D. Boyle Report available online
E. Jones Associate Report available online

PROPOSAL
NOTE: THIS PAGE IS TO BE COMPLETED AND RETURNED

The UNDERSIGNED hereby declares that he/she or they are the only person(s), firm or corporation interested in this proposal as principal, which it is made without any connection with any other person(s), firm or corporation submitting a proposal for the same.

The UNDERSIGNED hereby declares that they have read and understand all conditions as outlined in the Request for Proposals, and that the proposal is made in accordance with same.

The UNDERSIGNED hereby declares that any person(s) employed by the City of Portland, Maine, who has direct or indirect personal or financial interest in this proposal or in any portion of the profits which may be derived therefrom has been identified and the interest disclosed by separate attachment. (Please include in your disclosure any interest which you know of. An example of a direct interest would be a City employee who would be paid to perform services under this proposal. An example of an indirect interest would be a City employee who is related to any officers, employees, principal or shareholders of your firm or to you. If in doubt as to status or interest, please disclose to the extent known).

The proposer acknowledges the receipt of Addenda numbered _____
If Applicable

COMPANY NAME: _____
(Individual, Partnership, Corporation, Joint Venture)

AUTHORIZED SIGNATURE: _____ DATE: _____
(Officer, Authorized Individual or Owner)

PRINT NAME & TITLE: _____

ADDRESS: _____

TELEPHONE: _____ E-MAIL: _____

FEDERAL TAX ID #: _____ DUNS #: _____

STATE OF INCORPORATION _____
(If incorporated in another State, businesses must be authorized to do business in the State of Maine.)

In your organizations preceding completed fiscal year, did the organization receive:
(1) 80 percent or more of its annual gross revenues in U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements; AND
(2) $25,000,000 or more in annual gross revenues from U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements? ☐ Yes ☐ No

Does the public have access to information about the compensation of the executives in the organization through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (18 U.S.C. 78m(a), 78o(d) or section 6104 of the Internal Revenue Code of 1986? ☐ Yes ☐ No

NOTE: All bids must bear the handwritten signature of a duly authorized member or employee of the organization making the bid. **This sheet must be signed and returned with the application package**.

Sean King <sking@portlandmaine.gov>

Lambert Woods Coop. Housing Project (PL2078-2022): Draft TDM Plan Initial Review Comments

Bruce Hyman <bhyman@portlandmaine.gov> Thu, Aug 4, 2022 at 1:55 PM
To: Sean King <sking@portlandmaine.gov>
Cc: James Rather <jrather@portlandmaine.gov>

Good afternoon, Sean,

I have done an initial review of the Draft TDM Plan (dated June 15, 2022) for PL2078-2022, Lambert Woods Cooperative Housing Project. I have the following preliminary comments on the draft Plan:

- provides a very comprehensive overview of the transportation context of the proposed project including transportation opportunities and challenges of the site related to TDM
- provides a 25% multimodal/mode share trip target for all resident trips to and from the site for 3 years after occupancy in addition to ongoing monitoring of the 0.45 parking spaces per unit proposed
- includes a strong menu of potential TDM strategies in the areas of Infrastructure, Incentives and Information - many of these need to become more definitive in the TDM Plan final form such as proposed transit pass incentives for residents
- provides for annual surveying of residents and producing an annual TDM monitoring report to the City.

I held a meeting with the TDM consultant on July 19th to discuss my preliminary comments on the draft plan.

Following the workshop, please don't hesitate to let me know of any comments by the Planning Board or additional follow-up that is requested. Once I receive a revised draft I will be able to finalize my comments.

Bruce
--
Bruce Hyman
Transportation Program Manager
City of Portland
Department of Planning and Urban Development
389 Congress Street, 4th Floor
Portland, Maine 04101
(207) 874-8717 phone
bhyman@portlandmaine.gov

Design Review
Planning and Urban Development Department

City of portland

Subject: 165 Lambert Street
Zone: R-3
Date of Review: Thursday, September 1, 2022
Reviewer(s): Sean King (Urban Designer)
Project ID: PL-002078-2022

I. DESIGN REVIEW COMMENTS

(h) Planned Residential Unit Development (PRUDs) in the R-3 Residential Zones.

*(1) **STANDARDS.** 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. Design standard not met are shown in red.*

Standard (1) a. Design relationship to the site

The placement, orientation and arrangement of buildings types (Three-story Community Flats and Three-story Rowhouses) propose a moderately dense neighborhood that concentrate the development area to minimize disturbance to the site's natural features and wetlands. The proposed orientation of buildings prioritizes solar exposure with a majority of dwelling units facing south to optimize access to natural sunlight. The proposed PRUD is bisected by Washington Ave. Ext with streetscape improvements proposed to activate the street by traffic calming infrastructure and arrangement of Community Flats to establish a proximate connection between the north and south sides of the site. New interior roadways are limited for vehicles to access parking and drop-off areas that prioritize pedestrian accessibility with walkways to all residential entryways and open spaces. The location of parking, trash storage and drainage facilities are concentrated to the edges of the site, applicant shall adequately screen with native plantings of varies heights to reduce abutting properties views. Applicant should prioritize the retention and protection of existing tree canopy over removal and replacement of trees to achieve canopy cover and establish a natural relationship to the site's context.

Standard (1) b. Internal design character and relationship to the surrounding neighborhood

Context: The surrounding neighborhood is dominated by single family residences that adjoin at the back yard of the proposed Lambert Woods project. While there is no established residential pattern along Washington Ave. Ext., the proposed development and buildings exhibit a cohesive design character and site connectivity to Washington Ave. Ext. to create a new community of residential buildings. The site context is a wooded forest with existing wetlands, applicant shall provide a native plant palette that adequately transitions the development site with the existing forested edge and along Washington Ave. Extension to be preserved to the greatest extent possible. Incorporate native plant groupings of varies heights that transition the existing vegetation.

Architectural character: The surrounding neighborhood is dispersed with single family residences that include traditional lap siding with attached garages and simple roof forms. The architectural character of the proposed building types (Courtyard flats and Rowhomes) include a range in siding material – cedar shiplap, reverse board and batten, and traditional lap with reveal variation and color that create a

cohesive community of unified buildings. The proposed building types include shared entrance canopies of various form / color / material, façade articulation and window fenestration patterns oriented towards primary circulation routes. Additional building façade articulation shall be explored at the rear of the Rowhomes buildings that front the common open space through either additional fenestration at the ground floor, façade delineation of floors, expression of base foundation and/or similar elements appropriate to the style of the building.

Height, scale, and massing: The design and layout of buildings exhibit a cohesive design character expressed by a diversity of housing types, roof types and exterior facades to create a unique neighborhood. The building heights are consistent throughout the site at 3-stories, organized to relate to the site's circulation and open space. Theses variations include façade material changes to differentiate units vertically, variation in roof forms and building massing composition articulated with appropriate material changes. Because the building contains more than 2 units with building lengths greater than forty (40) feet, the Rowhome buildings shall provide additional variation through either roof configuration at midpoint or end and/or projecting or recessed building elements to assist with dividing to a greater degree the horizontal scale.

Standard (1) c. Recreation and open space

1. External buffers: A conceptual planting plan has been included with a formal arrangement of trees, screening, streetscape and lawn areas. The site context is a wooded forest with existing wetlands, applicant shall provide a plant palette that adequately transitions the development site with the existing forested edges to be preserved. The applicant is strongly encouraged to prioritize the retention and protection of existing tree canopy over removal and replacement of trees to achieve canopy cover.

2. Internal buffers: Effective privacy between unit entryways, screening of utilities (e.g. transformer, generator), roadways and waste collection is proposed with sufficient screening shrubs. Applicant to provide additional native plant screening at trash area and surface parking at abutters. The applicant is strongly encouraged to prioritize the retention and protection of existing tree canopy over removal and replacement of trees to achieve canopy cover and enhancing the public realm.

3. Passive recreational open space: Proposed passive recreational open space includes paved walkways, stone bench seating, lawn spaces and paved communal patio spaces. Applicant has highlighted communal entryways with undulating canopies at the ground floor at the Rowhomes and accent materiality to express the communal entryway at the Community Flats. The site is bisected by the Sebago to the Sea Trail and has an opportunity to enhance the trail experience in this location. Applicant to formalize communication with Portland Trails to identify pathways throughout the preserved forested areas of the site.

4. Active recreational open space: The primary recreational open space are the common greenspace located at both north and south development. Applicant to advance design of proposed facilities for the Community Pavilion, and include the intent for use. Applicant to quantify recreational open space requirement to be shown on plans. To the extent possible, the applicant shall consider the inclusion of community garden plots, playground equipment and/or other recreational elements to meet recreational open space requirement.

5. Private open spaces: Proposed private open spaces are included as Juliet balconies and entryway porches at Rowhouses, and balconies proposed at Courtyard Flats.

Sean King <sking@portlandmaine.gov>

Lambert Woods Work Session

Jeff Tarling <jst@portlandmaine.gov> Wed, Sep 28, 2022 at 10:31 AM
To: Sean King <sking@portlandmaine.gov>
Cc: James Rather <jrather@portlandmaine.gov>

Hi Sean -

From a quick glance, the overall landscape plan and plant list is improved.

I will take a closer look at the details today, the Open Space area should consider some type
of play element for children knowing that other options are not within walking distance.

Jeff

On Wed, Sep 28, 2022 at 10:13 AM Sean King <sking@portlandmaine.gov> wrote:

> Hello Jeff,
> Thank you for your past email and notes during today's DevRev. I've included the landscape plan resubmited, along with the construction management plan that speaks to invasive species management (see M. Special Measures as Necessary on page 7). Please share any preliminary comments this week as we prepare to bring this project to Planning Board workshop 10/11th.
>
> Regarding previous comments provided as contingent to approval in your review, the applicant's comment response letter notes several outstanding items to be determined. See below for these responses from the applicant...
>
> Open Space & Trails - Comments
> Comment – Advocate for trails in passive wooden areas, applicant to clarify how open space requirement is being met. Coordinate with Falmouth Land Trust & Portland Trails for potential

opportunities for trail connections and future recreation use.
Response – We have been in coordination with Portland Trails; there is not a final trail design yet but a note has been added to the plans that states the future trails are to be coordinated with Portland Trails.

Comment – TREE SAVE / Limit of Work - The final plan should include a 'Tree Save' / Limit of Work designation and plan to be used prior to clearing and during construction. This would include a written plan, signage and construction fencing to prevent off site storage or materials and equipment. "Tree Save' trees should be protected with signage and fencing around the drip line. To date the plan does not show either a tree save or limit of work. The proposed project clears an extensive amount of existing forest without any tree saves or forest management suggestions? The site workclearing should include nearby forest thinning improvements for sustainable landscape and safety.
Response – A forester has been contacted for this project and has visited the site to mark out potential tree saves. The proposed tree saves have been included on the latest set of plans. A narrative will be prepared at a later date.

Comment – Invasive plant management - The northern side of the project especially contains extensive Common Buckthorn shrubs, the project should identify, plan and remove all invasive plants as part of their clearing portion of site work. This has been a standard on other project sites where high numbers of invasive plants are located.
Response – Please see the revised document titled "Q. Construction Management Plan" which includes information regarding the management of the Common Buckthorn shrub during clearing.

Comment – Tree & Landscape treatment - We encourage high percentage use of native plants on wood sites like the proposed 165 Lambert Street project. Stevens Commons for example next to Baxter Woods successfully modified their landscape plan to a higher percentage of native species. This should be a condition of approval. The site is surrounded by natural appearing woodlands, the project should appear part of the surrounding landscape vs 'suburban'. The 'Woods at Canco' development is another

successful landscape example. Thus we would ask the project not to use plants like 'Feather Reed Grass' and 'Maiden Grass' for example, and increase the native grasses like 'Little Bluestem', 'Prairie Dropseed' and other plants compatible to the New England region. The proposed tree pallet should also diversify, currently over 100 trees using only four species, recommend reducing numbers on the 'Armstrong' Red Maples from 40 to perhaps half of that and consider other tree types like the 'Beacon' and 'Regal Prince' Oak, though they are cultivars it would be nice to have a greater mix of tree types. Tree types missing: Red Oak, Swamp White Oak (use instead of the hard to establish White Oak), Tupelo, Shagbark Hickory, River Birch, Yellow Birch, White Spruce, Larch, 'Bowall', 'Red Pointe', 'Karpick' Red Maples offer a variety of other maple types depending on the desired planting space size.
Response – A revised planting plan been included indicating a broader variety of trees and mix of native shrubs and grasses. The design team has held a meeting with the city to review trees and plantings.

Comment – Tree planting spacing and sizes - While regular spaced trees all in certain order adds a degree of structure to the landscape, this site might be better served by including groves of trees in a more natural arrangement. This might include a mix of plant heights like 5-6' conifers and 2" caliper trees with the larger sizes proposed. Knowing the more orderly plantings might be closer to the buildings and the natural groves of trees near the edges.
Response – A revised planting plan has been included to incorporate a greater variety of native material, as well as revised layout indicating more naturalistic transitional plantings along site edges.

Comment – Street trees - We would like to work closer with the project team to review the public 'Street tree' portion of the project. This would include species types, spacing. Applicant to include total tree count proposed.
Response – ALA looks forward to working with the City on more detailed design and tree selection for public ROW improvements.

Comment – Buffering - The proposed site contains existing residential boundaries with Auburn Street, and Falmouth properties

on the North side and Auburn Street and Lambert Street residents on the South side, the landscape plan should address adequate buffer planting and treatment.
Response – A revised planting plan will be provided to include considerations for buffering adjacent sites. The planting plan now includes a more robust mix of evergreen plantings to buffer adjacent properties as well as fencing in key locations.

Comment – Wetlands / drainage treatment - the use of restored wetlands, intermittent streams, raingardens was not noticed during my review and wanted to check to see if the project is favoring natural drainage features?
Response – A formal stormwater drainage system has been designed for this project, the stormwater water will be detained, treated, and cooled through the use of underground chambers and utilization of porous pavement. The stormwater will be released back into the surrounding environment at a controlled rate to ensure the post development peak flow rates do not exceed the predevelopment rates. The development has been designed to be tight and compact, consolidating the infrastructure such that the overall development footprint remains minimized. As a result, intermittent rain gardens and natural drainage features are difficult to incorporate into the core site design given the competing list of site elements.
However, as a way to treat the "first flush" of runoff from the road, and to provide an educational component to the project, two rain gardens have been proposed within the public right-of-way between the roadway and the development.

Comment – Recreational / Open Space - It is essential to include a variety of onsite recreational and trail amenities for this project. The geographic location is out of walking distance to existing playgrounds and trails. (The future Haverty Field may in time offer somewhat close trails). Recreation features for youngsters could include playground structure, adventure play items, benches. Walking trails on or around the existing site should be a requirement and could match up with Fire Safety access.
Response – The design team is actively working with the client to solidify program and design of the community spaces. The site design goals include creation of community amenities which provide benefits and may be accessible both for residents of this

project as well as adjacent neighbors insofar as budget, spatial constraints, and project sequence allows.

Thank you, Sean

On Wed, Sep 7, 2022 at 10:32 AM Jeff Tarling <jst@portlandmaine.gov> wrote:

> Hi James, Sean -
>
> Sorry I missed the Lambert Woods review last week. I was on Peaks Island viewing recent storm damage and hoped to join remotely.
>
> Wanted to see if the project team has planned adjustments for the topics mentioned. Sean, it was helpful to view the site prior to the meeting with you last week. I know there are many challenges in regards to fitting everything in. Focus priorities included higher percentage of native trees and landscape, any tree saves?, buffering on the existing residents on Lambert Street, invasive plant management, - especially on the Falmouth side of the project, multi use play area for youth, and lastly possible trails.
>
> Also wondering about any feedback from nearby residents, staff review or Planning Board.
>
> Thanks,
>
> Jeff
>
> Jeff Tarling
> City Arborist - City of Portland Maine
> Parks, Recreation & Facilities
> Forestry, Parks & Horticulture
> 212 Canco Road - Suite A
> Portland, ME. 04103
> jst@portlandmaine.gov
>
> parks, recreation & facilities

--
Sean King, PLA
Urban Designer
389 Congress Street, 4th Floor
Portland, Maine 04101
(207) 874-8901
sking@portlandmaine.gov
(he/him/his)

Sean King <sking@portlandmaine.gov>

PL-002078-2021: 165 Lambert Street Resubmitted plans and documents

Justin Pellerin <jrp@portlandmaine.gov> Tue, Sep 27, 2022 at 9:37 PM
To: Jeremiah Bartlett <jbartlett@portlandmaine.gov>, Sean King <sking@portlandmaine.gov>, "Thomas.errico@tylin.com" <thomas.errico@tylin.com>

1 other major item I didn't initially hit on:
Snow removal/snow ban parking. They indicate there is going to be an agreement with the property manager to sign the parking spaces for no parking during storms and that they are working with the lyseth school and other businesses to secure snow ban parking locations near the development.

They also state that a majority of this parking is for guests even though I seem to recall Mr. Lebel stating that the owner wanted the on-street parking to supplement the off street parking being provided. With the limited off street parking being provided it seems obvious to me that residents from the development will park in the on street areas if it's unrestricted.

I still am concerned about winter operations.

Further discussion warranted when I get back.

On Tue, Sep 27, 2022 at 9:20 PM Justin Pellerin <jrp@portlandmaine.gov> wrote:

> Hi Jeremiah
> Kevin did not get back to me regarding the proposed response to Liz this afternoon.
>
> If he does tomorrow could you send the response back to Liz and Sam Lebel? Traffic Calming in the greater Lambert Summit neighborhood is not part of this package.
>
> I just completed a quick read through of the comment response letter.

- I think they have mainly addressed most of the comments we have been working through. I think that some work/review is still needed on the Auburn Street crosswalk to ensure the Ped landings are located close enough the RRFB push button.
- They are formally requesting a waiver for three driveways (2 on south, 1 on north). I feel like we should work with them on this issue.
- The are proposing two raised crosswalks on Washington Avenue as opposed to the three originally approved, which is what we discussed.
- They are showing 8' multi use paths on both sides of the street, but that appears they they shrink to 5' on the westerly end of Washington Avenue due to the existing ditch lines.
- Radii reduction at Auburn and Lambert has shifted from slopped curb truck aprons to flush concrete, which I think will likely work and captures what we discussed.
- They appear to have provided enhancements to the shared car/bike lane infrastructure as discussed at previous meetings.

There is probably more elements which need review, but I've run out of time!

It may be worth while for you to attend the Dev Rev Meeting tomorrow at 9am so you can discuss this with Sean, James and Tom E and the rest of the group.

Thanks!

Justin Pellerin, P.E.
Senior Engineer
Department of Public Works
jrp@portlandmaine.gov
207-874-8881

public works

On Tue, Sep 27, 2022 at 3:15 PM Jeremiah Bartlett <jbartlett@portlandmaine.gov> wrote:

> Are you feeling all set on this topic? I think we're still waiting on feedback from Kevin K, correct?
>
> Jeremiah J. Bartlett, PE, PTOE
> Transportation Systems Engineer
> Department of Public Works
> 212 Canco Road, Suite B
> Portland, Maine 04103
> jbartlett@portlandmaine.gov
> (207) 874-8891
> He/Him/They
>
> ---------- Forwarded message ---------
> From: **Sean King** <sking@portlandmaine.gov>
> Date: Tue, Sep 27, 2022 at 3:08 PM
> Subject: PL-002078-2021: 165 Lambert Street Resubmitted plans and documents
> To: Tom Errico <thomas.errico@tylin.com>, Jeremiah Bartlett <jbartlett@portlandmaine.gov>
>
> Hello Tom and Jeremiah,
>
> The applicant for 165 Lambert Street has resubmitted plans and documents to respond to preliminary review comments from the first PB workshop focused on transportation and subsequent meetings with DPW. I will be bringing this project to DevRev tomorrow morning at 9am and wanted to share resubmitted materials in preparation for the next PB workshop on 10/11.
>
> Please let me know if you are available to provide comments this week and always reach out with questions.
>
> Thank you, Sean
>
> --

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planning & urban development

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Justin Pellerin, P.E.
Senior Engineer
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public works

Sean King <sking@portlandmaine.gov>

Lambert Woods Residential Development -Status Traffic Review Comments

Tom Errico <thomas.errico@tylin.com> Wed, Oct 5, 2022 at 7:15 PM
To: Sean King <sking@portlandmaine.gov>, Jeremiah Bartlett <jbartlett@portlandmaine.gov>

Draft for Review – I think we need an internal staff meeting to guide the roadway design elements. This should happen when Justin returns.

Hi Sean – the following is a status update of my previous initial traffic review comments.

- The applicant has conducted a Trip Generation analysis and assuming an Affordable Housing development 83 peak hour trips will be generated by the project during the worst-case peak hour. I find the methods used to estimate trip generation to be reasonable. I would further note that this level of trip generation does not require a Traffic Movement Permit.

  Status: No further response.

- As noted in the report acceptable sight distance will be provided from the proposed driveways assuming vehicle speeds of 25MPH. I find conditions to be acceptable.

  Status: No further response.

- The Traffic Assessment did not identify any High Crash Locations. Although the Washington Avenue/Lambert Street intersection is not a High Crash Location (Historically it has been

a High Crash Location), I would like to understand the contributing factors for crashes. The applicant shall provide the requested information.

Status: The applicant has provided the requested information. Crash patterns mostly included angle crashes involving movements from the intersecting streets. This crash pattern Is surprising given the presence of a four-way STOP condition. I continue to review this issue.

- Given the level of traffic generation by the project, the applicant shall conduct a traffic analysis at the Auburn Street/Washington Avenue Extension and Lambert Street/Washington Avenue Extension intersections. This shall include conducting existing traffic counts. The counts and analysis shall be performed for the weekday AM and PM peak hours. The analysis at the Auburn Street/Washington Avenue Extension intersection should also include changes to intersection capacity as proposed by the applicant.

  Status: The applicant has conducted the requested analysis and my comments are noted as follows.

  - **Movements from Washington Avenue Extension onto Auburn Street will have a failing level of service condition. Current movements operate at level of service F, but delay will increase from 159.8 seconds per vehicle to 231 seconds per vehicle after project completion. A traffic signal warrant analysis was performed to determine if traffic signalization was a possible alternative to mitigating the long delays. The preliminary analysis indicates a traffic signal is warranted. It should be noted that the applicant is conducting a vehicle speed survey on Auburn Street and this information will help to inform the signal warrant conclusion. Further review is required.**
  - **Washington Avenue Extension currently has two approach lanes to Auburn Street. The applicant is suggesting that the approach be reduced to a single lane. Based on the traffic analysis performed**

and low right-turn volumes, the City supports elimination of one approach lane.

- **The analysis indicates the Lambert Street/Washington Avenue Extension intersection will operate at an acceptable level of service.**
- **The analysis indicates the project driveways on Washington Avenue Extension will operate at an acceptable level of service.**

- Three driveways are proposed for the development. The applicant shall provide information in support of a waiver from the City's Technical Standards. I would note that Washington Avenue Extension is classified as a Major Collector and thus minimizing access points is preferred.

  Status: City staff continues to review the waiver request.

- The plans depict a shared use path from the site to Auburn Street. The minimum width for a shared use path without constraints is 10 feet. Please refer to comments from DPW.

  Status: City staff continues to review the cross-section elements of Washington Avenue Extension.

- The use of on-street parking spaces to meet parking demand requirements for a project historically has not been permitted during site plan approval. Please refer to comments from DPW.

  Status: City staff continues to review the cross-section elements of Washington Avenue Extension.

- The number of crosswalks on Washington Street Extension does not meet City standards and reducing the number of crosswalks is suggested. Please refer to comments from DPW.

  Status: The applicant has reduced the number of crosswalks from three to two. I would suggest that the crosswalk locations

be reviewed for origin/destination pedestrian routings, like to and from the bus stop.

Additional Comments

- **The applicant has prepared a concept plan for a pedestrian crossing on Auburn Street south of Washington Avenue Extension. I find the concept to be meet the purpose for improved pedestrian safety, but additional review of design details is required.**
- **City staff continues to review the radii changes at the two Washington Avenue Extension intersections. Review comments will be provided when a roadway cross-section is determined for Washington Avenue Extension.**

Please contact me if you have any questions.

Best regards,

Tom Errico, PE

NE TRAFFIC ENGINEERING DIRECTOR

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Sean King <sking@portlandmaine.gov>

PL-002078-2022: 165 Lambert Woods TDM Plan

Bruce Hyman <bhyman@portlandmaine.gov> Wed, Jan 11, 2023 at 9:24 AM
To: Sean King <sking@portlandmaine.gov>

Good morning, Sean,

I've reviewed the revised TDM Plan (dated Sept 22, 2022) in response to my comments. Based upon the number of TDM Strategies that are unresolved and are still being explored - such as the transit pass subsidy being considered - I suggest that a condition of approval be the submission and approval by staff prior to Certificate of Occupancy of a revised table of final TDM Strategies to be implemented in the first year of occupancy of the site.

This revised TDM Strategies table [D. Trip and Parking Reduction Strategies] could simply be a standalone Addendum to the latest version of the Plan.

Bruce

--
Bruce Hyman
Transportation Program Manager
City of Portland
Department of Planning and Urban Development
389 Congress Street, 4th Floor
Portland, Maine 04101
(207) 874-8717 phone
bhyman@portlandmaine.gov

Department of Public Works
Mike Murray
Acting Director

Date: January 11, 2023
Re: Wastewater Capacity Authorization
Address: 165 Lambert Street and 622 Auburn Street
Applicant: Maine Cooperative Development Partners
Planner: Sean King

Estimate of Anticipated Wastewater Flows				
Development	**Unit Size**	**Number of Units**	**Gallons per Day per Unit**	**Total Gallons per Day**
Existing Flow to Remain				
Vacant				
Proposed Flow – North Parcel				
Multiple Family Dwelling Units	Studio	2	120	240
Multiple Family Dwelling Units	1-Bedroom	30	120	3600
Multiple Family Dwelling Units	2-Bedroom	20	180	3600
Multiple Family Dwelling Units	3-Bedroom	22	270	5940
Proposed Flow – South Parcel				
Multiple Family Dwelling Units	Studio	3	120	360
Multiple Family Dwelling Units	1-Bedroom	34	120	4080
Multiple Family Dwelling Units	2-Bedroom	30	180	5400
Multiple Family Dwelling Units	3-Bedroom	24	270	6480
Net Change				**+ 29,700**
*Values based on STATE OF MAINE: SUBSURFACE WASTEWATER DISPOSAL RULES, most recent edition				

Comments:
The Department of Public Works, which includes the Water Resource Division, have reviewed and determined that the downstream sewers from the project address have the capacity to convey the estimated dry weather wastewater flows which will be generated from this development.

If the City can be of further assistance, please contact me at all 874-8840 or brad@portlandmaine.gov

Sincerely,

Bradley A. Roland, P.E.,
Senior Project Engineer

Sean King <sking@portlandmaine.gov>

165 Lambert Street - Final Traffic Comments

Tom Errico <thomas.errico@tylin.com> Wed, Feb 22, 2023 at 11:33 AM
To: Sean King <sking@portlandmaine.gov>
Cc: Jeremiah Bartlett <jbartlett@portlandmaine.gov>, Janine Ba <janineba@portlandmaine.gov>, Bruce Hyman <bhyman@portlandmaine.gov>

Hi Sean – the following is a final status update of previous comments and represent final traffic comments.

- The applicant has conducted a Trip Generation analysis and assuming an Affordable Housing development 83 peak hour trips will be generated by the project during the worst-case peak hour. I find the methods used to estimate trip generation to be reasonable. I would further note that this level of trip generation does not require a Traffic Movement Permit.

  Final Status: I have no further comment.

  ▪

- As noted in the report acceptable sight distance will be provided from the proposed driveways assuming vehicle speeds of 25MPH. I find conditions to be acceptable.

  Final Status: I have no further comment.

- The Traffic Assessment did not identify any High Crash Locations. Although the Washington Avenue/Lambert Street intersection is not a High Crash Location (Historically it has been a High Crash Location), I would like to understand the contributing factors for crashes. The applicant shall provide the requested information.

  ▪ Status: The applicant has provided the requested information. Crash patterns mostly included angle crashes involving movements from the intersecting streets. This crash pattern Is surprising given the presence of a four-way STOP condition. I continue to review this issue.

  ▪ **Final Status: The applicant shall add a second STOP sign on the left side on the westbound Washington Avenue Extension approach.**

- Given the level of traffic generation by the project, the applicant shall conduct a traffic analysis at the Auburn Street/Washington Avenue Extension and Lambert Street/Washington Avenue Extension intersections. This shall include conducting existing traffic counts. The counts and analysis shall be performed for the weekday AM and PM peak hours. The analysis at the Auburn Street/Washington Avenue Extension intersection should also include changes to intersection capacity as proposed by the applicant.

  ▪ Status: The applicant has conducted the requested analysis and my comments are noted as follows.

  ▪ Movements from Washington Avenue Extension onto Auburn Street will have a failing level of service condition. Current movements operate at level of service F, but delay will increase from 159.8 seconds per vehicle to 231 seconds per vehicle after project completion. A traffic signal warrant analysis was performed to determine if traffic signalization was a possible alternative to mitigating the long delays. The preliminary analysis indicates a traffic signal is warranted. It should be noted that the applicant is conducting a vehicle speed survey on Auburn Street and this information will help to inform the signal warrant conclusion. Further review is required.

  Final Status: The City does not support the installation of a traffic signal at this time. No further action is required of the applicant.

  ▪ Washington Avenue Extension currently has two approach lanes to Auburn Street. The applicant is suggesting that the approach be reduced to a single lane. Based on the traffic analysis performed and low right-turn volumes, the City supports elimination of one approach lane.

  Final Status: I have no further comment.

▪ The analysis indicates the Lambert Street/Washington Avenue Extension intersection will operate at an acceptable level of service.

Final Status: I have no further comment.

▪ The analysis indicates the project driveways on Washington Avenue Extension will operate at an acceptable level of service.

Final Status: I have no further comment.

- Three driveways are proposed for the development. The applicant shall provide information in support of a waiver from the City's Technical Standards. I would note that Washington Avenue Extension is classified as a Major Collector and thus minimizing access points is preferred.

  Status: City staff continues to review the waiver request.

  Final Status: Refer to DPW comments.

- The plans depict a shared use path from the site to Auburn Street. The minimum width for a shared use path without constraints is 10 feet. Please refer to comments from DPW.

  Status: City staff continues to review the cross-section elements of Washington Avenue Extension.

  Final Status: The width of the shared use path is acceptable. I have no further comment.

- The use of on-street parking spaces to meet parking demand requirements for a project historically has not been permitted during site plan approval. Please refer to comments from DPW.

  Status: City staff continues to review the cross-section elements of Washington Avenue Extension.

  Final Status: The on-street parking spaces will not be for the exclusive use of the project and will be for public use. Refer to DPW comments

- The number of crosswalks on Washington Street Extension does not meet City standards and reducing the number of crosswalks is suggested. Please refer to comments from DPW.

  Status: The applicant has reduced the number of crosswalks from three to two. I would suggest that the crosswalk locations be reviewed for origin/destination pedestrian routings, like to and from the bus stop.

  Final Status: The plans have been revised and a single crosswalk on Washington Street Extension is proposed. I find this to be acceptable and I have no further comment.

Additional Comments

- The applicant has prepared a concept plan for a pedestrian crossing on Auburn Street south of Washington Avenue Extension. I find the concept to be meet the purpose for improved pedestrian safety, but additional review of design details is required.

  Final Status: I have reviewed the plans and I find them to be acceptable.

- City staff continues to review the radii changes at the two Washington Avenue Extension intersections. Review comments will be provided when a roadway cross-section is determined for Washington Avenue Extension.

  Final Status: Refer to DPW comments.

New Comments

- The truck apron at the Washington Avenue Extension/Lambert Street intersection shall be removed from the design, as there is not an expectation of many large vehicles making a right-turn movement. Lane encroachment is acceptable as conditions are not expected to be significantly different following project completion.

  Status: We have reviewed the supporting analysis and find the truck apron to be acceptable. I have no further comment.

- Given the requirement for the installation of a RRFB at the Washington Avenue Extension crosswalk, the R1-6 sign in road shall be eliminated.

  Status: The plans have been revised and I have no further comment.

- The illuminated post/bollards shall be eliminated, and light fixtures shall be installed on the RRFB posts.

  Status: The plans have been revised and I have no further comment.

- The raised crosswalk sign shall meet MUTCD standards.

  Status: The raised crosswalk has been eliminated from the design and therefore this comment is no longer relevant.

- A new STOP sign with a supplemental all-way plate shall replace the existing STOP sign at Lambert Street.

  Status: The plans note this, and I have no further comment.

- The sign #21 at the Washington Avenue Extension crosswalk shall be noted in the legend for review and approval.

  Status: The plans have been revised and this sign in no longer included. I have no further comment.

- The applicant shall confirm sign #19 is appropriate at the Washington Avenue Extension crosswalk.

  Status: A note has been added to the plans for this sign to be located in the field in coordination with Portland Trails. I find this to be acceptable and I have no further comment.

- Regulatory signs shall not share posts and the plans shall be revised accordingly.

  Status: The plans have been revised and I have no further comment.

- The applicant shall provide documentation that the Inter-City bus turning template represents a Metro or school bus. Adjustments to the radii may be justified.

  Status: Documentation from Metro and the Portland School Department have been provided and I have no further comment.

- The applicant should adjust the curb radii for any excess truck apron turning south from Washington Avenue Extension to Auburn Street.

  Status: The plans have been revised and I have no further comment.

- The applicant shall eliminate the center line shift on the Washington Avenue Extension approach to Auburn Street.

  Status: The center line alignment has been adjusted and I find the plan to be acceptable.

- The applicant shall continue the 8-foot-wide path to the Auburn Street crosswalk south of Washington Avenue Extension.

  Status: The plans have been revised and I have no further comment.

- The parking summary table should remove the on-street parking spaces as these are public parking spaces and not specifically designated for the project.

  Status: The plans have been revised and I have no further comment.

Please contact me if you have any questions.

Best regards,

Tom Errico, PE
NE TRAFFIC ENGINEERING DIRECTOR
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M +1 207.400.0719
E thomas.errico@tylin.com
TYLin
12 Northbrook Drive Building A, Suite One
Falmouth, ME 04105, United States
TYLin.com

Sean King <sking@portlandmaine.gov>

PL-002078-2022 165 Lambert Street DPW Comments

Janine Ba <janineba@portlandmaine.gov> Wed, Jan 11, 2023 at 5:16 PM
To: Sean King <sking@portlandmaine.gov>
Cc: Jeremiah Bartlett <jbartlett@portlandmaine.gov>, Keith Gray <kgray@portlandmaine.gov>, Justin Pellerin <jrp@portlandmaine.gov>, Benjamin Pearson <bnp@portlandmaine.gov>, Lauren Swett <lswett@woodardcurran.com>

Good afternoon Sean,

Below are DPW's Water Resources comments for PL-002078-2022 165 Lambert Street. The others will be sent after the meeting on Friday. Let me know if you have any questions.

Project Number: PL-002078-2022
165 Lambert Street
DPW Development Review Comments
01/11/2023

- DPW Water Resources
  -

Original Comment 7/27/22: *DPW is seeking further clarification and rationale for the number of stormwater outfalls and the corresponding pipe sizes being proposed to tie into the City's existing ditch lines on Washington Avenue Extension. It appears that the applicant is anticipating greater stormwater flows leaving the development site than what is indicated in the stormwater management report post development POI # 1 flow rate. The existing closed storm drain system at the SW corner of Lambert and Washington is a 15" circular pipe. DPW is concerned that any additional flows may cause downstream system capacity issues especially during large/high intensity rain events.*

Status Update 11/1/23: The applicant has provided sufficient information to this comment in regards to the number of outfalls into the ditch line. DPW is concerned about the methodology being used to compute peak flows generated by the porous pavement systems on-site. It would appear that in larger storm events once the stone reservoir system is full, the porous pavement system would begin to bypass into the overflow catch basins. In this case it would appear that the system would act more as an impervious surface and generate higher peak flows than what is being depicted in the applicant's model as a result of the time of concentration methodology utilized by the applicant. DPW is concerned that based on this methodology, peak flows from the porous pavement systems will end up increasing overall flows into the ditch lines, particularly the southerly ditch line. It's DPW's experience that porous pavement systems require intensive maintenance to function at their optimal level. If the system is plugged then peak flows from these areas will be significantly larger into the City's system then what is being projected by the model. If the applicant is proposing to increase the flow rates into the City's system then a further analysis of the entire downstream closed drainage system will need to be completed to ensure the system can manage the additional flow rates. An alternative approach would be for the applicant to provide further SW detention on-site to ensure peak flow rates do not exceed pre-development flow rates.

Status Update 1/11/23:
DPW is satisfied with the explanation and design revisions to the porous pavement systems.

Original Comment: *The applicant shall provide further information regarding flows anticipated within the ditch lines and shall complete an analysis to determine if further improvements to the existing ditch lines are necessary to accommodate the additional stormwater flow and to protect against potential scouring of the ditch channel and embankments.*

Status Update 11/1/22: See comment above, but in general this comment was addressed by the applicant.

Status Update 1/11/23:
Based on the design revisions presented in this updated submission, see new comments below in regards to the proposed drainage in the southerly ditch line running along Washington Avenue Extension.

Original Comment*: The storm water pipe discharge angles of SD 1.1, 6.1 and 8.1 into the Washington Avenue Extension ditch lines should be revised such that flow is discharged more in line with the main flow line of the ditch.*

Status Update: This comment appears to be addressed however it appears that the angle of discharge for SD S1.1 into the southerly ditch line could be further improved. It is also noted that the discharge point for SD S1.1 does not show up on right of way plan # 1. The plan should be updated to show this discharge location into the ditch.

Status Update 1/11/23:
Based on the design revisions presented in this updated submission, see new comments below in regards to the proposed drainage in the southerly ditch line running along Washington Avenue Extension.

Original Comment 7/27/22: *The applicant shall provide further detail about the proposed catch basin inlet improvements at the end of the southerly and northerly Washington Ave extension ditch lines. The applicant should specify a beehive grate with proper inlet capacity to drain the proposed ditch line flows. These proposed inlets should be surrounded with a 5' riprap/geotextile fabric perimeter at least 12"-18" thick below the proposed inlet rim elevations. The applicant should provide a detail in the plan set for the proposed improvements to this inlet.*

Status Update 11/1/22:
The design of the inlet located at the northerly ditch line has taken these comments into consideration and the design is acceptable.

DPW would prefer a beehive drainage structure inlet to convey flows from the south ditch-line into the closed drainage system. This design shall be similar to what is shown at the

terminus of the northerly ditch line. DPW has found that field culvert inlets with trash guards require a higher frequency of maintenance to ensure proper functionality.

Status Update: 1/11/23: Updates to the inlet system at the end of the southerly ditch line are reflected on the plans and acceptable, however details for this work shall be included in the plan set.

Original Comment 7/27/22*: The applicant should update the project erosion control and construction management plans to include work in the right of way and specify measures to prevent erosion of the City's ditchline and sediment transport into the City's separated storm drain system.*

Status Update 11/1/22: This comment has been addressed. The applicant shall add a note to the ESC Plan and CMP regarding dewatering. A dewatering plan shall be submitted to the DPW Water Resources Compliance Coordinator for review and approval prior to any dewatering occurring on-site.

Status Update 1/11/23: This comment has been sufficiently addressed.

Original Comment 7/27/22: *DPW Water Resources is not supportive of the proposed rain gardens located within the Washington Avenue Extension right of way. If further treatment/flow attenuation is needed to meet regulatory requirements, it shall be provided on the development site.*

Status Update 11/1/22: After further review DPW will allow for the installation of Rain Gardens within the City's right of way to treat runoff from the City's right of way.
Right of Way Rain Garden Comments:

- How will roadway curbing be installed adjacent to proposed rain garden # 2?
- The energy dissipation for inlet pipes into these two systems seems insufficient. DPW would suggest a 2' wide zone of river stone to extend the entire length of each rain garden.
- The applicant has provided two cross sections to depict the installation of the proposed rain gardens. A plan view detail should be added to provide further clarity of how the system will function.
- The City does not allow storm drains less than 10" to be installed within the right of way. The pipes in and out of proposed rain garden # 2 will need to be updated.
- The applicant shall provide planting information for the proposed rain gardens. Nyloplast overflow structures shall be updated to 18" to reduce potential clogging and frequency of maintenance.
- The City suggests a revision of proposed rain garden # 1 such that the entire system is located in the right of way. If this is not feasible, the applicant will need to grant the City a drainage easement to allow the City to maintain the portion of the system on private property.

Status Update 1/11/23:

- DPW recommends the final design approval for the proposed rain gardens on the northerly side of Washington Avenue Extension be added as a condition of approval and be resolved prior to the issuance of a building permit.
- The current plan omits key details such as the length of the proposed energy dissipation pad for each Rain Garden.
- Another cross section, cut longitudinally through the unit, should be submitted to provide further detail of each system's configuration. The energy dispaction pads shown on the current plans seems insufficient.
- There is still concern that the concentrated pipe discharge will cause erosion of the filter bed. DPW will require the applicant to provide further information to ensure the rain gardens will be properly stabilized and won't experience erosion issues at the conclusion of the project as a result of the concentrated pipe flow discharge to them.
- DPW will require a 2 year warranty on the proposed rain garden vegetation to ensure proper establishment over multiple growing seasons. DPW will take over maintenance of these units once it's been determined that vegetation has been properly established and the system is functioning properly.

Original Comment 7/27/22*: DPW is requesting that the applicant grants the City of Portland permanent drainage easements for any proposed stormwater inlet or discharge points on private property providing drainage for the Washington Avenue Extension Street right of way. These drainage easements shall be a minimum of 30' long by 30' wide.*

Status Update 11/1/22: After further review of the PSA agreement for the subject parcel, it appears the developer is required to grant the City of Portland easements for the wetlands and streams located on the subject parcel. The PSA indicates the developer will be allowed to infill a maximum of 10,000 sf wetlands. The developer will need to grant the City easement for the wetlands remaining wetlands and streams, including any required buffers. These streams and wetlands are a critical component to the City's drainage system in this area. The applicant shall provide a sketch of the proposed easement areas for the City to review and approve. Once the concepts are approved the applicant shall provide easement language, figures and descriptions for each proposed easement. These easements shall also be added to the proposed subdivision plat.

Status Update 1/11/23: The applicant has acknowledged this requirement and indicates sketches will be forthcoming. It's recommended that a form of this comment be added as a condition of approval, should the project be approved by the planning board.

New Comments 1/11/23:

- The applicant shall revise the plans to remove the 3 recessed catch basins located along the southerly curb line between stations 5+10 and 9+25 and replace them with catch basins meeting all City technical standards. The catch basins shall be installed in-line with the proposed curb line. The installation of these catch basins should resemble what is being proposed on the northerly side of the street.
- The plans shall be revised to eliminate concentrated stormwater discharges into the southerly Washington ditch-line by extending the subsurface storm drain system

along the proposed southerly multi-use path from approximate station 4+25 to 1+50. The pipe should daylight and discharge directly into the head of the proposed rip-rap ponding area near the terminus of the southerly ditch-line. The proposed private stormwater discharge (SD S.12.1) should also be directed to this extended sub-surface drainage line. Based on the recent design revisions provided by the applicant, DPW is not comfortable with the proposed strategy of daylighting the concentrated flow from both sides of the development and street into the southerly ditch line.

-
- The overflow connection from Rain Garden # 2 should connect directly into the adjacent drain manhole located in the northerly multi-use path at approximate station 4+25.
- The beehive overflow catch basins at the terminus of the northerly and southerly ditch lines shall be 4' diameter precast basins with 3' sumps and meet all other City technical standards.
- A portion of the roadway drainage currently sheet flows to wetlands on-site. The applicant is proposing to capture roadway drainage and pipe it in the post-construction condition to the wetlands. Concentrated discharge to the wetland is not a viable option without implementing mitigation design measures as required by Section 4H and 4I of the Maine DEP Chapter 500 stormwater management law. We think that the redistribution of stormwater and discharge to wetlands standards apply in this case. The design of these discharge points shall be updated to reflect compliance with these standards.
- Basic design information including pipe size, slope and diameter for the proposed sewer lateral connection from building S.1 (Station +/- 5+25) shall be added to the plans. Notes shall also be added indicating how the proposed connection to sewer main will need to be made with a wye fitting and attached to the existing sewer main with solid PVC couplings per requirements listed in section # 2 of the technical manual.
- The applicant shall add the technical manual # 2 sewer lateral details II-16 and II-17. As a general note the applicant shall make sure all City of Portland Technical Manual Details are updated to reflect the recent updates approved by the planning board in November of 2022.
- Notes shall be added to the plan to direct the contractor to plug and flow fill an existing 12" sewer service line if encountered during construction(approximate station 5+50).
- Proposed Nyloplast basins depicted on sheet ROW-4 shall be replaced with precast concrete F-Basins.
- Please see the attached sketch depicting the requested changes.
    - DPW will require a 2 year warranty on the proposed rain garden vegetation to ensure proper establishment over multiple growing seasons. DPW will take over maintenance of these units once it's been determined that vegetation has been properly established and the system is functioning properly.
    - Another cross section, cut longitudinally through the unit, should be submitted to provide further detail of each system's configuration. The energy dissipation pads shown on the current plans seem insufficient.

- There is still concern that the concentrated pipe discharge into the Rain Gardens will cause erosion of the filter bed. DPW will require the applicant to provide further information to ensure the rain gardens will be properly stabilized and won't experience erosion issues at the conclusion of the project as a result of the concentrated pipe flow discharge to them.

  - DPW Transportation
    - Comments will follow later this week.

Regards,

--
Janine Ba
Project Engineer
City of Portland Department of Public Works
212 Canco Rd. Suite B
Portland, ME 04103
janineba@portlandmaine.gov
207-874-8463

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4 attachments

13. ROW - 1-DPW WR Comments.pdf
965K

15. ROW - 3-DPW WR Comments.pdf
414K

27. ROW - 4-DPW WR Comments.pdf
472K

14. ROW - 2-DPW WR Comments.pdf
686K

ACORN ENGINEERING, INC.

Planning Division
Attn: James Rather, Development Review Manager
City of Portland, Maine
389 Congress Street, 4th Floor
Portland, ME 04101

July 15, 2022

Subject: Major Site Plan Application – 165 Lambert St

James:

On behalf of Maine Cooperative Development Partners, we are pleased to submit this application for the proposed development of two lots located at 165 Lambert Street and 622 Auburn Street in the North Deering neighborhood. The combination of the parcels yields 17.95 acres and was recently put under a Purchase & Sale agreement between the City and the Applicant after a competitive public RFP process. As part of the RFP, the owner was also awarded the property located at 0 Gray Road in Falmouth, although this parcel is not currently proposed to be developed at this time and will result in conservation of approximately 13 acres of forest, wetlands, and streams. The design team has held numerous neighborhood meetings and informational sessions, as well as achieved a map amendment which converted the R-2 zoning district to R-3 for the purposes of increasing the allowable residential density and therefore contributing a larger number of units to Portland's affordable housing supply.

The existing traffic condition along the project's frontage on Washington Ave, as well as the intersections at Auburn and Lambert Streets will be improved through a combination of transportation strategies including narrowing the lane widths along Washington Ave, reducing the paved turning radius at both intersections, and providing a concrete apron to facilitate larger truck traffic. Additionally, a link to the Portland Trails network by way of a multi-use path is proposed. Two new bus shelters at the center of the development will be designed and constructed in tandem with METRO. Currently, the #9 Route travels by this location in both directions with an anticipated increased frequency in coming years.

The project proposes a total of 165 affordable residential units, all of which will be income restricted with 75% of the total units falling at 100% AMI and 25% at 80% AMI. After utilizing the PRUD standards and capitalizing on affordable housing incentives, the project will create a clustered village campus on both sides of Washington Avenue that maximizes housing, allows for pleasant outdoor space for residents, and conserves much of the mature canopy and wetland/stream habitat. We are pleased to present this project as it falls directly in line with the comprehensive plan by creating quality affordable housing and transforming the suburban feel of this corridor into a sense of place.

Sincerely,

Sam Lebel

Samuel J. Lebel, P.E.
Project Manager
Acorn Engineering, Inc.

The following documents and drawings will be uploaded onto the City's electronic submission site per the procedure outlined in the application:

Documents:

- Section A: Cover Letter
- Section B: Major Site Plan Application & Checklist
- Section C: Right, Title, Interest
- Section D: Zoning Assessment
- Section E: Easements
- Section F: Waiver Table
- Section G: Financial Capacity
- Section H Technical Capacity
- Section I: Conformity with Land Use Ordinance
- Section J: Stormwater Management Report
- Section K: Erosion & Sedimentation Control Report
- Section L: Fire Department Letter
- Section M: Wastewater Capacity Letter
- Section N: Lighting
- Section O: Architectural Design Narrative
- Section P: Utility Cover
- Section Q: Construction Management Plan
- Section R: Solid Waste
- Section S: Traffic Report
- Section T: Turning Templates
- Section U: Transportation Demand Management Report
- Section V: Stormwater Management Law – Delegated Review Application

Drawings:

- Civil Site Plan Set
- Architectural Plan Set

ACORN ENGINEERING, INC.

Planning Division
City of Portland, Maine
Attn: Sean King
389 Congress Street, 4th Floor
Portland, ME 04101

September 29, 2022

Subject: 165 Lambert Street Co-Op – Notice of Public Meeting Certification

I, Sam Lebel, hereby certify that (3) notice of neighborhood meeting signs were posted on September 29, 2022, prior to the October 11, 2022 Planning Board Meeting for the proposed project PL-002078-2022 located in the vicinity of 165 Lambert Street and 622 Auburn Street. Photo documentation of sign in-situ:

Sign Location Along Washington Avenue

Sign Location Near Auburn Street

Sign Location Near Lambert Street

Note that it is the applicant's responsibility to remove the notice of public meeting sign within three days following the date of the meeting.

Sincerely,

Samuel J. Lebel, P.E.
Project Manager
Acorn Engineering, Inc.

CITY OF PORTLAND
Planning & Urban Development Department

MAJOR SITE PLAN
GENERAL DOCUMENT AND DRAWINGS CHECKLIST

Please submit each document as a separate PDF file.
Please confirm by electronically checking the boxes in the left-hand column.

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

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

GENERAL APPLICATION DOCUMENTS		
Yes	NA	**Project Description** ● Cover letter with detailed project description
Yes	NA	**Completed Checklist** (this document)
Yes	NA	**Evidence of Right, Title, and Interest** ● Deeds, leases, or purchase and sales agreements
Yes	NA	**Evidence of State or Federal Approvals** ● Permits or letters of non-jurisdiction, if applicable
Yes	NA	**Zoning Assessment** (see Zoning Assessment Table) Summary of compliance with use and dimensional standards of the land use code
Yes	NA	**Site Plan Standards Assessment** (see Section 14.6 of the land use code) ● Summary of project compliance with site plan standards of the land use code
Yes	NA	**Summary of Existing and/or Proposed Easements or Covenants, applicable.** ● Evidence of existing easements and any proposed easements, covenants, public or private rights-of-way
Yes	NA	**Waiver Requests** (see Waiver Table) ● Written request for waiver describing request and compliance with applicable waiver standards
Yes	NA	**Financial Capability** ● Letter or evidence from a financial institution or third party verifying financial capacity to undertake project
Yes	NA	**Technical Capability** ● Evidence of technical capability of applicant and consultants – resumes and/or examples of past projects

MAJOR SITE PLAN
STANDARDS AND SUBMISSION CHECKLIST

Provide assessment of compliance with standards and include supplemental documentation, as applicable.
Please submit each document as a separate PDF file.

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

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

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

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

MAJOR SITE PLAN
DRAWINGS CHECKLIST

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

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

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

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

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

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

Existing Conditions Plan with the following:

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

Proposed Site Plan with the following:

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

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

UTILITY PLAN including:

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

GRADING AND DRAINAGE PLAN including:

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

LANDSCAPE PLAN including:

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

ARCHITECTURAL PLANS AND RENDERINGS including:

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

CONSTRUCTION MANAGEMENT PLAN including:

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

OTHER

- Details and cross-sections, as necessary

ACORN ENGINEERING, INC.

Sean King, PLA
Urban Designer
389 Congress Street
Portland, ME 04101

December 27, 2022

Subject: Comment Response Letter #3
165 Lambert Street – Portland, Maine

On behalf of Maine Cooperative Development Partners and the rest of the project team, we are pleased to respond to the final round of comments received.

To facilitate the review, comments are provided below in italics followed by the project team's response.

Acorn Engineering (Sam Lebel, PE & Nate Holt, EI) Civil Engineer
Aceto Landscape Architecture (Nick Aceto, RLA) Landscape Architect

City Planning Staff Comments

Comment – *Advance design of proposed facilities for the Community Pavilion, and include the intent for use.*

Response - Based on a survey of future residents, the plan has been revised to include covered and enclosed bicycle and equipment storage attached to each rowhouse building in lieu of the community pavilion along the common. The space of the former pavilion location is continued to be envisioned as a community gathering space with flexible seating, bicycle parking, and an interactive community element. See site and landscape plans and details for more information.

Comment – *Maine Cooperative Development Partners plans to provide list of major employers within a ¼ mile of bus stops on the 9A/9B, for sharing with residents and to conduct outreach to those employers regarding housing availability at Lambert Woods. Applicant to state when the information will be developed.*

Response - Please see attached for a list of major employers within a ¼ mile of bus stops on the 9A/9B Metro Route, the client has begun and will continue outreach with local employers.

Comment – *Provide street lighting locations and photometrics along Washington Ave Extension.*

Response – A photometric plan has been prepared that models the lighting levels on Washington Ave adjacent to the building frontages. The plan models the existing cobrahead light fixtures, a new

cobrahead to be mounted on the relocated utility pole between buildings N.1 and N.2, and two light poles by the raised crosswalk. Lighting levels at the crosswalk exceed industry standards for midblock crosswalks with the rest of the plan showing lighting levels extending over the centerline of Washington Ave. The lowest lighting levels exceed the city's minimum fc level per the technical manual section 12.3.2. Although not included in the photometric model, as a best faith effort it is proposed to add new cobrahead fixtures to all of the existing utility poles along Washington Ave, as well as providing new light poles/bollards and a cobrahead by the proposed crosswalk on Auburn Street.

Comment – *Indicate where storage is provided for each dwelling unit per building type.*

Response - The size of the utility sheds have been increased on the ends of the rowhouses to allow for a ten-foot by twenty-foot shared storage space for the tenants. Please refer to the revised architectural design narrative (Doc. O) for more information.

Comment – *Provide variation in façade character along building facades as a more activated elevation. Consider additional delineation of first floor (ie. window awning, secondary entry or variation in façade material), upper floor facades (ie. fenestration pattern, window type variation) and/or roofline variations that breaks horizontal scale of buildings longer than 40 feet.*

Response – *The design team has made a number of design changes to satisfy this comment. Please refer to the architectural design narrative prepared by the project architect for more information.*

Comment – *Disperse and quantify bicycle parking throughout north and south development (required 64 bicycle parking spaces per Land Use Table 19-A = 2 spaces/5 units)*

Response - Plans have been updated to include a minimum of 64 bicycle parking spaces and storage. Please see site and landscape plans along with architectural plans for covered bicycle parking spaces.

Comment – *Indicate EV charging stations (required 13 stations per Section 1.17 tech manual = 20% of provided on-site parking spaces)*

Response – EV charging stations have been added to sheet C-10 and C-11 along with general note #8 which highlights the City's EV requirement per both the technical manual and the land use code. The exact location of the stations have not been included as this is dependent on the final electrical design which has not yet been completed.

Comment – *Minimize disturbance area within the stream setback and provide solution or narrative to inform the purpose for grading within the stream setback. Applicant to update construction mgmt., ESC and grading plans accordingly.*

Response – A number of design changes have been made to further reduce the disturbance within the stream setback. The project has been designed to incorporate a compact site with minimal off-street parking to help preserve the existing natural resources to the greatest extent feasible. To further reduce the disturbance limit within the stream setback, the parking lot has been shifted plan north four feet in tandem with revising the grading scheme to tie into the surrounding natural grade with less disturbance. Although the grading disturbance does still extend into the 75' setback, this has been minimized to the greatest extent feasible while factoring in other site constraints. Overall, the proposal has been given extensive thought and is designed as a cluster subdivision where the majority of the 30 acres under site control is preserved. The design team has balanced environmental sensitivity with the proposed development footprint and are pleased to put forth 162 units of much-needed affordable housing while maintaining the footprint outside of the stream setbacks and leaving the high-value wetlands untouched.

Transportation & Traffic Comments

Comment *– Movements from Washington Avenue Extension onto Auburn Street will have a failing level of service condition. Current movements operate at level of service F, but delay will increase from 159.8 seconds per vehicle to 231 seconds per vehicle after project completion. A traffic signal warrant analysis was performed to determine if traffic signalization was a possible alternative to mitigating the long delays. The preliminary analysis indicates a traffic signal is warranted. It should be noted that the applicant is conducting a vehicle speed survey on Auburn Street and this information will help to inform the signal warrant conclusion. Further review is required.*

Response – Thank you for the review, it should be noted that the existing condition for this intersection meets the 8-hour traffic warrant as stated in the traffic report. Based upon follow-up meetings with City Staff and the traffic peer reviewer, it has been agreed upon that a signalized intersection is not the most appropriate treatment despite the warrant technically being met (in both the existing and proposed conditions). A number of alternative traffic calming measures have been implemented including a rapid flashing beacon and curb extension to the south of the intersection that will provide a right-of-way for pedestrians while creating gaps in thru traffic, allowing for additional accommodation of the dominant move during the PM peak hour which is a lefthand turn out of Washington Ave northbound onto Auburn Street. Lastly, it should be noted that there are multiple alternative routes both north and south of the site that avoid the intersection in question. The design team is pleased to offer the City significant off-site public improvements to the street network and associated infrastructure.

Comment *- City staff continues to review the cross-section elements of Washington Avenue Extension.*

Response – A meeting has been held with City staff discussing the cross-section elements of Washington Ave. The cross section has been revised to a 40' curb to curb with 11' travel lanes, 9' wide on street parking, and 8' wide multi-use pathways, consistent with Staff requests and the Technical Manual.

Public Works & Engineering

Comment – *The cross section being proposed on Washington Avenue extension does not currently meet the City's technical design standard cross section for collector streets. The City's standard cross requires a curb to curb street width of 40', which is what currently exists on this section of Washington Avenue Extension. DPW's opinion is that the constrained cross section, parking configuration and traffic volume will create public safety hazards and winter operational issues. It's acknowledged that the applicant is trying to urbanize this street, but that doesn't change the fact that this section of roadway is a major collector street with a significant amount of daily through traffic (2021 AADT between 2,000 and 5,000). It appears the cross section could be widened to a more standard width with the use of on-road dedicated bike lanes and narrower sidewalks in lieu of the proposed on-street parking strategy. DPW would be willing to support a minimum curb to curb street width of 38' only if on-street parking stalls are replaced with dedicated bike lanes. If the current on-street parking strategy remains, DPW will require a 40' curb to curb street width compliant with City collector street technical standards.*

Response – The cross section has been revised to meet the required 40' curb to curb street width which includes 11' travel lanes and 9' wide on street parking. 8' wide multi-use pathways have also been added to the cross section for the length of Washington Ave. We believe this approach appropriately addresses the public safety and winter operations concerns, while also providing a safe off-street transportation route for bicyclists and maximizing on street parking as a traffic calming measure in addition to increasing the neighborhood's on-street parking supply.

Comment – *The right of way plans should be updated to show proposed pavement saw cuts into Washington Avenue Extension. DPW is concerned that the proposed roadway work will significantly impact the existing roadway pavement condition.*

Response – Please refer to the revised plan which depicts the pavement saw cuts. Utility trenches have been congregated where feasible to create larger, less frequent cuts. The proposed work in the ROW aims to maintain the existing travel ways as much as possible, and is not expected to significantly reduce the quality of the overall pavement condition.

Comment – *Truck Turning templates should be updated based on the revised roadway layouts once a final layout is agreed upon.*

Response – Please refer to the revised turning templates (Doc T). 6mph speeds were used for vehicles subject to a stop sign. 10mph speeds were used for vehicles with a right-of-way.

Comment – *It's unclear if the proposed curbing and flush concrete at the Washington Ave/Auburn Street intersection will create a drainage issue. There appears to be a flat area at the SE corner of this intersection. The existing catch basin rim elevation in this area does not appear to make sense relative to proposed design grades. The applicant should provide further information and ensure adequate drainage is provided at these locations.*

Response – The existing drainage pattern, consisting of a superelevated roadway that begins at approx. Sta 12+30, direct runoff to the existing gutter line running north with a running slope of approximately 2%. Please refer to sheet C-34 which better clarifies the existing drainage pattern to remain. We have clarified existing and proposed spot grades which maintains positive drainage. Additionally, further plan review and detailed engineering design will occur prior to construction to ensure the final design will not create drainage issues. The contractor will also be required to confirm the field elevations prior to final surfacing such that any discrepancies or concerns with drainage can be reconciled prior to the completion of construction.

Comment – *The applicant is proposing vertical granite curbing with a reveal of 4" in the location of the flush concrete apron at the Auburn/Washington intersection. The City's standard for vertical granite curb reveal is 7".*

Response – The truck aprons have been revised in coordination with DPW. The initial intent was to provide a sloped concrete apron that was flush with the edge of pavement and provide curbing at the back of the ramp adjacent to the sidewalk. The cumulative rise between the slope of the apron and the curbing at the back of the ramp would result in a 7" reveal. The new design features a 3" mountable curb reveal with a sloped concrete apron that abuts the curbed sidewalk which also features a 3" reveal before transitioning back to the standard 7" reveal outside of the truck apron limit of work.

Comment – *The site plan and right of way plans should show the limits of the raised crosswalks and RRFBs where provided.*

Response – The right of way plans have been revised to further detail the raised crosswalks and the limits of raised pavement.

Comment – *It appears the bike lane diverters at the curb extensions on Auburn St are too abrupt. The design team should utilize NACTO guidance and provide a design which depicts the 'right' transition lengths. At a minimum we'd suggest that the leading edge of the transitions be the full width of the curb extension to ease the transition rather than having the jog as currently shown on the plans.*

Response – The design team has provided a design with criteria from the NACTO guidelines in combination with the Massachusetts's Department of Transportation Chapter 4 Section 4.3.2 Design Strategies for Constrained Locations. NACTO states the minimum lateral shift should occur gradually, and no greater than a taper of 4:1. The design proposes to taper at a 6:1 ratio while utilizing the Bend Out method as recommended by the MassDOT.

Comment – *There appear to be curb ramps at the bus stop pullout areas that don't seem required for bus patron use. Bus stops/landing areas are typically at sidewalk grade and utilize an on-board ramp for wheelchair users or access for persons with mobility limitations/strollers/shopping carts - OR, are there handicapped parking spaces behind the bus pullouts that would utilize these ramps (which means they should be closer to those spaces it would seem)?*

Response – There are no parking spaces proposed in the bus pullout area, as such the ramp design has been revised to allow for sidewalk at grade for bus users to utilize the on-board ramp.

Comment – *The landscape plan doesn't show any trees or other plantings in the curb extensions that define the beginning and end of the on-street parking at the Auburn Street end of Wash Ave Extension where they would seem to be most useful for visually narrowing the roadway.*

Response –Plans have been updated to include trees within curb extensions.

Comment – *The site plans (North and South) lack good dimensioning of key details such as travel lane widths, on-street parking and curb extension dimensions where they are easier to read at 1"=20' (whereas the Overall site plan is very cluttered at 1"=40') - the N-S site plans and the ROW plans (while having good dimensioning) also omit lots of key details such as the ramping at the bus stops, raised crosswalks, lighting, etc.. The plans should be updated to provide better clarity.*

Response – Please refer to the revised plans, the general intent is for sheets C-10 through C-31 to focus on the site, utility, and grading/drainage design for the portion of the project inside private property. Sheets C-32 through C-35 are intended to depict this design for the portion of the project located inside the ROW. Sheet C-09 is intended to provide a broad overview of the entire project as well as provide a signage plan.

Comment – *If the lighting from the utility poles on Auburn Street are going to be relied upon for crosswalk and bikeway lighting (so bicyclists at night don't hit the curb extension) then it should be confirmed that they will provide good quality lighting at this location and if not how it will be illuminated well.*

Response – A photometric plan has been prepared that models the lighting levels on Washington Ave adjacent to the building frontages. The plan models the existing cobrahead light fixtures, a new cobrahead to be mounted on the relocated utility pole between buildings N.1 and N.2, and two light poles by the raised crosswalk. Lighting levels at the crosswalk exceed industry standards for midblock crosswalks with the rest of the plan showing lighting levels extending over the centerline of Washington Ave with the lowest lighting levels exceed the city's minimum fc level per the technical manual section 12.3.2. Although not included in the photometric model, as a best faith effort it is proposed to add new cobrahead fixtures to all of the existing utility poles along Washington Ave, as well as providing a cobrahead and new light poles/bollars by the proposed crosswalk on Auburn Street

Comment – *Bike lane symbols should match the MUTCD and Tech Manual standard, and be placed every 250'.*

Response – The bike lane symbols shall be in compliance with the MUTCD and Tech Manual Standard. The layout of the sharrows have been revised and are now spaced out every 250 feet. Please refer to sheet C-09 for the location of the bike lane symbols.

Comment – *This project has been based on the idea that a significant amount of travel will not be by vehicle, and as such, supporting reduced parking supply should be accompanied with expanded non-motorized travel facilities. Therefore, DPW is not currently supporting the requested sidewalk Waiver request on Lambert Street. Another option would be for the team to consider allocating those resources elsewhere in the neighborhood which may prove more beneficial in terms of improving connectivity. – Perhaps in other locations identified by neighbors in the Summit and Lambert neighborhood. It could be a good faith mitigation for the additional traffic the development is proposing to add to the neighborhood and to offset the lack of a sidewalk along the project's Lambert Street frontage as contemplated through the current waiver request.*

Response – Based on feedback from the Planning Board at the previous two workshops, as well as correspondence with the Planning Department, we respectfully request to proceed with the waiver request. This affordable housing project is committing to significant public improvements within the ROW by:

- Providing approximately a half-mile of new 8' wide paved multiuse paths
- Rebuilding the edges of Washington Ave with new curbing, drainage, off-street parking, and esplanades/landscaping
- Constructing three truck aprons as a traffic calming measure and formalization of what is currently a suburban corridor.
- Constructing two bus shelters
- Constructing two rain gardens to filter, cool, and attenuate the "first flush" from the roadway which consists of the highest concentrations of pollutants
- Constructing a raised midblock crosswalk
- Constructing a new curb extension with a bend-out bike lane and RFB crosswalk at Auburn St to prioritize pedestrian movements and create natural gaps in traffic flow to facilitate left-hand movements out of Washington Ave.

This project is unique in that it has over 3,000 feet of public street frontage and as such it would be an undue burden to expect sidewalks to be constructed along every foot of frontage. The Applicant strongly feels their contributions to public infrastructure, as listed above, are already demonstrating their commitment to go above and beyond the status quo. Lastly, it should be noted that the amount of street frontage on Lambert Street owned by the Applicant is minimal and segmented in a noncontiguous manner as the abutting single-family homeowners own most of the Lambert frontage – please refer to the survey for more information.

Comment – *The applicant will need to formally request a waiver to eliminate the requirement of installing a new sidewalk along the property's Auburn street frontage to the north of the Washington/Auburn intersection.*

Response – A waiver is being formally requested for the same reasons as previously mentioned in regards to the Lambert St sidewalk.

Comment – *Further spot grades should be depicted on the plans at the proposed crosswalk ramps located at the Washington/Auburn and Washington Lambert intersection to ensure facilities will be designed to meet ADA requirements.*

Response – Please refer to the revised ramp design that meets ADA requirements.

Comment *- It appears that curb extensions have been revised to extend out a maximum of 6' from the proposed curbline, however it does appear that curb extension transitions may be less than 20' at certain locations. The applicant should address this comment.*

Response – The curb extensions have been revised to have a min. 20' transition length, additionally a note has been added to sheet C-32, Stations 3+00-6+00 sheet to further clarify this requirement.

Comment *– DPW suggests eliminating the easterly and westerly mid block Washington Avenue Extension crossings and consider creating one raised crosswalk at the crossing location near station 6+80 to provide enhanced pedestrian visibility and further traffic calming in this corridor.*

The applicant team should focus on and implement one raised mid-block crossing on Washington Avenue Extension, with an RRFB located roughly between 6+75 and 8+50. The primary focus of the crossing location should be proximity and access to the Metro stop locations.

Response – Please refer to the single raised crosswalk along Washington Ave, this location has been chosen at it is located along a straight portion of Washington Ave with sufficient sight distances and is in proximity to the METRO stops. Additionally, there are other visual calming queues such as building frontages, curb extensions, bus stops and shelters, all acting to help slow traffic down in addition to the elevation of the raised crosswalk. The raised crosswalk will be sufficiently illuminated with new light fixtures. It should be noted the Federal Highway Administration recommends that "agencies reserve the use of RRFBs for locations with significant pedestrian safety issues, as over-use of RRFB treatments may diminish their effectiveness". With this in mind, the design team proposes a raised crosswalk on Washington Ave as there isn't a documented pedestrian concern and there are multiple traffic calming measures that are proposed to be in place to support a safe pedestrian crossing. Conversely, an RRFB at the proposed Auburn Street crossing is proposed where the speed limit is higher, there are documented pedestrian concerns, and there will be children walking to Lyman Moore Middle School.

Comment *- The applicant has revised the curbing design to utilize granite curbing. The applicant shall update the detail to show the curbing being installed with concrete per updated DPW guidance.*

Response **–** This detail has been updated.

Comment: *Traffic Calming measures at Washington/Auburn should utilize type 5 sloped truck aprons. The crosswalk should remain at the same elevation level as the truck apron and ramp down with a maximum grade of 8% from the concrete truck apron to the edge of pavement.*

Response – Please refer to the revised raised concrete truck apron design which features a 3" reveal with type 5 granite curbing at the edge of pavement, with the outside radii of the apron following

the existing edge of pavement. Cross sectional details have also been provided in tandem with the plans.

Comment - *The applicant has completed an alternative analysis which indicates it is not feasible to install 8'-10' multi use paths for the entire length of Washington Avenue Extension. It would appear that it may be feasible if the ditch lines on Washington Avenue extension were filled in and replaced with a closed drainage system for a portion of the road. The applicant must provide separate sidewalks and bike lanes along Washington, or consistent-width multi-use facilities as previously directed.*

Response – 8'-wide multi-use pathways have been implemented on both sides of Washington Ave along the length of the project's frontage. To accommodate this the northern ditchline will be filled in and a closed drainage system adopted. The southern ditchline will be regraded to accommodate the 8' wide pathway. In addition to the 8' wide pathways, the Washington Ave frontage features an esplanade to help provide further pedestrian protection and mitigate against heat island effect by breaking up continuous pavement.

Comment *- The updated landscaping plan still shows American Elm trees in close proximity to the two proposed crosswalks along Washington Avenue Extension which could block pedestrian visibility particularly for vehicles heading in the eastbound direction towards Auburn Street. It appears that a tree being shown adjacent to the pedestrian ramp on the North side of Washington Avenue Extension at approximate station 4+80 appears to be very close to a proposed drainage line. The applicant should take a closer look at the landscaping plan to ensure there are no tree conflicts with proposed infrastructure.*

Response –Tree locations have been adjusted to avoid utility and sight line conflicts.

Comment - *The applicant has referred to a detail on sheet C-40 and has stated the detail shows that the driveway meets ADA requirements. Upon review of the detail, the driveway apron does not appear to show how sidewalk ADA requirements will be met. The applicant shall add DPW's updated driveway detail which shows the required layout. The applicant shall also update the street right of way and plans with spot grades depicting how sidewalk ADA compliance will be achieved at the driveway locations.*

Response – The details and plans have been clarified to ensure ADA conformance.

Comment – *The applicant should consider signage to discourage on-site drivers from driving down and parking along the proposed emergency access roads corridor.*

Response – Please refer to sheet C-09, C-10, and C-11 which shows a R5-1 "Do Not Enter" sign at the end of the mews just before the emergency access corridor.

Comment – *DPW concerns about snow removal/snow ban parking lot agreement with neighboring lots.*

Response – The Washington Ave cross section has been revised to meet City standards with part of this reasoning being to accommodate snow plowing operations. During City snow bans, the Co-Op will be responsible for signing the site and notifying residents the rules and regulations relating to plowing. The Developer has been in communication with Harrison Lyseth elementary school to provide a location for temporary snow ban parking and have been actively engaging other surrounding businesses and organizations. It's our understanding based upon the latest meeting and revised plans that the proposed plan is acceptable to DPW.

Comment – *DPW concerns about property management of non-free off-street parking program, appears that most residents will prefer to park on street as opposed to pay monthly parking fee.*

Response – This is a typical property management model; residents may find value in the off-street parking when dealing with snow ban parking or walking back to their unit from the on-street parking located further away from the building entrances.

Comment – *DPW is of the opinion that the proposed curbing alignment at the Lambert/ Washington intersection is an irregular configuration, likely hard to plow around, and won't do anything to address concerns about speed of vehicles turning at the intersection. A more standard configuration shall be implemented. Flush concrete on the north side of the intersection could be implemented as an effort to visually enhance traffic calming at the intersection.*

Response – The curbing alignment at this intersection has been revised in tandem with a truck apron to provide a more standard alignment that helps calm traffic while considering snow plowing operations. A truck apron is being pursued here based on the traffic counts that indicate the right hand turn from Washington onto Lambert is a relatively frequent turning movement for larger vehicles.

Comment – *DPW would be willing to support the proposed on street parking layout if the applicant can address two main concerns:*

1.) Providing a safer biking alternative through the use of multi-use paths.

2.) Addressing snow ban/plowing operational concerns. The fundamental questions is: If residents are utilizing the on-street parking, where will cars be moved during a city wide snow parking ban to ensure the City can properly plow the parking stalls.

3) There was an additional question presented by the City engineer when we discussed the project this morning: He is concerned about how well parallel parking will function in this section of roadway with the amount of traffic volume and large trucks which use this roadway. The applicant should consider this and provide further information. DPW is requesting further traffic count information for this section of Washington Avenue to determine how many large trucks use this section of Washington Avenue on an average day.

Status Update:

1. *The applicant has not yet provided a plan which provides 8'-10' multi use paths on both sides of the roadway for the full length of Washington Avenue Extension between Lambert Street and Auburn Street. If this can not be achieved, dedicated on-road bike lane facilities shall be implemented similar to what is shown as option # 2 in the alternative analysis completed by the applicant.*

2. *While the applicant has made some effort to research winter operational concerns associated with snow ban parking, it still remains a concern that DPW will not be able to properly plow the corridor based on proposed on-street parking and street cross section design*

3. *This comment was not addressed by the applicant and as stated in comments above DPW has public safety and functionality concerns with the proposed Washington Avenue cross sectional layout*

Response –

- 8' wide multi use paths have been implemented on both sides of Washington along the project's frontage.
- The street cross section has been revised to meet City standards.
- We have previously provided the MDOT vehicle class data for this stretch of Washington Ave which classifies the vehicle class based on data from May 2022. This has been included with the traffic analysis. Given the 25 mph limit, relatively low AADT for this stretch of road, and the revised cross section, we believe the parallel parking will not impact public safety or functionality.

Comment - *The applicant has stated that further geotechnical analysis will be completed and forwarded to DPW. The scope and methodology of the investigations should be reviewed with DPW prior to being completed.*

Response – Preliminary test pits will occur in the shoulder during additional forthcoming geotechnical investigations. Further test pits will also occur during construction. The results of these investigations will not change the proposed street cross section; if subbase depths are insufficient within the existing shoulder then the contractor will box cut and install additional aggregate, or in coordination/agreement with DPW, a triaxial geogrid may be proposed to compensate for insufficient subbase, depending on the existing pavement profile.

DPW Water Resources Comments:

Comment - The applicant has provided sufficient information to this comment in regards to the number of outfalls into the ditch line. DPW is concerned about the methodology being used to compute peak flows generated by the porous pavement systems on-site. It would appear that in larger storm events once the stone reservoir system is full, the porous pavement system would begin to bypass into the overflow catch basins. In this case it would appear that the system would act more as an impervious surface and generate higher peak flows than what is being depicted in the applicant's model as a result of the time of concentration methodology utilized by the

applicant. DPW is concerned that based on this methodology, peak flows from the porous pavement systems will end up increasing overall flows into the ditch lines, particularly the southerly ditch line. It's DPW's experience that porous pavement systems require intensive maintenance to function at their optimal level. If the system is plugged then peak flows from these areas will be significantly larger into the City's system then what is being projected by the model. If the applicant is proposing to increase the flow rates into the City's system then a further analysis of the entire downstream closed drainage system will need to be completed to ensure the system can manage the additional flow rates. An alternative approach would be for the applicant to provide further SW detention on-site to ensure peak flow rates do not exceed pre-development flow rates.

Response – The time of concentration methodology used to model porous pavement is consistent with the software developer's recommendations on modeling this type of BMP, simulating the attenuated drawdown through the pavement cross section. This approach has been used previously within the City of Portland permitting process, MDEP Stormwater permits, and other Maine communities. However, we appreciate the concerns raised and acknowledge that a "flash flood" during the most intense hour(s) of a storm could theoretically overwhelm the top two layers of the porous section. In response to these concerns, we have adjusted several design elements including:

- The reservoir stone below the porous pavement has been increased in depth by 50%. The effective direct entry capacity of the top two layers is now 3.2". In comparison, the 1 hour–1,000–year storm for Cumberland County is 3.5".
- Six standard catch basins have been converted to 6' diameter structures with a baffle and bypass outlet at the most crucial and high-flow areas. In the event runoff enters the catch basin from the porous pavement, it will now be confined to half of the structure whose outlet will direct the flow to the USSF on site.
- Each USSF has been upsized to handle the potential porous overflows while still providing treatment and attenuation to prevent increasing peak flows to the City's ditch lines. The volumetric capacity of the north and south USSF systems have been increased by 10% and 14% respectively. This will also assist in decreasing the peak flows from roof runoff compared to the previous submission and model.
- The porous pavement within the parking areas has been detailed to include a significant addition of reservoir stone below the porous pavement.

Lastly, it should be noted that the HydroCAD model assumes the majority of the north parcel consists of soils in the hydrological group A which minimizes the pre-development peak flow numbers in a conservative manner. This information is based upon a medium intensity soil survey prepared by USDA and is not as accurate as a site-specific investigation, or high intensity soil survey. Preliminary geotechnical investigations on the north parcel indicated the presence of clays and silts in certain areas meaning the hydrological group may currently be over conservative. In other words, the peak flowrate leaving the north side of the parcel that the Applicant is being held to as a maximum, is likely lower than the actual peak flowrate leaving the site today when considering the site-specific soils.

In response to the maintenance concern, the same could be said that any stormwater BMP would not function as designed when not maintained properly. The client is aware of the maintenance requirements associated with porous pavement and a stormwater maintenance agreement will be

executed prior to issuance of a building permit which among other things, recommends biannual sweeping/vacuuming along with meticulous housekeeping such as prohibiting sanding of the site.

Comment - *This comment appears to be addressed however it appears that the angle of discharge for SD S1.1 into the southerly ditch line could be further improved. It is also noted that the discharge point for SD S1.1 does not show up on right of way plan # 1. The plan should be updated to show this discharge location into the ditch.*

Response – SD S.1.1 has been revised to better align with the southerly ditch line while also taking into consideration the proposed tree saves; this outlet has also been added to Sheet C-32.

Comment *- The design of the inlet located at the northerly ditch line has taken these comments into consideration and the design is acceptable. DPW would prefer a beehive drainage structure inlet to convey flows from the south ditch-line into the closed drainage system. This design shall be similar to what is shown at the terminus of the northerly ditch line. DPW has found that field culvert inlets with trash guards require a higher frequency of maintenance to ensure proper functionality.*

Response – The southern ditch line terminus has been designed as a small detention/infiltration trench to help detain the post development peak flow increase associated with widening the 5' sidewalks to 8' multiuse paths the length of Washington. We are proposing a 4" perforated underdrain in a crushed stone trench beneath riprap to allow for water to be metered by the 4" underdrain before outletting into the City's downstream MS4. A beehive grate has been provided that is elevated above the trench, but below the sidewalk, to act as an overflow for larger storm events that overwhelm the ponding area.

Comment - *The applicant shall add a note to the ESC Plan and CMP regarding dewatering. A dewatering plan shall be submitted to the DPW Water Resources Compliance Coordinator for review and approval prior to any dewatering occurring on-site.*

Response – This note has been added to the construction management/erosion control plan.

Comment *- After further review DPW will allow for the installation of Rain Gardens within the City's right of way to treat runoff from the City's right of way. Right of Way Rain Garden Comments:*

- *How will roadway curbing be installed adjacent to proposed rain garden # 2?*
- *The energy dispassation for inlet pipes into these two systems seems insufficient. DPW would suggest a 2' wide zone of river stone to extend the entire length of each rain garden.*
- *The applicant has provided two cross sections to depict the installation of the proposed rain gardens. A plan view detail should be added to provide further clarity of how the system will function.*
- *The City does not allow storm drains less than 10" to be installed within the right of way. The pipes in and out of proposed rain garden # 2 will need to be updated.*
- *The applicant shall provide planting information for the proposed rain gardens.*
- *Nyloplast overflow structures shall be updated to 18" to reduce potential clogging and frequency of maintenance.*

- *The City suggests a revision of proposed rain garden # 1 such that the entire system is located in the right of way. If this is not feasible, the applicant will need to grant the City a drainage easement to allow the City to maintain the portion of the system on private property.*

Response

- Vertical granite curbing set in a concrete haunch is proposed along the edge of the travel way the length of Washington Ave between Lambert and Auburn Streets. The area tributary to the rain garden will be collected via catch basin near Sta 5+00 and daylit into the rain garden.
- We are proposing a 12" layer of 4" riprap in place of the previously proposed riverstone. Given the minimal filter width and planting area we believe a riprap apron/plunge pool will be an effective energy dissipation device and not encroach on the limited planting area, while reducing future maintenance needs associated with the river stone.
- Sheet C-32 has been further detailed to provide additional information on how the rain garden will function.
- The inlet and outlet pipes have been revised to be 10" diameter.
- Planting plans have been updated to include specifications for rain garden plantings.
- The rain garden overflows have been updated to 18".
- Rain garden #1 has been revised so that the system is entirely inside the right of way.

Comment *- After further review of the PSA agreement for the subject parcel, it appears the developer is required to grant the City of Portland easements for the wetlands and streams located on the subject parcel. The PSA indicates the developer will be allowed to infill a maximum of 10,000 sf wetlands. The developer will need to grant the City easement for the remaining wetlands and streams. These streams and wetlands are a critical component to the City's drainage system in this area. The applicant shall provide a sketch of the proposed easement areas for the City to review and approve. Once the concepts are approved the applicant shall provide easement language, figures and descriptions for each proposed easement. These easements shall also be added to the proposed subdivision plat.*

Response – These sketches are forthcoming; the applicant is in agreement on this approach to providing easements.

Stormwater

Comment – *The project is required to comply with MaineDEP Chapter 500 and City of Portland Section 5 standards for stormwater management.*

- *Basic Standards – The project is providing for erosion and sedimentation controls on the site, and has provided two plans one each for the areas north and south of Washington Avenue. On Plan C-04, some of the work area extends off of the page and there is also an area where site drainage could exit the site that does not have perimeter erosion control – these areas should be updated. Work is also proposed for areas along Washington Avenue, and similar erosion control measures should be identified for those impact areas as well.*
- *General Standards – Stormwater treatment is being provided on the site using underdrained subsurface sand filters and porous pavement.*

- *The Applicant should address the depth of groundwater. The subsurface sand filter and soil filter details include an impermeable liner, but the porous pavement detail does not.*
- *The report does not address the design of the proposed soil filters along Washington Avenue. The City has expressed some concern with utilizing these underdrained soil filters, so further coordination will be required.*

Response –

- Please refer to the revised construction management and erosion control plan which now includes the right-of-way work as well proposed work within private property. The perimeter controls on the south site have been revised to enclose the proposed disturbed area.
- A preliminary geotechnical investigation did not encounter groundwater. A plethora of underdrains are proposed as part of this project which is anticipated to dewater any seasonal high groundwater that may impede on subsurface infrastructure.
- We have been in coordination with DPW, our understanding is that they will reconsider accepting the proposed BMPs in the right-of-way as they are not used to satisfy the quantity or quality requirements for the private development, but rather catch the first flush of road runoff.

- *Flooding Standards – The Applicant has noted that the Flooding Standard has been met, primarily maintaining flows at the pre-development condition. I have reviewed the HydroCAD model and have the following comments.*
  - *The Applicant is utilizing a method of evaluating flow through porous pavement with a large time of concentration that I am not familiar with, but I am continuing to review. I am specifically interested in understanding more about how the use of the large time of concentration works with also separately modeling the porous pavement's storage and flow-through. I will continue to review and will provide additional comment as required.*
  - *The Applicant should review the time of concentration calculations for areas that are remaining as undeveloped. In some cases it appears that surface types may have been modified from the pre-development to post-development models resulting in larger TC values in the post-development condition.*
  - *The North and South grading and drainage plans both include drainage structures and stormdrain pipes. The numbering of these structures and pipes includes the same numbers on both the north and south project areas. It is suggested that the Applicant consider some kind of naming distinction as there could be some confusion when distinguishing the different project areas.*
  - *The Applicant should review the drainage structure rims with the proposed site grading that is shown on the plans – in some areas of the site the grades seem to be different than the structure rims. For example, CB6 on the southern project area appears higher than site grades; similarly CB2 on the northern project area is also slightly higher. The catch basins will provide the overflow backup for the permeable pavement, so they should be set at low points to be able to collect stormwater in higher intensity storm events or in the event that areas of the permeable pavement becomes clogged.*

Response –

- The time of concentration method used for the porous pavement is in accordance with research provided by the University of New Hampshire's Stormwater Center. Source: Ballestero, Thomas, UNHSC. "Real Time Hydrology of Permeable Pavements" Philadelphia Low Impact Development Symposium, 2011. Part of the rationale is that the Curve Number (CN) input for porous pavement is 98 which is what traditional impervious pavement is rated at. If an alternative method of analyzing the attenuation provided from the robust porous pavement profile were determined or utilized with a lower Tc method, the CN would drop dramatically. Currently, the approach presented in the Stormwater Management Report and HydroCAD modeling is the industry standard based upon our research, experience, and past submissions, both at the local and State levels. Additional safeguards have been designed on this latest plan revision in response to concerns from DPW. Please refer to this response above for more information.
- The time of concentrations have been reconciled in the pre and post development condition.
- A naming convention for the north and south drainage networks has been incorporated to help avoid confusion.
- The structure rims have been revised.

Comment – *The utility plan shows the proposed locations of an electric utility pole and guywire east of the driveway and north of Washington Avenue. Please clarify what work may be necessary to install this utility infrastructure, and if this is part of the identified wetland impacts.*

Status Update: After meeting with CMP, this utility pole location is not necessary and has been removed from the wetland.

Response – This is a potential utility pole location, ultimately the final location will be per CMP. Any work that is required within the wetland will be included within the Tier 1 NRPA permit.

Comment – *The potential snow storage locations that have been identified on the plans should be reviewed with proposed landscaping for conflicts. It appears that some areas may overlap with proposed trees.*

Response – Snow storage and planting areas have been coordinated to eliminate or reduce conflicts.

Comment – *The proposed landscape plans for the Washington Avenue work should be coordinated with the site plans. The landscape plans do not appear to show the entire area, they do not account for proposed stormwater features, and it appears that trees are proposed within stormwater swales, and in some cases on slopes that are identified on the site plans as rip rap. Any proposed on-street vegetation should also be coordinated with utilities.*

Response – Planting plans have been updated to reflect site plans.

Comment – *City of Portland Department of Public Works has provided a number of comments about the proposed stormwater management system, in particular for the work proposed within the Washington Avenue Right of Way. I would echo their comments, and would note that one area that needs some further clarification is the section from stations 9+00 to 13+50. Based on the grading plan, it is not completely clear where drainage will be directed, and what impacts drainage may have on off-site areas.*

Response – It is proposed to collect the runoff from Washington Ave with catch basins located along the gutter line. Near Sta 9+50, there are two catch basins proposed on opposite sides of the road. The northern structure will outlet into a riprapped plunge pool/spreader in a similar manner to the existing condition. The southern catch basin will discharge to a 12" level lip spreader and then flow towards the wooded buffer in a similar manner to the existing condition. Please review the revised plans and let us know if there are any additional questions. At the intersection of Washington and Auburn the road is superelevated and pushes sheet flow towards the gutterline on the west side of Auburn running to the north. Near Sta 12+30 the superelevated section transitions to a typical crowned roadway and is maintained the length of Washington.

Fire & Life Safety

Comment – *Fire truck access shall be well marked and visible from public street.*

Response – Please refer to sheet C-09 for the proposed signage, an Authorized Vehicles only sign has been added to the ends of the emergency access lanes along with a Do Not Enter sign to discourage non authorized vehicles to utilize the route.

Metro

Comment – *Bus shelters should be placed closer to the front of the bus stop pull-offs, if possible. Passengers wait to board the bus, which occurs at the front door.*

Response – The bus shelters have been placed to align with the front of the bus when they pull into the bus lane.

Comment – *Metro supports the lower parking ratio proposed. The additional ridership generated by residents who are not exceedingly incentivised to drive due to being provided abundant parking will support continued, and hopefully improved, bus service to this area in the future.*

Response – Thank you for your review.

Comment – *Metro supports the aprons being proposed at the intersections as a traffic calming measure. These aprons should be sized so that buses do not need to mount them in order to turn,*

which would be very uncomfortable for bus passengers. The turns in question are the right turn from Lambert onto Washington, and the right turn from Washington onto Auburn.

Response – Noted, the aprons have been designed so that Metro buses do not need to mount the aprons. Please refer to the turning templates for more information.

Comment – *Existing bus stop signs should be used.*

Response – Understood, existing bus stop signs will be used when they are relocated to the proposed locations.

Comment – *Bus stops may be denoted with specialty pavement markings (BUS STOP legends) to help reinforce that no parking is permitted in bus stops (this is recommended city/systemwide).*

Response – Pavement striping/text has been proposed by the bus stops to help reinforce this.

Comment – *The Applicant will be required to submit a Transportation Demand Management (TDM) plan as part of this project. Metro-specific items to support reduced automobile dependence include, but are not necessarily limited to, providing bus passes to all residents; providing shelter infrastructure as proposed, providing real-time information signage at shelters and in common spaces, and providing bus schedules and maps in common spaces.*

Response – A TDM has been prepared for this project.

Zoning

Comment *- The first comment (pg 18) addresses the net land area calculation. Looking at plan C-09 (revised on 9/26/22), I'm not satisfied with their calculations.*

- *The minimum lot area provided in the Space & Bulk Standards - is 5.12 acres. 5.12 x 43560 = 223,02702 sf, The net land area table lists the property area as 781,989 sf. Where did this calculation come from?*

Response – The north parcel has a lot area of 5.12 acres with the south having 12.83 acres. As the space and bulk table asks for the "minimum lot area", we provided the smaller of the two parcels. To avoid confusion a separate space and bulk table has been provided for both the north and south parcels.

- *Net land area table - The wetland amount is given as 211.675 sf. Your comment on pg 18 states that the report from Jones Associates states that there is approximately 236,727.92 sf of delineated wetlands. How is the discrepancy accounted for between the two figures?*

Response – The referenced number appears in a memo from Jones Associates from October of 2019. In this memo they estimate that approximately 236,727.92 sf of delineated wetlands on the north and south parcel exist, but that these wetland delineations were performed by Boyle Associates in July of 2009. Jones Associates since has performed a more recent delineation of the parcels (May 2021 for 165 Lambert, and October 2021 for 622 Auburn), the wetlands flagged from the delineations from May and October of 2021 have been GPS located by Owen Haskell Inc. and are shown on the civil plans. The total wetland area that has been delineated and GPS located on the 165 Lambert St and 622 Auburn St parcels is approximately 211,675 sf.

- *If I add up the figures they provide for wetland area, stream area and slopes > 25% the total amount is 256,123 sf. They state that the deducted area is 244,738 sf. Once again there is a discrepancy. Even if we use their wetland calculation and not Jones Associates' calculation, the total net land area with the deducted area of 256,123 sf is 525,866 sf (781,989 sf - 256,123 sf). Divide 525,866 sf by 3250 sf per du and they can have 161.9 dwelling units. You said that they are proposing 162.*

Response – The deducted area and the sum of the wetland, streams, and slopes greater than 25% should not match up. There are areas on site where there are slopes that are greater than 25% that occur in the wetland, and also areas where streams run through the wetland. The deducted area takes this into consideration to avoid double counting these areas against the net land area calculation. Please refer to the footnote at the bottom of the net land area table for more information.

Comment *- Applicant shall indicate on drawings or zoning analysis.*

Response – The dimensional bonuses have been referenced in the space and bulk table.

Comment *– Applicant to confirm density bonus under section 18.2.4.B for PRUDs. Applicant to outline minimum lot area per dwelling unit in table.*

Response *– This has been clarified in the plan set.*

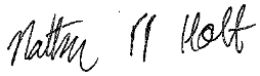
Comment - *Applicant to label and calculate required recreation open space areas on landscape plans or other; and observe if 200 sf per dwelling unit PRUD bonus is being utilized.*

Response – Please refer to Document Y. which calculate the total open space that exists on site. This has been divided into both hardscape and landscaped area to provide more detail to the exhibit.

Please let us know if you have any additional questions or comments.

Sincerely,

Samuel J. Lebel, P.E.
Project Manager
Acorn Engineering, Inc.



Nathan PP Holt, E.I.
Project Engineer
Acorn Engineering, Inc.

Employers	Address	Website	General Contact Email	HR Director Nam	Phone number	Email	Number of employees
Blue Lobster Urban Winery	219 Anderson St #1, Portland, ME 04101	http://www.bluelobsterwines.com/	info@bluelobsterwines.com				
Goodfire Brewing Company	219 Anderson St Suite 6, Portland, ME 0	http://www.goodfirebrewing.com/	careers@goodfirebrewing.com				
Lone Pine Brewing Company	219 Anderson St, Portland, ME 04101	http://lonepinebrewery.com/	INFO@LONEPINEBREWERY.COM	Peter			
Final Draft CAD LLC	203 Anderson St # 2, Portland, ME 0410	https://finaldraftcad.com/	info@finaldraftcad.com				
Running With Scissors Artists	250 Anderson St, Portland, ME 04101	http://www.rwsartstudios.com/	info@rwsartstudios.com				
Pine State Elevator	230 Anderson St, Portland, ME 04101	http://www.pinestateelevator.com/	info@pinestateelevator.com				
Aikido of Maine	226 Anderson St, Portland, ME 04101	http://aikidoofmaine.com/	info@aikidoofmaine.com				
Portland Pottery Supply	220 Anderson St, Portland, ME 04101	http://www.portlandpottery.com/	salescounter2@portlandpottery.com				
Rosemont Baking Facility	220 Anderson St, Portland, ME 04101	http://rosemontmarket.com/	atticus@rosemontmarket.com				
Hi-Fidelity	200 Anderson St Suite 6, Portland, ME 0	http://hifidelitybeer.com/	pd@hifidelitybeer.com				
Urban Farm Fermentory & Gr	200 Anderson St, Portland, ME 04101	http://fermentory.com/	info@fermentory.com				
U-Haul Moving & Storage at R	411 Marginal Way, Portland, ME 04101	https://www.uhaul.com/Locations/Self-Storage-near-Portland-ME-04101/731066/?utm_source=gmb&utm_medium=primary&utm_campaign=listingmanagement&utm_content=731066					
Beacon Community Fitness	341 Marginal Way, Portland, ME 04102	http://www.crossfitbeacon.com/	info@beaconcommunityfitness.com				
Portland Power Yoga	84 Cove St, Portland, ME 04101	http://www.portlandpoweryoga.com/	info@portlandpoweryoga.com				
Chase Leavitt Co.	84 Cove St, Portland, ME 04101	http://chaseleavitt.com/	charrison@chaseleavitt.com				
Belleflower Brewing Company	66 Cove St, Portland, ME 04101	https://belleflowerbeer.com/	info@belleflowerbrewing.com				
Indigo Arts Alliance	60 Cove St, Portland, ME 04101	http://www.indigoartsalliance.me/	info@indigoartsalliance.me				
Aprés	148 Anderson St, Portland, ME 04101	https://apresmaine.com/	events@apresdrinks.com				
Tandem Coffee Roasters	122 Anderson St, Portland, ME 04101	http://tandemcoffee.com/					
SeaofSpace	111 Anderson St, Portland, ME 04101	http://www.seaofspace.com/	will@wkarls.com				
Taproot Magazine & Market	49 Fox St, Portland, ME 04101	http://www.taprootmag.com/	katie@taprootmag.com				
Portland Zoo	41 Fox St, Portland, ME 04101	https://www.theportlandzoo.com/					
Mougalian Rugs Inc	175 Anderson St, Portland, ME 04101	http://mougalianrugs.com/	info@mougalianrugs.com				
Northern Burner Supply Co.	185 Washington Ave, Portland, ME 0410	https://www.northernburner.com/	nbs@northernburner.com				
Evergreen Cannabis Co.	178 Washington Ave, Portland, ME 0410	http://www.evergreencannabisco.com/					
Newscapes Brewing	163 Washington Ave, Portland, ME 0410	https://www.newscapesbrewing.com/					
KDK Consulting Group LLC	340 Eastern Promenade #257, Portland,	http://kdkcg.com/	judy@kdkcg.com				
Promenade East Condominiu	340 Eastern Promenade, Portland, ME 0	https://promenade-towers.org/	David.Higham@r-eassociates.com				
Root Wild Kombucha	135 Washington Ave, Portland, ME 0410	http://rootwildkombucha.com/	INFO@ROOTWILDKOMBUCHA.COM				
Onggi	131 Washington Ave, Portland, ME 0410	http://onggi.com/	hello@onggi.com				
Forage Market	123 Washington Ave, Portland, ME 0410	https://www.foragemarket.com/	info@foragemarket.com				
Portland Pottery Cafe	118 Washington Ave, Portland, ME 0410	https://portlandpotterycafe.com/					
The Cheese Shop of Portland	107 Washington Ave #1, Portland, ME 04	http://www.thecheeseshopofportland.com	mary@thecheeseshopofportland.com				
Ramona's	98 Washington Ave, Portland, ME 04101	http://www.ramonas.me/	info@ramonas.me				
Bay Bowls	93 Washington Ave, Portland, ME 04101	http://baybowlsme.com/					
Chenmark	75 Washington Ave, Portland, ME 04101	https://www.chenmark.com/	info@chenmark.com				
Lavender	63 Washington Ave, Portland, ME 04101	http://www.salonlavender.com/	hello@salonlavender.com				
Tu Casa	70 Washington Ave, Portland, ME 04101	http://www.tucasaportland.com/menu.html					
Sinsemilla	64 Washington Ave, Portland, ME 04101	https://sinsemilla207.com/					
Maine & Loire	59 Washington Ave, Portland, ME 04101	http://maineandloire.com/	maineandloire@gmail.com				
Strata	67 Washington Ave, Portland, ME 04101	http://www.strataportland.com/	info@strataportland.com				
Cong Tu Bot	57 Washington Ave, Portland, ME 04101	http://congtubot.com/	hello@congtubot.com				
Izakaya	54 Washington Ave, Portland, ME 04101	http://www.izakayaminato.com/	info@izakayaminato.com				
Hardshore Distilling Company	53 Washington Ave, Portland, ME 04101	http://www.hardshoredistilling.com/	hq@hardshoredistilling.com				
Maine Mead Works	51 Washington Ave, Portland, ME 04101	http://mainemeadworks.com/			(207) 773-6323		
Radici	52 Washington Ave, Portland, ME 04101	http://www.radiciportland.com/	ciao@radiciportland.com				
Oxbow Blending & Bottling	49 Washington Ave, Portland, ME 04101	http://oxbowbeer.com/tasting-rooms/portland-blending-bottling/					
Anoche	43 Washington Ave, Portland, ME 04101	http://anoche.co/	erika@anoche.co				
7-Eleven	27 Washington Ave, Portland, ME 04101	https://www.7-eleven.com/locations/me/portland/27-washington-ave-32532			2077755260		
Red Sea Restaurant	30 Washington Ave, Portland, ME 04101	https://www.facebook.com/Red-Sea-541794295937844/					
Gulf	16 Washington Ave, Portland, ME 04101						
Sticky Sweet	119 Cumberland Ave, Portland, ME 0410	http://www.stickysweetmaine.com/	HELLO@STICKYSWEETMAINE.COM				
The Snug	223 Congress St, Portland, ME 04101	http://www.thesnugpub.com/					
Otto	225 Congress St, Portland, ME 04101	https://locations.ottoportland.com/otto-09	contactus@ottoportland.com				
Cocktail Mary	229 Congress St, Portland, ME 04101	http://www.cocktailmary.com/					
Carlson and Turner Antiquaria	241 Congress St, Portland, ME 04101	http://www.carlsonturnerbooks.com/	info@carlsonturnerbooks.com				
LB Kitchen	249 Congress St, Portland, ME 04101	http://www.lbkitchenportlandme.com/	LBKITCHENPORTLANDME@GMAIL.COM				
Envy Hair Salon	255 Congress St, Portland, ME 04101	http://www.envysalonportland.com/					
Print: A Bookstore	273 Congress St, Portland, ME 04101	http://www.printbookstore.com/	info@printbookstore.com				
Portland Food co-op	290 Congress St, Portland, ME 04101	http://www.portlandfood.coop/	info@portlandfood.coop	Nicole Holmes			
Walgreens	290 Congress St, Portland, ME 04101	https://www.walgreens.com/locator/walgreens-290+congress+st-portland-me-04101/id=19464					
Vitalius Real Estate Group	306 Congress St #3, Portland, ME 04101	http://vitalius.com/	info@vitalius.com				
St. Vincent de Paul Soup Kitcl	307 Congress St, Portland, ME 04101	https://www.svdpme.org/					
Little Woodfords	316A Congress St, Portland, ME 04101	http://www.littlewoodfords.com/	info@littlewoodfords.com				
Union Bagel Company	147 Cumberland Ave, Portland, ME 0410	http://unionbagel.com/					
Kuno	166 Cumberland Ave, Portland, ME 0410	https://order.online/store/Kuno-865267/en-US/?hideModal=true&pickup=true					
Banh Appetit	171 Cumberland Ave, Portland, ME 0410	http://www.banhappetitme.com/					

Benkay	16 Middle St, Portland, ME 04101	http://sushiman.com/								
Shipyard Brewing Company	86 Newbury St, Portland, ME 04101	https://shipyard.com/	info@shipyard.com							
Coffee By Design	67 India St, Portland, ME 04101	http://www.coffeebydesign.com/	info@coffeebydesign.com							
Micucci Grocery Store	45 India St, Portland, ME 04101	http://places.singleplatform.com/micucci-grocery-store/menu?ref=google								
Grippy Tannins	16 Middle St Suite 101, Portland, ME 041	http://www.grippytannins.com/	lindsey@grippytannins.com							
H&E Paint Bar	15 Middle St, Portland, ME 04101	http://www.hepaintbar.com/	INFO@HEPAINTBAR.COM							
cPort Credit Union	35 Middle St, Portland, ME 04101	https://www.cportcu.org/		(207) 305-0020						
OMG Organically Maine Grow	47 India St Suite C, Portland, ME 04101	https://www.omglove.me/	info@omglove.me							
Duckfat	43 Middle St, Portland, ME 04101	http://www.duckfat.com/								
Old Port Specialty Tile Co.	62 India St Suite B, Portland, ME 04101	https://oldporttile.com/?y_source=1_MTQ5Mjk5MDUtNzE1LWxvY2F0aW9uLndlYnNpdGU%3D								
Bangor Savings Bank	77 Middle St, Portland, ME 04101	https://www.bangor.com/locations/portlan	communityrelations@bangor.com							
Tomaso's Canteen	18 Hampshire St, Portland, ME 04101	http://tomasoscanteen.com/	tomasos.canteen@gmail.com							
Black Elephant Hostel	33 Hampshire St, Portland, ME 04101	http://www.blackelephanthostel.com/	info@blackelephanthostel.com							
Portland Fire Department	380 Congress St, Portland, ME 04101	https://www.portlandmaine.gov/219/Fire	kng@portlandmaine.gov							
Union Restaurant	390 Congress St, Portland, ME 04103	http://www.unionportland.com/	info@UnionPortland.com							
Portland City Hall	389 Congress St # 203, Portland, ME 04101									
Systems Engineering	120 Exchange St, Portland, ME 04101	https://www.systemsengineering.com/abc	info@systemsengineering.com							
US Probation & Parole Office	400 Congress St, Portland, ME 04101	http://www.mep.uscourts.gov/								
CoworkHERS	411 Congress St, Portland, ME 04101	http://www.coworkhers.com/								
Rick's Lobby Cafe	400 Congress St, Portland, ME 04101	https://www.rickslobbycafe.com/								
United States Postal Service	400 Congress St Ste 9998, Portland, ME	https://tools.usps.com/find-location.htm?location=1361208&utm_source=google-my-business-url&utm_medium=search&utm_campaign=yext&y_source=1_MzM3NTg0OC03MTUtbG9jYXRpb24uZ29vZ2xlX3dlYnNpdGVfb3ZlcnJpZGU%3D								
Flores Restaurant and Bar	431 Congress St, Portland, ME 04101	http://flores207.com/								
Robinson Smith Wealth Advisc	2 Monument Sq #501, Portland, ME 041(	http://www.robinsonsmithwealth.com/								
Nelson Rarities Inc	2 Monument Sq 7th Floor, Portland, ME (	https://www.nelsonrarities.com/	rarities@nelsonrarities.com							
KeyBank	1 Monument Sq, Portland, ME 04101	https://www.key.com/locations/me/portland/BRCH19610127/one-monument-square?ppc=cmpgmb								
Professional Disability Associa	1 Monument Square #201, Portland, ME	http://www.professionaldisabilityassociates.com/								
Cera	One Monument Sq Suite 103, Portland, M	http://www.eatcera.com/								
Portland Public Library	5 Monument Sq, Portland, ME 04101	http://www.portlandlibrary.com/								
Maine Fiber Company	465 Congress St #701, Portland, ME 041	http://www.mainefiberco.com/								
People's United Bank	467 Congress St, Portland, ME 04101	https://branches.peoples.com/me/portland/467-congress-street.html								
Sisters Gourmet Deli	15 Monument Sq, Portland, ME 04101	http://www.sistersgourmetdeli.com/								
Shay's Grill Pub	18 Monument Sq, Portland, ME 04101	https://shaysgrill.com/	shaysgp@gmail.com							
Burke's Perks Cafe and Grill	23 Monument Sq, Portland, ME 04101	http://www.burkesperks.com/								
David's Restaurant	22 Monument Sq, Portland, ME 04101	http://www.davidsrestaurant.com/								
Dila's Kitchen	28 Monument Square second floor, Portla	http://www.dkmaine.com/	dilaskitchenmaine@gmail.com							
Public Market House	28 Monument Sq, Portland, ME 04101	http://www.publicmarkethouse.com/	portlandpublicmarket@gmail.com							
Yardie Ting	28 Monument Sq, Portland, ME 04101	http://yardieting.com/	yardieting207@gmail.com							
Mr. Tuna	28 Monument Sq, Portland, ME 04101	http://www.mrtunamaine.com/	mr.tunamaine@gmail.com							
FedEx Office Print & Ship Cer	50 Monument Sq, Portland, ME 04101	https://local.fedex.com/en-us/me/portland	USA0168@FEDEX.COM							
Recruiting in Motion	477 Congress St 5th floor, Portland, ME (	http://www.recruitinginmotion.com/	portland@recruitinginmotion.com							
Chase Bank	480 Congress St, Portland, ME 04101	https://locator.chase.com/me/portland/480-congress-st?jp_cmp=rb%2FLocalListings%2Faff%2Fbranch%2Fna&y_source=1_MjQ0MzE2MDMtNzE1LWxvY2F0aW9uLndlYnNpdGU%3D								
Hazy Hill Farm	484 Congress St, Portland, ME 04101	http://hazyhillfarm.com/	hazyhillfarmllc@gmail.com							
The Escape Room	The Escape Room, 492 Congress St, Por	http://www.escaperoomme.com/	info@escaperoomme.com							
Maine Historical Society and T	489 Congress St, Portland, ME 04101	http://www.mainehistory.org/	info@mainehistory.org							
Wood	511 Congress St Suite 200, Portland, ME	http://www.amecfw.com/								
Soakology	511 Congress St #105, Portland, ME 041	http://www.soakology.com/	info@soakology.com							
Baxter Tile co.	511 Congress St 5th floor, Portland, ME 04101									
Golden Lotus Restaurant	511 Congress St, Portland, ME 04101	https://www.goldenlot.us/								
Workout Anytime - Portland Di	511 Congress St Ste 12, Portland, ME 04	https://workoutanytime.com/portland-dow	portland.downtown@workoutanytime.com							
Market Decisions Research	511 Congress St Ste 801, Portland, ME 0	http://www.marketdecisions.com/	research@marketdecisions.com							
The Art Mart	517 Congress St, Portland, ME 04101	http://www.artmartmaine.com/								
Maine Craft Portland	521 Congress St, Portland, ME 04101	https://shopmainecraft.com/maine-craft-p	portland@shopmainecraft.com							
Portland Swing Project	519 Congress St, Portland, ME 04101	http://www.portlandswingproject.com/								
Arcadia	504 Congress St, Portland, ME 04101	http://arcadiaportland.com/	arcadianationalbar@gmail.com							
Portland, Maine MEPS	510 Congress St, Portland, ME 04101	http://www.mepcom.army.mil/Units/EasternSector/2ndBattalion/PortlandME.aspx								
Material Objects	500 Congress St, Portland, ME 04101	http://www.materialobjects.com/								
Andrea's Bridal	510 Congress St, Portland, ME 04101	https://andreasbridalmaine.com/								
CVS	510 Congress St, Portland, ME 04101	https://www.cvs.com/store-locator/cvs-pharmacy-address/510+Congress+Street-Portland-ME-04101/storeid=454?WT.mc_id=LS_GOOGLE_PHOTO_PT454								
Portland Media Center	516 Congress St, Portland, ME 04101	http://portlandmedia.org/	admin@portlandmedia.org							
MECA	522 Congress St, Portland, ME 04101	http://www.meca.edu/								
SPACE	534-538 Congress St, Portland, ME 0410	http://www.space538.org/	info@space538.org							
Pickwick Independent Press	536 Congress St, Portland, ME 04101	http://pickwickindependentpress.com/	pickwickindiepress@gmail.com							
Renys Department Store	540 Congress St, Portland, ME 04101	https://www.renys.com/	feedback@renys.com				over 500			
Taco Escobarr	548 Congress St, Portland, ME 04101	https://www.tacoescobarr.com/	Info@tacoescobarr.com							
Salon KLM	550 Congress St, Portland, ME 04101									
Think Tank CoWorking	533 Congress St, Portland, ME 04101	http://www.thinktankcoworking.com/	info@thinktankcoworking.com							
Mister Bagel	539 Congress St, Portland, ME 04101	https://misterbagel.com/	rashsandhu@yahoo.com							
Mainely Frames & Gallery	541 Congress St, Portland, ME 04101	http://www.mainelyart.com/								
Highsociety Portland	543 Congress St, Portland, ME 04101	https://www.instagram.com/highsocietyportland/								

Regards	547 Congress St, Portland, ME 04101	http://www.regardsmaine.com/	hello@regardsmaine.com								
Broken Arrow	545 Congress St, Portland, ME 04101	http://brokenarrowmaine.com/	brokenarrowmaine@gmail.com								
Nosh Kitchen Bar	551 Congress St, Portland, ME 04101	http://www.noshkitchenbar.com/									
Fishbowl Inc.	551 Congress St, Portland, ME 04101	http://www.fishbowl.com/									
Electric Buddas	556 Congress St, Portland, ME 04101	http://www.electricbuddhas.com/	electricbuddhas@yahoo.com								
Z Fabrics	558 Congress St, Portland, ME 04101	http://www.zfabric.com/	info@zfabric.com								
Vintage Vault	560 Congress St, Portland, ME 04101										
The Sock Shack	564 Congress St, Portland, ME 04101	http://thesockshack.com/	thesockshack@gmail.com								
Moody Lords Vinyl/Vintage	566 Congress St, Portland, ME 04101	http://www.facebook.com/pages/Moody-Lords/107106789346125									
Bridge Gallery	568 Congress St, Portland, ME 04101	http://www.bridgegallerymaine.com/									
Cross Jewelers	570 Congress St, Portland, ME 04101	https://www.crossjewelers.com/	info@crossjewelers.com								
Otto	576 Congress St, Portland, ME 04101	https://locations.ottoportland.com/otto-53	contactus@ottoportland.com								
Strange Maine	578 Congress St # A, Portland, ME 0410	http://kraag.org/strange									
Springer's Jewelers	580 Congress St, Portland, ME 04101	http://www.springersjewelers.com/	portland@springersjewelers.com								
Harmon's Floral Company	584 Congress St, Portland, ME 04101	https://harmonsfloralcompany.com/									
Gallery at the Hay	594 Congress St, Portland, ME 04101	https://www.bridgegallerymaine.com/									
Starbucks	594 Congress St, Portland, ME 04101	https://www.starbucks.com/store-locator/store/11988/									
Seed	553 Congress St, Portland, ME 04101	https://seedyourheadportland.com/									
Bay Realty Associates	559 Congress St, Portland, ME 04101	https://www.bayrealtyassociates.com/	cbayrea1@maine.rr.com								
Excellence Realty	559A Congress St, Portland, ME 04101	http://www.sellingmainehomes.com/	info@sellingmainehomes.com								
Prospect Design	565 Congress St #304, Portland, ME 041	http://prospectdesign.me/	info@prospectdesign.me								
India Palace	565 Congress St, Portland, ME 04101	http://www.indiapalacemaine.com/	indiapalacemaine@gmail.com								
Speckled Ax	567 Congress St, Portland, ME 04101	https://speckledax.com/									
Ollo Hair Salon	569 Congress St, Portland, ME 04101	http://ollohairsalon.com/	ollohairsalon@gmail.com								
Pom's Thai Taste	571 Congress St, Portland, ME 04101	http://www.thaitastemaine.com/menu-poms-thai-restaurant-and-noodle-house.html									
Empire Chinese Kitchen	575 Congress St, Portland, ME 04101	http://portlandempire.com/									
Cigaret Shopper	579 Congress St, Portland, ME 04101	http://www.cigaretshopper.com/									
Portland Flea-for-All	585 Congress St, Portland, ME 04101	http://portlandfleaforall.com/	info@portlandfleaforall.com								
Yes Books	589 Congress St, Portland, ME 04101	https://www.facebook.com/profile.php?id=109532142419572									
Friends & Family	593 Congress St, Portland, ME 04101	http://www.friendsandfamilymaine.com/									
Downtown Lounge	606 Congress St, Portland, ME 04101										
Green Elephant	608 Congress St, Portland, ME 04101	http://greenelephantmaine.com/	http://greenelephantmaine.com/#								
Sichuan Kitchen	612 Congress St, Portland, ME 04101	https://www.sichuankitchenportland.com/	sichuankitchenportland@gmail.com								
Parks McKinney Facials & Wa	616 Congress St, Portland, ME 04101	http://parksmckinney.com/	parksmckinney@gmail.com								
Lazzari	618 Congress St, Portland, ME 04101	https://www.lazzariportland.com/	INFO@LAZZARIPORTLAND.COM								
United States Postal Service	622 Congress St Ste 9998, Portland, ME	https://tools.usps.com/find-location.htm?location=1383436&utm_source=google-my-business-url&utm_medium=search&utm_campaign=yext&y_source=1_MzM5NjQzNS03MTUtbG9jYXRpb24uZ29vZ2xlX3dlYnNpdGVfb3ZlcnJpZGU%3D									
Sun Market	626 Congress St, Portland, ME 04101	http://sunmarket.online/									
Mi Sen Noodle Bar	630 Congress St, Portland, ME 04101	http://www.misennoodlebar.com/									
Coast City Comics	634 Congress St, Portland, ME 04101	http://www.coastcitycomics.com/	Funboxmonster@icloud.com								
State Theatre	609 Congress St, Portland, ME 04101	http://www.statetheatreportland.com/	info@statetheatreportland.com								
Hello1p	605 B Congress St, Portland, ME 04101	http://hello1p.com/	Hello1p@yahoo.com								
Die Hard	613 Congress St, Portland, ME 04101	https://www.dyehardportlandme.com/	hair@dyehardportlandme.com								
Congress Square Gallery	609a Congress St, Portland, ME 04101	http://www.congresssquaregallery.com/									
Haberdashery Resale Clothin	615 Congress St, Portland, ME 04101	https://haberdasheryportland.com/									
CBG	The Congress Building, 617 Congress St	https://www.cbgportland.com/									
BarSculpt	615 Congress St, Portland, ME 04101	http://www.barsculpt.com/	info@barsculpt.com								
The VIA Agency	619 Congress St, Portland, ME 04101	http://www.theviaagency.com/	careers@theviaagency.com		careers@theviaagency.com						
Geno's Rock Club	625 Congress St, Portland, ME 04101	https://genos-rock-club.business.site/?utm_source=gmb&utm_medium=referral									
Sagamore Hill Lounge	150 Park St, Portland, ME 04101	http://sagamorehillmaine.com/	%22info@sagamorehillmaine.com%22								
The Jewel Box	644 Congress St, Portland, ME 04101	https://jewelboxportlandmaine.com/	thejewelboxmaine@gmail.com								
Hallowed Ground Tattoo	646 Congress St, Portland, ME 04101	https://www.facebook.com/HallowedGroundTattoo									
Little Chair Printing	648 Congress St, Portland, ME 04101	http://www.littlechairprinting.com/									
The Merchant Company	656 Congress St, Portland, ME 04101	http://www.merchantco.me/	themerchantcompany@gmail.com								
Mainely Noods	658 Congress St, Portland, ME 04101	https://www.mainelynoods.com/									
Uncharted Tea	662 Congress St, Portland, ME 04101	http://www.unchartedtea.com/									
One Longfellow Square	181 State St, Portland, ME 04101	http://www.onelongfellowsquare.com/	info@onelongfellowsquare.com								
Princess Nails & Salon	647 Congress St, Portland, ME 04101	http://princessnailsalon.com/									
Dos Naciones Mexican and S	649 Congress St, Portland, ME 04101	http://orderdosnacionesmexicanandsalvadorancuisine.com/									
Keg and Kraken	653 Congress St, Portland, ME 04101	https://kegandkraken.com/									
Green Hand Bookshop	661 Congress St, Portland, ME 04101	https://greenhandbookshop.com/	michelle.souliere@gmail.com								
Joe's Super Variety	665 Congress St, Portland, ME 04101										
Boda	671 Congress St, Portland, ME 04101	http://www.bodamaine.com/	info@bodamaine.com								
King of the Roll	675 Congress St, Portland, ME 04101	https://www.kingoftherollmaine.com/	richardducheung@gmail.com								
Pai Men Miyake	188 State St, Portland, ME 04102	http://www.miyakerestaurants.com/paime	contact@miyakerestaurants.com								
Restaurtante El Corazon	190 State St, Portland, ME 04101	https://www.elcorazonportland.com/									
All Kind Bodega	688 Congress St, Portland, ME 04102	https://allkind.buzz/	teamallkind@gmail.com								
7-Eleven	704 Congress St, Portland, ME 04102	https://www.7-eleven.com/locations/me/portland/704-congress-st-32531									
Local 188	685 Congress St, Portland, ME 04102	http://local188.com/	eatdrinkart@yahoo.com								
Gorham Bike & Ski	693 Congress St, Portland, ME 04102	https://gorhambike.com/contact/portland-	portland@gorhambike.com								

Hot Suppa	703 Congress St, Portland, ME 04102	http://www.hotsuppa.com/	info@hotsuppa.com							
Yordprom Coffee Shop	722 Congress St, Portland, ME 04102	https://m.facebook.com/Yordprom-Coffee-Co-354439034559/								
Walgreens	713 Congress St, Portland, ME 04102	https://www.walgreens.com/locator/walgreens-713+congress+st-portland-me-04102/id=19821								
Tandem Coffee and Bakery	742 Congress St, Portland, ME 04102	http://www.tandemcoffee.com/								
Longfellow Hotel & Spa	754 Congress St, Portland, ME 04102	https://www.longfellowhotel.com/	info@uncommongroups.com							
Man up hair for men / Jean Cl	743 Congress St, Portland, ME 04102									
Wayside Tavern	747 Congress St, Portland, ME 04102	http://waysidetavernmaine.com/	info@waysidetavernmaine.com							
Bramhall	769 Congress St, Portland, ME 04102	http://www.bramhallme.com/	emily@romaportland.com							
Opus Consulting	770 Congress St, Portland, ME 04102	https://www.opuscg.com/	kathleen@opuscg.com							
Portland Fire Department - Br	784 Congress St, Portland, ME 04102	https://www.portlandmaine.gov/219/Fire	kng@portlandmaine.gov							
PelotonLabs	795 Congress St, Portland, ME 04102	http://pelotonlabsportland.com/								
Quiero Cafe	3 Deering Ave, Portland, ME 04101	https://www.quierocafemaine.com/								
Lourdes's International Beauty	9 Deering Ave # 1, Portland, ME 04101									
Expert Wireless Solutions & R	803 Congress St Apt 1, Portland, ME 04102									
Portland Glass	832 Congress St, Portland, ME 04102	https://www.portlandglass.com/portland/?cid=LSTL_PLG000201&utm_source=gmb&utm_campaign=local&utm_medium=organic								
La Bodega Latina Grocery Sto	863 Congress St, Portland, ME 04102	https://www.instagram.com/labodegalatina/								
Vena's Fizz House	867 Congress St, Portland, ME 04102									
Maine Medical Center	22 Bramhall St, Portland, ME 04102	https://www.mainehealth.org/Maine-Medical-Center		207-661-4000						
Salvage BBQ	919 Congress St, Portland, ME 04102	http://salvagebbq.com/	salvagebbq@yahoo.com							
Saeng Thai House	921 Congress St, Portland, ME 04102	http://www.saengthaihousemaine.com/								
Pizza Villa	940 Congress St, Portland, ME 04102	https://www.facebook.com/pizzavillaportland/								
Inn at St John	939 Congress St, Portland, ME 04102	http://www.innatstjohn.com/								
Hong Kong Market	945 Congress St, Portland, ME 04102	http://hongkongmarketmaine.com/								
Coastal Roots	953 Congress St, Portland, ME 04102	https://www.coastalroots.com/								
Amato's	312 St John St, Portland, ME 04102	http://www.amatos.com/	CustomerService@amatos.com							
Dunkin'	325 St John St, Portland, ME 04102	https://locations.dunkindonuts.com/en/me/portland/325-saint-john-st/356088?utm_source=google&utm_medium=local&utm_campaign=localmaps&utm_content=356088&y_source=1_MTMyNzI1ODktNzE1LWxvY2F0aW9uLndlYnNpdGU%3D								
McDonald's	332 St John St, Portland, ME 04102	https://www.mcdonalds.com/us/en-us/location/ME/PORTLAND/332-SAINT-JOHN-ST/604.html?cid=RF:YXT:GMB::Clicks								
Sullivan Tire & Auto Service	333 St John St, Portland, ME 04102	http://www.sullivantire.com/								
Maine Orthotics & Prosthetics	300 Park Ave, Portland, ME 04102									
La Quinta Inn & Suites	340 Park Ave, Portland, ME 04102	https://www.wyndhamhotels.com/laquinta/portland-maine/la-quinta-portland/overview?CID=LC:LQ::GGL:RIO:National:52921&iata=00093796								
HP Hood	349 Park Ave, Portland, ME 04102									
Denny's	1091-1107 Congress St, Portland, ME 04	https://locations.dennys.com/ME/PORTLAND/246355?utm_source=yext&utm_medium=local-listing&utm_campaign=yext-listing&y_source=1_MjIyNzc2OS03MTUtbG9jYXRpb24ud2Vic2l0ZQ%3D%3D								
Atlantic Hardwoods	1004 Congress St, Portland, ME 04102	http://www.atlantichardwoods.com/	GLEN@ATLANTICHARDWOODS.COM							
Maine Eye Center	15 Lowell St, Portland, ME 04102	http://www.maineeyecenter.com/								
Norway Savings Bank	1200 Congress St, Portland, ME 04102	http://www.norwaysavings.bank/								
Totally Awesome Vegan Food	1217 Congress St, Portland, ME 04102	http://www.totallyawesomeveganfoodtruc	totallyawesomevegan@gmail.com							
Anania's	1227 Congress St, Portland, ME 04102	http://www.ananiasvariety.com/								
Eddie's Nails	1283 Congress St, Portland, ME 04102									
Cornerstone Dental Lab	1290 Congress St, Portland, ME 04102	https://cornerstonedentallab.business.site/								
Greater Portland Endodontics	1330 Congress St A, Portland, ME 04102	http://greaterportlandendo.com/								
Maria's Restaurant	1335 Congress St, Portland, ME 04102	http://mariasrestaurant.com/								
Jewish Community Alliance	1342 Congress St, Portland, ME 04102	https://www.mainejewish.org/	jca@mainejewish.org							
Social Security Administration	1355 Congress St fl 2, Portland, ME 041(	http://www.ssa.gov/								
Shaw's	1364 Congress St, Portland, ME 04102	https://local.shaws.com/me/portland/1364-congress-st.html								
Advance Auto Parts	1364 Congress St Ste 1, Portland, ME 04	https://stores.advanceautoparts.com/me/portland/1364-congress-st?utm_medium=local&utm_source=yext-gmb&utm_content=gmb-2016-12-29&utm_campaign=aap								
CVS	1364 Congress St, Portland, ME 04102	https://www.cvs.com/store-locator/portland-me-pharmacies/1406-congress-st-west-gate-s-c-portland-me-04102/storeid=804?WT.mc_id=LS_GOOGLE_FS_804								
TD Bank	1410 Congress St, Portland, ME 04102	https://locations.td.com/us/1410-congress-street-westgate?utm_source=google-maps&utm_medium=yext&utm_campaign=always_on&utm_content=tdbank-store&y_source=1_MzE0NzE0MS03MTUtbG9jYXRpb24ud2Vic2l0ZQ%3D%3D								
Dunkin'	Westgate Shopping Center, 1412 Congre	https://locations.dunkindonuts.com/en/me/portland/1412-congress-st/353352?utm_source=google&utm_medium=local&utm_campaign=localmaps&utm_content=353352&y_source=1_MTIxMTE3NjItNzE1LWxvY2F0aW9uLndlYnNpdGU%3D								
Portland Fire Department - St	212 Stevens Ave, Portland, ME 04102		kng@portlandmaine.gov							
The Crooked Mile	428 Brighton Ave, Portland, ME 04101	https://www.thecrookedmilecafe.com/								
Burbank Branch Library	377 Stevens Ave, Portland, ME 04103	https://www.portlandlibrary.com/locations/	burbank@portlib.org							
Deering High School	370 Stevens Ave, Portland, ME 04103	https://dhs.portlandschools.org/								
Longfellow Elementary Schoo	432 Stevens Ave, Portland, ME 04103	https://longfellow.portlandschools.org/								
Handiwork studio+market	199 Pleasant Ave, Portland, ME 04103	http://handiworkportland.com/	hello@handiworkportland.com							
Rwanda Bean at Deering Cen	463 Stevens Ave, Portland, ME 04103	http://www.rwandabean.com/	sales@rwandabean.com							
Quality Shop	473 Stevens Ave, Portland, ME 04103	https://www.facebook.com/TheQualityShop/								
US Veterans Center	475 Stevens Ave, Portland, ME 04103	https://www.va.gov/								
Elsemere BBQ & Wood Grill	476 Stevens Ave, Portland, ME 04103	https://www.elsmerebbq.com/	info@elsmerebbq.com							
Pat's Meat Market	484 Stevens Ave, Portland, ME 04103	http://www.patsmeatmart.com/	info@patsmeatmart.com							
Ronald Cody DMD	487 Stevens Ave, Portland, ME 04103	http://www.ronaldcodydmd.com/	rcoffice@maine.rr.com							
Lincoln Middle School	522 Stevens Ave, Portland, ME 04103	https://lincoln.portlandschools.org/								
University of New England	716 Stevens Ave, Portland, ME 04103	https://www.une.edu/								
St Brigid School	695 Stevens Ave, Portland, ME 04103	http://www.sbrigids.com/								
The Park Danforth	777 Stevens Ave, Portland, ME 04103	https://parkdanforth.com/								
Almost Famous Tattoo & Pierc	1170 Forest Ave, Portland, ME 04103	http://almostfamoustat.com/								
Sweet Dirt	1207-1209 Forest Ave, Portland, ME 041(	http://www.sweetdirt.com/	jobs@sweetdirt.com							
Bruno's Restaurant & Tavern	33 Allen Ave, Portland, ME 04103	https://brunosportland.com/	info@brunosportland.com							
Portland Dry Cleaners	28 Allen Ave, Portland, ME 04103	http://www.portlanddrycleaners.com/								
Casco Bay High School	196 Allen Ave, Portland, ME 04103	https://cbhs.portlandschools.org/								

Portland Arts & Technology Hi	196 Allen Ave, Portland, ME 04103	http://paths.mainecte.org/							
Bangor Savings Bank	320 Allen Ave, Portland, ME 04103	https://www.bangor.com/locations/portlan	bangorsupport@bangor.com						
Circle Time Preschool & Child	1364 Washington Ave, Portland, ME 041(	http://circletimepreschoolandchildcare.com/							
Dunkin'	1378 Washington Ave, Portland, ME 041(	https://locations.dunkindonuts.com/en/me/portland/1378-washington-ave/304697?utm_source=google&utm_medium=local&utm_campaign=localmaps&utm_content=304697&y_source=1_MTIxMTA1MjgtNzE1LWxvY2F0aW9uLndlYnNpdGU%3D							
Amato's	1379 Washington Ave, Portland, ME 041(	http://www.amatos.com/							
Clean Quarters Laundromat	1400 Washington Ave, Portland, ME 04103								
TD Bank	Northgate Plaza, 362 Allen Ave, Portland,	https://locations.td.com/us/362-allen-avenue-northgate?utm_source=google-maps&utm_medium=yext&utm_campaign=always_on&utm_content=tdbank-store&y_source=1_MzE0Njk1NS03MTUtbG9jYXRpb24ud2Vic2l0ZQ%3D%3D							
Town & Country Federal Credi	3 Auburn St, Portland, ME 04103	http://www.tcfcu.com/	info@tcfcu.com						
Lib's Dairy Treats	32 Auburn St, Portland, ME 04103	https://www.facebook.com/Libs-Dairy-Treats-158444694192860/							
Portside Learning Center	1976 Washington Ave #1630, Portland, M	http://portsidelearningcenter.com/							
Consolidated Communications	11 Blackstrap Rd, Falmouth, ME 04105	http://cti-maine.com/							
TD Bank Administrative Office	70 Gray Rd, Falmouth, ME 04105	https://www.tdbank.com/net/absearch/?mps=mps%3Atdb%3Ap%3Achq%3Ay-w%3Ad%3A543&y_source=1_MzMzNjg2Mi03MTUtbG9jYXRpb24ud2Vic2l0ZQ%3D%3D							
Little Hands Daycare	72 Gray Rd, Falmouth, ME 04105	http://www.littlehandsdaycarelc.com/							
Gorham Savings Bank	65 Gray Rd, Falmouth, ME 04105	https://www.gorhamsavings.bank/							
Hannaford	65 Gray Rd, Falmouth, ME 04105	https://stores.hannaford.com/me/falmouth/8222							
Greener Postures Yoga	Next to Hannafords, 65 Gray Rd Suite 6,	https://www.greenerposturesyoga.com/	hello@greenerposturesyoga.com						
The Moose: A Maine Sports P	65 Gray Rd Unit 3, Falmouth, ME 04105	http://www.themoosetogo.com/	themoosemaine@gmail.com						
Supercuts	65 Gray Rd, Falmouth, ME 04105	https://www.supercuts.com/checkin/80183							
Saigon Nails	65 Gray Rd #5, Falmouth, ME 04105	https://booking.gocheckin.net/v2/13370							
Dunkin'	65 Gray Rd, Falmouth, ME 04105	https://locations.dunkindonuts.com/en/me/falmouth/65-gray-rd/335827?utm_source=google&utm_medium=local&utm_campaign=localmaps&utm_content=335827&y_source=1_MTIxMTAzMDYtNzE1LWxvY2F0aW9uLndlYnNpdGU%3D							
Budget Blinds of Portland	47 Gray Rd, Falmouth, ME 04105	https://budgetblinds.com/portland	portland@budgetblinds.com						
North Deering Veterinary Hos	456 Auburn St, Portland, ME 04103	http://www.northdeeringvet.com/	reception@northdeeringvet.com						
Eddie's	377 Auburn St, Portland, ME 04103	https://m.facebook.com/pages/category/Grocery-Store/Eddies-Variety-Inc-207952749271291/							
Maine Staffing Group	172 Auburn St, Portland, ME 04103	https://www.mainestaff.com/							
Lyman Moore Middle School	171 Auburn St, Portland, ME 04103	https://moore.portlandschools.org/							
Harrison Lyseth Elementary S	175 Auburn St, Portland, ME 04103	https://lyseth.portlandschools.org/							
H&R Block	125 Auburn St, Portland, ME 04103	https://www.hrblock.com/local-tax-offices/maine/portland/125-auburn-st/19027?utm_medium=local&utm_source=google&utm_campaign=yext&y_source=1_MzU4OTkxOS03MTUtbG9jYXRpb24ud2Vic2l0ZQ%3D%3D							
Anytime Fitness	91 Auburn St, Portland, ME 04103	https://www.anytimefitness.com/gyms/2878/Portland-ME-4103/?utm_source=google&utm_medium=local&utm_campaign=localmaps&utm_content=2878							
The UPS Store	91 Auburn St, Portland, ME 04103	https://locations.theupsstore.com/me/portland/91-auburn-st?utm_source=Yext&utm_medium=organic&utm_campaign=Listings							
Starbucks	91 Auburn St, Portland, ME 04103	https://www.starbucks.com/store-locator/store/12735/							
Shaw's	91 Auburn St, Portland, ME 04103	https://local.shaws.com/me/portland/91-auburn-st.html							
Bath Savings Institution	46 Auburn St, Portland, ME 04103	http://www.bathsavings.com/							
Portland Fire Department - All	386 Allen Ave, Portland, ME 04103		kng@portlandmaine.gov						
Maine Orthodontics	1321 Washington Ave, Portland, ME 041(	https://www.maineorthodontics.com/	info@maineorthodontics.com						
China Taste	1223 Washington Ave, Portland, ME 041(	https://sites.google.com/site/4starchinataste/							
Portland's Choice Realty LLC	1051 Washington Ave, Portland, ME 041(	http://www.portlandschoicerealty.com/	info@portlandschoicerealty.com						
Move ME Pilates	963 Washington Ave, Portland, ME 0410	http://movemepilates.com/							
Martin's Point Portland	895 Washington Ave, Portland, ME 0410	https://martinspoint.org/							
Martin's Point Health Care	891 Washington Ave, Portland, ME 0410	http://www.martinspoint.org/							
Spurwink	901 Washington Ave #100, Portland, ME	http://www.spurwink.org/	info@spurwink.org						
Cumberland Farms	801 Washington Ave, Portland, ME 0410	https://www.cumberlandfarms.com/stores/me/portland-5604							
Portland Fire Department - Ea	576 Ocean Ave, Portland, ME 04103		kng@portlandmaine.gov						
Monte's Fine Foods	788 Washington Ave, Portland, ME 0410	http://www.montesportland.com/	info@montesportland.com						
Anania's Washington Ave	606 Washington Ave, Portland, ME 0410	http://www.ananiasvariety.com/							
Botto's Bakery	550 Washington Ave, Portland, ME 0410	http://www.bottosbakery.com/	mathewsbakeryinc@myfairpoint.net						
Presumpscot Elementary Sch	69 Presumpscot St #5201, Portland, ME	https://presumpscot.portlandschools.org/	stoddb@portlandschools.org	PPS: Barbara Sto email only listed once in list					

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PURCHASE AND SALE AGREEMENT

THIS PURCHASE AND SALE AGREEMENT IS made this 10th day of May, 2022 by and between the City OF PORTLAND, a body politic and corporate located in Cumberland County, Maine, (hereinafter referred to as "Seller" or "City"), and MAINE COOPERATIVE DEVELOPMENT PARTNERS LLC, a Maine limited liability company, having a mailing address of 6 City Center, Fl. 3, Portland, Maine 04101 (hereinafter referred to as "Buyer").

RECITALS

WHEREAS, the City is the owner of approximately 4.85 acres of land at or near 622 Auburn Street, Portland, Maine (the "Portland Premises") and 13.3 acres of land at or near 0 Gray Road, Falmouth, Maine (the "Falmouth Premises") (the Portland Premises and the Falmouth Premises are referred to herein collectively as the "Premises") and did advertise RFP #21042 dated February 24, 2021, entitled Request for Proposals for Disposition and Development of City-Owned Property Located at 622 Auburn Street, Portland and 0 Gray Road, Falmouth, a copy of which is attached hereto as Exhibit A and made a part of this Agreement (the "Request for Proposals") (the Portland Premises is identified in the City of Portland's tax records as CBL 385 D008001, including 386-B-12 and 386-B-15, and the Falmouth Premises is identified in the Town of Falmouth's tax records as Lot U48-027 and is generally depicted on Attachments B,C, D and E to the Request for Proposals); and

WHEREAS, Buyer submitted a proposal dated May 2, 2021 in response to the Request for Proposals, a copy of which is attached hereto as Exhibit B and incorporated herein (the "Proposal"); and

WHEREAS, Buyer desires to purchase and develop the Premises, and the City desires to convey the Premises to Buyer, subject to the terms and conditions set forth herein.

NOW THEREFORE, in consideration of the foregoing and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties, intending to be legally bound, hereby agree as follows:

1. **SALE.** City agrees to sell the Premises to Buyer, and Buyer agrees to purchase the Premises in accordance with the terms and conditions set forth in this Agreement. This Agreement is for the sale of land only.

2. **CONSIDERATION**. The purchase price for the Premises shall be One Dollar ($1.00) (the "Purchase Price").

3. **TITLE AND DUE DILIGENCE.**

    a. Due Diligence Period. Buyer will have from the date of this Agreement until 4:00 PM Eastern Daylight Savings Time on the day that is twenty-five (25) months after the date of this Agreement (the "Due Diligence Period") to complete any surveys, environmental review, inspections, and title examinations, and to obtain any zone change, site plan approval, and any other permits and regulatory approvals required for the Project.

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b. Property Description. The legal description of the Premises contained in the deed to the Premises will be a survey description based upon a survey plan that will more specifically describe the Premises. The survey and description of the Premises will be prepared by the Buyer at its sole expense and provided to the City for review two months prior to the expiration of the Due Diligence Period. City shall notify Buyer of any objections to the survey and description prior to the expiration of the Due Diligence Period.

c. Rezoning Contingency. Buyer proposes to obtain the Portland City Council's approval to rezone the Premises (the "Rezoning Approval") to maximize residential density for its development of the Premises as described in the Proposal (the "Project"). The Buyer will be responsible for obtaining, at its sole expense, the Rezoning Approval and any other regulatory approvals required for the Project prior to Closing.

d. Financing Contingency. The Buyer's obligation to close is contingent on obtaining construction and permanent financing for the Project that the Buyer, in its discretion, determines is sufficient to put the Project on a sound financial footing. That financing is anticipated to include, but not be limited to, the following: (i) permanent financing for the Coop in the form of a HUD Section 213 loan; and (ii) affordable housing tax increment financing from the City.

e. Title and Survey Objections. Buyer will have until the end of the Due Diligence Period to deliver to City any written objections to title, environmental, or survey matters (other than the permitted exceptions identified herein) that materially affect insurability or use. Objections not made prior to the end of the Due Diligence Period will be deemed waived; provided, however, that objections pertaining to matters of record first appearing after the end of the Due Diligence Period may be made at any time prior to the closing.

f. Option to Cure. In the event of a title or survey objection, City will have the option, but not the obligation, to cure the objection and will notify Buyer of its election within ten (10) business days after receipt of the objection. In the event that the City elects to cure the objection, it will have sixty (60) days from the date of the notice of election, or such other reasonable time as the parties may agree, to cure the objection. In the event that the City does not elect to cure the objection, or, having elected to cure the objection fails to timely do so to Buyer's reasonable satisfaction, Buyer will have the option to (1) terminate this Agreement (after which neither party will have any further obligation or liability to the other under this Agreement), (2) waive the objection and close, or (3) undertake the cure of such objection at its own expense (in which case it shall have 60 days to do so).

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g. Deed. City shall convey the Premises to Buyer at the closing in fee simple by a municipal quitclaim deed without covenant. Title shall be good and insurable title, free and clear of all encumbrances except (i) easements of record and the Development Restrictions described in this Agreement and it attachments,; (ii) easements for utilities servicing or located on the property, (iii) zoning ordinances, and (iv) real estate taxes not yet due and payable. Further, Buyer acknowledges that the deed shall contain a restriction stating that in the event that the Portland Premises or any portion thereof shall be exempt from real and personal property taxes, by transfer, conversion, or otherwise, then the then-owner of the exempt portion shall make annual payments to the City in lieu of taxes in the amount equal to the amount of property taxes that would have been assessed on the exempt portion of the real and personal property situated on the Premises had such property remained taxable. Such restriction shall also confirm that Buyer and its successors and assigns shall possess and be vested with all rights and privileges as to abatement and appeal of valuations, rates, and the like as are accorded owners of real and personal property in Maine.

h. Development Restrictions on the Portland Premises. The Portland Premises shall be conveyed subject to an easement in form and substance reasonably satisfactory to the City preventing the development for purposes other than passive recreation within the wetland areas located on the Portland Premises; provided however, that the City shall release its easement rights to permit minor wetland alterations affecting less than 10,000 square feet of the wetland areas if the Buyer determines such alterations to be reasonably necessary for the development of the Portland Premises as required by this Agreement.

i. Development Restrictions on the Falmouth Premises. The Falmouth Premises shall be conveyed subject to an easement in form and substance reasonably satisfactory to the City preventing the development of the Falmouth Premises for any purposes other than passive recreation thereon. The easement shall be held by the City or another entity reasonably acceptable to the City and Buyer; provided, however, that the City shall release such easement rights to the extent necessary to permit the development of affordable housing on the Falmouth Premises, subject to the rent and income restrictions set forth in sections 11(b) and (c) below.

j. Buyer's Right to Assign. The Buyer may assign its rights under this Agreement to an affiliated limited partnership or other affiliated entity for purposes of securing financing and/or tax credits for the project with the City's prior written consent, which shall not be unreasonably withheld, delayed or conditioned, provided any such assignee agrees to be bound to the terms of this Agreement.

k. Buyer's Right to Terminate. The Buyer may terminate this Agreement at any time during the due diligence period if, in the exercise of its sole discretion, it decides to not proceed with the Project by giving written

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notice of termination to the City in which case neither party shall have any further obligations to the other.

l. Zoning. The parties agree that the Falmouth Premises shall not be included in any lot coverage or other calculations with respect to the development of the Portland Premises.

4. INSPECTIONS.

a. During the Due Diligence Period, Buyer and its employees, consultants, contractors and agents shall have the right, at Buyer's expense, to enter on the Premises at reasonable times in order to (i) inspect the same, (ii) conduct engineering studies, percolation tests, geotechnical exams, environmental assessments, and other such studies, tests, exams, and assessments, and (iii) do such other things as Buyer determines, it is sole discretion, to be required to determine the suitability of the Premises for Buyer's intended use (collectively, the "Inspections"). The City acknowledges that such Inspections may include the digging of test pits, which the City hereby approves.

b. Buyer agrees to defend, indemnify and hold harmless the City against any mechanics liens that may arise from the activities of Buyer and its employees, consultants, contractors and agents on the Premises.

c. Buyer shall exercise the access and inspection rights granted hereunder at its sole risk and expense, and Buyer hereby releases the City from, and agrees to indemnify, defend, and hold the City harmless against, any and all losses, costs, claims, expenses and liabilities (including without limitation reasonable attorney fees and costs) (collectively, "Damages") suffered by the City on account of any injury to person or damage to property arising out of the exercise by Buyer of its rights hereunder, except to the extent that such Damages result from the act or omission of the City.

d. Buyer shall cause any contractors, consultants or any other party conducting the Inspections to procure automobile insurance, if applicable, and commercial general liability insurance coverage in amounts of not less than Four Hundred Thousand Dollars ($400,000.00) per occurrence for bodily injury, death and property damage, listing the City as an additional insured thereon, and also Workers' Compensation Insurance coverage to the extent required by law; the forms of all such insurance to be subject to City's Corporation Counsel's reasonable satisfaction.

e. In the event that Buyer does not purchase the Premises, Buyer agrees to either return the Premises as nearly as possible to its original condition after conducting the Inspections; provided, however, the City hereby acknowledges and agrees Buyer shall have no obligation to clean-up, remove or take any other action with respect to any disturbance of any pre-existing environmental contamination on the Premises caused by such

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inspections, studies, tests, exams, and assessments, and that Buyer shall have no obligation to clean-up, remove or take any other action with respect to any pre-existing environmental contamination disturbed thereby.

f. The parties hereto acknowledge and agree that it is a condition to Buyer's obligations under this Agreement that the results of the Inspections be acceptable to Buyer in its sole discretion. If the results of such due diligence are not acceptable to Buyer in its sole discretion, and if Buyer exercises its right to terminate this Agreement, and neither party shall have any further obligations or liabilities under this Agreement except as expressly set forth in this Agreement.

5. **REAL ESTATE TAXES, PRORATIONS AND TRANSFER TAX.** Buyer shall be liable for all real estate taxes beginning as of the start of fiscal year following the closing and continuing thereafter. Because the Property is currently owned by the City of Portland, which is exempt from real estate taxes, no taxes were assessed or will be due for any portion of the current fiscal year, and no taxes will be prorated at the closing. Any utilities for the Property shall be prorated as of the closing. The Maine real estate transfer tax shall be paid for by Buyer in accordance with 36 M.R.S.A. § 4641-A. City is exempt from paying the transfer tax pursuant to 36 M.R.S.A. § 4641-C. The recording fee for the deed of conveyance and any expenses relating to Buyer's financing or closing shall be paid for by Buyer.

6. **DEFAULT AND REMEDIES**. In the event that Buyer defaults hereunder for a reason other than the default of the City, City may terminate this Agreement, and neither party shall have any further obligation to the other. In the event City defaults under this Agreement, and if Buyer is not then in default hereunder, Buyer shall have the right to pursue specific performance or terminate this Agreement, in which case neither party shall have any further obligation to the other.

7. **RISK OF LOSS.** The risk of loss or damage to the Premises by fire, eminent domain, condemnation, or otherwise, until transfer of title hereunder, is assumed by the City. The Premises is to be delivered in substantially the same condition as of the date of this Agreement unless otherwise stated. In the event City is not able to deliver the Premises as stated, Buyer may terminate this Agreement, and neither party shall have any further obligations or liabilities under this Agreement except as expressly set forth in this Agreement.

8. **PROPERTY SOLD "AS IS, WHERE IS**." Buyer acknowledges that Buyer has had an opportunity to inspect the Premises, and to hire professionals to do so, and that Premises will be sold "as is, where is" and "with all faults." City, and its agents, make no representations or warranties with respect to the accuracy of any statement as to boundaries or acreage, or as to any other matters contained in any description of the Premises, or as to the fitness of the Premises for a particular purpose, or as to development rights, merchantability, habitability, or as to any other matter, including without limitation, land use, zoning and subdivision issues or the environmental, mechanical, or structural condition of the Premises. Acceptance by Buyer of the Deed at closing and payment of the purchase price shall be deemed to be full

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performance and discharge by the City of every agreement and obligation contained herein.

9. **ENVIRONMENTAL INDEMNIFICATION**. Buyer covenants and agrees to indemnify, defend, and hold the City harmless from and against any and all claims, damages, losses, liabilities, obligations, settlement payments, penalties, assessments, citations, directives, claims, litigation, demands, defenses, judgments, costs, or expenses of any kind, including, without limitation, reasonable attorneys', consultants', and experts' fees incurred in investigating, defending, settling, or prosecuting any claim, litigation or proceeding, that may at any time be imposed upon, incurred by or asserted or awarded against Buyer or the City and relating directly or indirectly to the violation of or compliance with any federal, state, or local environmental laws, rules, or regulations governing the release, handling or storage of hazardous wastes or hazardous materials and affecting all or any portion of the Premises, except to the extent that such a claim results directly from the City's release, handling or storage of hazardous wastes or hazardous materials on the Premises. This duty to indemnify, defend, and hold harmless shall be included in a covenant in the deed and shall run with the land conveyed and be binding upon Buyer's successors, assigns, and transferees.

10. **CLOSING**. Time is of the essence in the performance of this agreement. The closing shall be held at the offices of Buyer's counsel at a time agreeable to the parties on or before the day that is twenty-sseven (27) months after the date of this Agreement (the "Closing Date"). At the Closing:

    a. the City shall execute, acknowledge and deliver to Buyer a municipal quitclaim deed conveying to Buyer good and insurable title to the Premises, free and clear of all encumbrances except as otherwise set forth herein.

    b. Buyer shall deliver the Purchase Price to the City.

    c. Each party shall deliver to the other such other documents, certificates and the like as may be required herein or as may be necessary to carry out the obligations under this Agreement.

    d. Buyer shall deliver evidence, reasonably satisfactory to City's Corporation Counsel, that the entity receiving title to the Premises is in good standing under Maine law, and that the individuals acting at Closing and executing documents on behalf of Buyer are authorized to do so.

11. **BUYER'S POST CLOSING OBLIGATIONS; RIGHTS OF CITY TO REPURCHASE PROPERTY.**
    a. Within twelve (12) months after the Closing Date, Buyer shall commence construction of the Project, as the Project is generally described in the Proposal. The Project shall include no less than forty-four (44) dwelling units, no less than 25% of which shall be three-bedroom units or larger.
    b. Upon the issuance of a certificate of occupancy for all or a portion of the first phase of the Project or at such earlier time as the Buyer, in its

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discretion, may determine, the Buyer shall convey the Project or provide a master lease of the Project with a right to purchase to a Cooperative Affordable Housing Corporation (the "Coop") organized in accordance with the Maine Cooperative Affordable Housing Ownership Act, 13 M.R.S.A. §1741-1762, as may be amended (the "Act").

c. Rent Restrictions. For a period of 99 years after the Project has been transferred to the Coop, all units and cooperative interests in the Project shall be affordable to low- and moderate-income households earning less than or equal to 100% of the area median income (AMI), adjusted for family size, in accordance with federal standards generally accepted at the time of incorporation under the Act. For purposes of this Agreement, "affordable" means that the percentage of income a household is charged in connection with its cooperative interest and other housing expenses, including utilities, shall not exceed 30% of the household's gross monthly income. Minimum household size allowed per unit and the formula for calculating maximum allowable monthly rent is detailed on Exhibit C, which is attached hereto and made a part hereof.

d. Income Restrictions. In order to purchase a cooperative membership interest in, and reside in a unit owned by the limited equity cooperative, a household must not earn more than 100% of the AMI, adjusted for family size, as published by the U.S. Department of Housing and Urban Development ("HUD"). Household income is defined as adjusted gross income used by the IRS. This income test will be used only at the time of the household's purchase, and excludes transfers to family members or an estate beneficiary. At the time of initial sale of cooperative membership interests in the Coop, up to 20% of the cooperative membership interests may be sold to households earning up to 120% of AMI. All other sales and all subsequent sales of cooperative membership interests must be to households earning no more than 100% of AMI.

e. Option to Repurchase. Unless the Project has been transferred to the Coop as set forth above, if Buyer, its successors, assigns, or transferees fails to commence construction of the Project on the Premises within 12 months after the closing, and construct the buildings which are part of the first phase of the Project within thirty (30) months after closing, the City shall have the right, but not the obligation, to repurchase the Premises and the Project at the Purchase Price plus all documented, design, development, construction, and approval expenses incurred by Buyer, or successors, to that juncture. If the City exercises this right to repurchase, Buyer shall convey the Premises to the City and assign to the City all contracts, plans, and other documents related to the design, construction, and regulatory approvals for the Project. This right to repurchase shall be assignable by the City.

f. The articles of organization for the Coop shall provide that in the event the Coop shall be dissolved, it assets will be distributed in accordance with § 1754(6) of the Act to the City or, at the City's option, to another organization permitted under § 1754(6) of the Act reasonably acceptable to the City.

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g. The provisions of this Section 11 will survive closing and will be included in greater detail in the City's deed to Buyer or in a Declaration of Covenants, Conditions and Restrictions executed before or at the time of Closing, which shall be recorded in the Cumberland County Registry of Deeds.

12. **ENTIRE AGREEMENT.** This Agreement represents the entire and complete Agreement and understanding between the parties and supersedes any prior agreement or understanding, written or oral, between the parties with respect to the acquisition or exchange of the Property hereunder. This Agreement cannot be amended except by written instrument executed by City and Buyer.

13. **NON-WAIVER**. No waiver of any breach of any one or more of the conditions of this Agreement by either party shall be deemed to imply or constitute a waiver of any succeeding or other breach hereunder.

14. **HEADINGS AND CAPTIONS.** The headings and captions appearing herein are for the convenience of reference only and shall not in any way affect the substantive provisions hereof.

15. **BINDING EFFECT**. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, administrators, successors and assigns.

16. **TIME.** The City and Buyer each confirm and agree that each of the time periods set forth herein are essential provisions of the terms of this Agreement.

17. **GOVERNING LAW**. This Agreement shall be construed in all respects in accordance with, and governed by, the laws of the State of Maine. All parties hereto hereby consent to the exclusive jurisdiction of the Superior Court for the County of Cumberland in the State of Maine, for all actions, proceedings and litigation arising from or relating directly or indirectly to this Agreement or any of the obligations hereunder, and any dispute not otherwise resolved as provided herein shall be litigated solely in said Court. If any provision of this Agreement is determined to be invalid or unenforceable, it shall not affect the validity or enforcement of the remaining provisions hereof.

18. **NOTICE**. All notices, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given on the date of service if served personally on the party to whom notice is to be given, or on the first business day after the notice is delivered to an overnight delivery service with delivery confirmation, addressed to the recipients at the addresses set forth below. Either party may change addresses for purposes of this paragraph by giving the other party notice of the new address in the manner described herein.

FOR THE City: City of Portland
ATTN: City MANAGER
389 Congress Street
Portland, ME 04101

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With a copy to:	The Office of the Corporation Counsel at the same address.
FOR Buyer:	Maine Cooperative Development Partners, 6 City Center, Fl. 3 Portland, ME 04101
With a copy to:	David C. Pierson, Esq. Eaton Peabody P.O. Box 15235 Portland, ME 04112-5235

19. **SIGNATURES; MULTIPLE COUNTERPARTS.** This Agreement may be executed in any number of counterparts and by different parties in separate counterparts. Each counterpart when so executed shall be deemed to be an original and all of which together shall constitute one and the same agreement.

20. **BROKERS.** The CITY and Buyer each represent and warrant that they have not dealt with a real estate broker in connection with this transaction. Buyer agrees to indemnify and hold harmless City from any claims made by any broker should Buyer's representation in this paragraph be false. Subject to the limitations of liability set forth in the Maine Tort Claims Act, City agrees to indemnify and hold harmless Buyer from any claims made by any broker should City's representation in this paragraph be false. The foregoing indemnities shall include all legal fees and costs incurred in defense against any such claim, and shall survive closing.

21. **RECITALS INCORPORATED BY REFERENCE**. The recitals set forth above are incorporated herein by reference and made a part of this Agreement.

Signature page follows.

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IN WITNESS WHEREOF, the parties have caused this instrument to be executed on their behalf by their duly authorized offices or representatives, on the day and year first written above.

City OF PORTLAND

DocuSigned by:
Danielle P. West
AC5E57238AA7428...

WITNESS

Danielle West
Its Interim City Manager

BUYER: MAINE COOPERATIVE DEVELOPMENT PARNTERS, LLC

DocuSigned by:

WITNESS

Printed Name: Brian Eng
Its Principal

Approved as to Form:

DocuSigned by:
Michael Goldman
Corporation Counsel's Office

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PURCHASE AND SALE AGREEMENT

THIS PURCHASE AND SALE AGREEMENT IS made this 4th day of January 2021 by and between the City OF PORTLAND, a body politic and corporate located in Cumberland County, Maine, (hereinafter referred to as "Seller" or "City"), and Maine Cooperative Development Partners, a Maine corporation, having a mailing address of 6 City Center, Fl. 3., Portland, Maine 04101 (hereinafter referred to as "Buyer").

RECITALS

WHEREAS, the CITY is the owner of approximately 13.3874 acres of land at or near 165 Lambert Street, Portland, Maine (the "Premises") and did advertise RFP #20068 dated April 10, 2020, entitled Request for Proposals for Disposition of City-Owned Property Located at 165 Lambert Street, a copy of which is attached hereto as Exhibit A and incorporated herein (the "Request for Proposals") (the Premises is identified in the City's tax records as CBL 385 A001 and 386 C001 and is generally depicted on Attachment C to the Request for Proposals); and

WHEREAS, Buyer submitted a proposal dated June 16, 2020 in response to the Request for Proposals, a copy of which is attached hereto as Exhibit B and incorporated herein (the "Proposal"); and

WHEREAS, Buyer desires to purchase and develop the Premises, and the City desires to convey the Premises to Buyer, subject to the terms and conditions set forth herein.

NOW THEREFORE, in consideration of the foregoing and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties, intending to be legally bound, hereby agree as follows:

1. **SALE.** City agrees to sell the Premises to Buyer, and Buyer agrees to purchase the Premises in accordance with the terms and conditions set forth in this Agreement. This Agreement is for the sale of land only.

2. **CONSIDERATION**. The purchase price for the Premises shall be One Dollar ($1.00) (the "Purchase Price").

3. **TITLE AND DUE DILIGENCE.**

    a. Due Diligence Period. Buyer will have from the date of this Agreement until 4:00 PM Eastern Daylight Savings Time on the day that is thirteen (13) months after the date of this Agreement (the "Due Diligence Period") to complete any surveys, environmental review, inspections, and title examinations, and to obtain any zone change, site plan approval, and any other permits and regulatory approvals required for the Project.

    b. Property Description. The legal description of the Premises contained in the deed will be a survey description based upon a survey plan that will more specifically describe the Premises. The survey and description of the

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Premises will be prepared by the Buyer at its sole expense and provided to the City for review two months prior to the expiration of the Due Diligence Period. City shall notify Buyer of any objections to the survey and description prior to the expiration of the Due Diligence Period.

c. Rezoning Contingency. Buyer proposes to obtain the Portland City Council's approval to rezone the Premises (the "Rezoning Approval") to maximize residential density for its development of the Premises as described in the Proposal (the "Project"). The Buyer will be responsible for obtaining, at its sole expense, the Rezoning Approval and any other regulatory approvals required for the Project prior to Closing.

d. Financing Contingency. The Buyer's obligation to close is contingent on obtaining construction and permanent financing for the Project that the Buyer, in its discretion, determines is sufficient to put the Project on a sound financial footing. That financing is anticipated to include, but not be limited to, the following: (i) permanent financing for the Coop in the form of a HUD Section 213 loan; and (ii) affordable housing tax increment financing from the City.

e. Title and Survey Objections. Buyer will have until the end of the Due Diligence Period to deliver to City any written objections to title, environmental, or survey matters (other than the permitted exceptions identified herein) that materially affect insurability or use. Objections not made prior to the end of the Due Diligence Period will be deemed waived; provided, however, that objections pertaining to matters of record first appearing after the end of the Due Diligence Period may be made at any time prior to the closing.

f. Option to Cure. In the event of a title or survey objection, City will have the option, but not the obligation, to cure the objection and will notify Buyer of its election within ten (10) business days after receipt of the objection. In the event that the City elects to cure the objection, it will have sixty (60) days from the date of the notice of election, or such other reasonable time as the parties may agree, to cure the objection. In the event that the City does not elect to cure the objection, or, having elected to cure the objection fails to timely do so to Buyer's reasonable satisfaction, Buyer will have the option to (1) terminate this Agreement (after which neither party will have any further obligation or liability to the other under this Agreement), (2) waive the objection and close, or (3) undertake the cure of such objection at its own expense (in which case it shall have 60 days to do so).

g. Deed. City shall convey the Premises to Buyer at the closing in fee simple by a municipal quitclaim deed without covenant. Title shall be good and insurable title, free and clear of all encumbrances except (i) easements of record and easements described herein; (ii) easements for utilities servicing the property, (iii) zoning ordinances, and (iv) real estate taxes not yet due

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and payable. Further, Buyer acknowledges that the deed shall contain a restriction stating that in the event that the Premises or any portion thereof shall be exempt from real and personal property taxes, by transfer, conversion, or otherwise, then the then-owner of the exempt portion shall make annual payments to the City in lieu of taxes in the amount equal to the amount of property taxes that would have been assessed on the exempt portion of the real and personal property situated on the Premises had such property remained taxable. Such restriction shall also confirm that Buyer and its successors and assigns shall possess and be vested with all rights and privileges as to abatement and appeal of valuations, rates, and the like as are accorded owners of real and personal property in Maine.

h. Buyer's Right to Terminate. The Buyer may terminate this Agreement at any time during the due diligence period if, in the exercise of its sole discretion, it decides to not proceed with the Project by giving written notice of termination to the City in which case neither party shall have any further obligations to the other.

4. INSPECTIONS.

a. During the Due Diligence Period, Buyer and its employees, consultants, contractors and agents shall have the right, at Buyer's expense, to enter on the Premises at reasonable times in order to (i) inspect the same, (ii) conduct engineering studies, percolation tests, geotechnical exams, environmental assessments, and other such studies, tests, exams, and assessments, and (iii) do such other things as Buyer determines, it is sole discretion, to be required to determine the suitability of the Premises for Buyer's intended use (collectively, the "Inspections"). The City acknowledges that such Inspections may include the digging of test pits, which the City hereby approves.

b. Buyer agrees to defend, indemnify and hold harmless the City against any mechanics liens that may arise from the activities of Buyer and its employees, consultants, contractors and agents on the Premises.

c. Buyer shall exercise the access and inspection rights granted hereunder at its sole risk and expense, and Buyer hereby releases the City from, and agrees to indemnify, defend, and hold the City harmless against, any and all losses, costs, claims, expenses and liabilities (including without limitation reasonable attorney fees and costs) (collectively, "Damages") suffered by the City on account of any injury to person or damage to property arising out of the exercise by Buyer of its rights hereunder, except to the extent that such Damages result from the act or omission of the City.

d. Buyer shall cause any contractors, consultants or any other party conducting the Inspections to procure automobile insurance, if applicable, and commercial general liability insurance coverage in amounts of not less than Four Hundred Thousand Dollars ($400,000.00) per occurrence for

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bodily injury, death and property damage, listing the City as an additional insured thereon, and also Workers' Compensation Insurance coverage to the extent required by law; the forms of all such insurance to be subject to City's Corporation Counsel's reasonable satisfaction.

e. In the event that Buyer does not purchase the Premises, Buyer agrees to either return the Premises as nearly as possible to its original condition after conducting the Inspections; provided, however, the City hereby acknowledges and agrees Buyer shall have no obligation to clean-up, remove or take any other action with respect to any disturbance of any pre-existing environmental contamination on the Premises caused by such inspections, studies, tests, exams, and assessments, and that Buyer shall have no obligation to clean-up, remove or take any other action with respect to any pre-existing environmental contamination disturbed thereby.

f. The parties hereto acknowledge and agree that it is a condition to Buyer's obligations under this Agreement that the results of the Inspections be acceptable to Buyer in its sole discretion. If the results of such due diligence are not acceptable to Buyer in its sole discretion, and if Buyer exercises its right to terminate this Agreement, and neither party shall have any further obligations or liabilities under this Agreement except as expressly set forth in this Agreement.

5. **REAL ESTATE TAXES, PRORATIONS AND TRANSFER TAX.** Buyer shall be liable for all real estate taxes beginning as of the start of fiscal year following the closing and continuing thereafter. Because the Property is currently owned by the City of Portland, which is exempt from real estate taxes, no taxes were assessed or will be due for any portion of the current fiscal year, and no taxes will be prorated at the closing. Any utilities for the Property shall be prorated as of the closing. The Maine real estate transfer tax shall be paid for by Buyer in accordance with 36 M.R.S.A. § 4641-A. City is exempt from paying the transfer tax pursuant to 36 M.R.S.A. § 4641-C. The recording fee for the deed of conveyance and any expenses relating to Buyer's financing or closing shall be paid for by Buyer.

6. **DEFAULT AND REMEDIES**. In the event that Buyer defaults hereunder for a reason other than the default of the City, City may terminate this Agreement, and neither party shall have any further obligation to the other. In the event City defaults under this Agreement, and if Buyer is not then in default hereunder, Buyer shall have the right to pursue specific performance or terminate this Agreement, in which case neither party shall have any further obligation to the other.

7. **RISK OF LOSS.** The risk of loss or damage to the Premises by fire, eminent domain, condemnation, or otherwise, until transfer of title hereunder, is assumed by the City. The Premises is to be delivered in substantially the same condition as of the date of this Agreement unless otherwise stated. In the event City is not able to deliver the Premises as stated, Buyer may terminate this Agreement, and neither party shall have any further obligations or liabilities under this Agreement except as expressly set forth in this Agreement.

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8. **PROPERTY SOLD "AS IS, WHERE IS**." Buyer acknowledges that Buyer has had an opportunity to inspect the Premises, and to hire professionals to do so, and that Premises will be sold "as is, where is" and "with all faults." City, and its agents, make no representations or warranties with respect to the accuracy of any statement as to boundaries or acreage, or as to any other matters contained in any description of the Premises, or as to the fitness of the Premises for a particular purpose, or as to development rights, merchantability, habitability, or as to any other matter, including without limitation, land use, zoning and subdivision issues or the environmental, mechanical, or structural condition of the Premises. Acceptance by Buyer of the Deed at closing and payment of the purchase price shall be deemed to be full performance and discharge by the City of every agreement and obligation contained herein.

9. **ENVIRONMENTAL INDEMNIFICATION**. Buyer covenants and agrees to indemnify, defend, and hold the City harmless from and against any and all claims, damages, losses, liabilities, obligations, settlement payments, penalties, assessments, citations, directives, claims, litigation, demands, defenses, judgments, costs, or expenses of any kind, including, without limitation, reasonable attorneys', consultants', and experts' fees incurred in investigating, defending, settling, or prosecuting any claim, litigation or proceeding, that may at any time be imposed upon, incurred by or asserted or awarded against Buyer or the City and relating directly or indirectly to the violation of or compliance with any federal, state, or local environmental laws, rules, or regulations governing the release, handling or storage of hazardous wastes or hazardous materials and affecting all or any portion of the Premises, except to the extent that such a claim results directly from the City's release, handling or storage of hazardous wastes or hazardous materials on the Premises. This duty to indemnify, defend, and hold harmless shall be included in a covenant in the deed and shall run with the land conveyed and be binding upon Buyer's successors, assigns, and transferees.

10. **CLOSING**. Time is of the essence in the performance of this agreement. The closing shall be held at the offices of Buyer's counsel at a time agreeable to the parties on or before the day that is fifteen (15) months after the date of this Agreement (the "Closing Date"). At the Closing:

    a. the City shall execute, acknowledge and deliver to Buyer a municipal quitclaim deed conveying to Buyer good and insurable title to the Premises, free and clear of all encumbrances except as otherwise set forth herein.

    b. Buyer shall deliver the Purchase Price to the City.

    c. Each party shall deliver to the other such other documents, certificates and the like as may be required herein or as may be necessary to carry out the obligations under this Agreement.

    d. Buyer shall deliver evidence, reasonably satisfactory to City's Corporation Counsel, that the entity receiving title to the Premises is in good standing

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under Maine law, and that the individuals acting at Closing and executing documents on behalf of Buyer are authorized to do so.

11. BUYER'S POST CLOSING OBLIGATIONS; RIGHTS OF CITY TO REPURCHASE PROPERTY.

a. Within twelve (12) months after the Closing Date, Buyer shall commence construction of the Project, as the Project is generally described in the Proposal. The Buyer, in its discretion, may develop the Project in two phases. The first phase of the Project shall include the greater of 20 three-bedroom dwelling units or the maximum number of dwelling units feasible under the current zoning.

b. Upon the issuance of a certificate of occupancy for all or a portion of the first phase of the Project or at such earlier time as the Buyer, in its discretion, may determine, the Buyer shall convey the Project to a Cooperative Affordable Housing Corporation (the "Coop") organized in accordance with the Maine Cooperative Affordable Housing Ownership Act, 13 M.R.S.A. §1741-1762, as may be amended (the "Act"). Notwithstanding anything to the contrary in the foregoing, the Buyer may retain the right to develop additional units on the Premises as a second phase of the Project which shall be conveyed to the Coop.

c. Rent Restrictions. For a period of 99 years after the Project has been transferred to the Coop, all units and cooperative interests in the Project shall be affordable to low- and moderate-income households earning less than or equal to 100% of the area median income (AMI), adjusted for family size, in accordance with federal standards generally accepted at the time of incorporation under the Act. For purposes of this Agreement, "affordable" means that the percentage of income a household is charged in connection with its cooperative interest and other housing expenses, including utilities, shall not exceed 30% of the household's gross monthly income. Minimum household size allowed per unit and the formula for calculating maximum allowable monthly rent is detailed on Exhibit C, which is attached hereto and made a part hereof.

d. Income Restrictions. In order to purchase a cooperative membership interest in, and reside in a unit owned by the limited equity cooperative, a household must not earn more than 100% of the AMI, adjusted for family size, as published by the U.S. Department of Housing and Urban Development ("HUD"). Household income is defined as adjusted gross income used by the IRS. This income test will be used only at the time of the household's purchase, and excludes transfers to family members or an estate beneficiary. At the time of initial sale of cooperative membership interests in the Coop, up to 20% of the cooperative membership interests may be sold to households earning up to 120% of AMI. All other sales and all subsequent sales of cooperative membership interests must be to households earning no more than 100% of AMI.

e. Option to Repurchase. Unless the Project has been transferred to the Coop as set forth above, if Buyer, its successors, assigns, or transferees fails to commence construction of the Project on the Premises within 12 months after the closing, and construct the buildings which are part of the first

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phase of the Project within thirty (30) months after closing, the City shall have the right, but not the obligation, to repurchase the Premises and the Project at the Purchase Price plus all documented, design, development, construction, and approval expenses incurred by Buyer, or successors, to that juncture. If the City exercises this right to repurchase, Buyer shall convey the Premises to the City and assign to the City all contracts, plans, and other documents related to the design, construction, and regulatory approvals for the Project. This right to repurchase shall be assignable by the City.

f. The articles of organization for the Coop shall provide that in the event the Coop shall be dissolved, it assets will be distributed in accordance with § 1754(6) of the Act to the City or, at the City's option, to another organization permitted under § 1754(6) of the Act reasonably acceptable to the City.

g. The provisions of this Section 11 will survive closing and will be included in greater detail in the City's deed to Buyer or in a Declaration of Covenants, Conditions and Restrictions executed before or at the time of Closing, which shall be recorded in the Cumberland County Registry of Deeds.

12. **ENTIRE AGREEMENT.** This Agreement represents the entire and complete Agreement and understanding between the parties and supersedes any prior agreement or understanding, written or oral, between the parties with respect to the acquisition or exchange of the Property hereunder. This Agreement cannot be amended except by written instrument executed by City and Buyer.

13. **NON-WAIVER**. No waiver of any breach of any one or more of the conditions of this Agreement by either party shall be deemed to imply or constitute a waiver of any succeeding or other breach hereunder.

14. **HEADINGS AND CAPTIONS.** The headings and captions appearing herein are for the convenience of reference only and shall not in any way affect the substantive provisions hereof.

15. **BINDING EFFECT**. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, administrators, successors and assigns.

16. **TIME.** The City and Buyer each confirm and agree that each of the time periods set forth herein are essential provisions of the terms of this Agreement.

17. **GOVERNING LAW**. This Agreement shall be construed in all respects in accordance with, and governed by, the laws of the State of Maine. All parties hereto hereby consent to the exclusive jurisdiction of the Superior Court for the County of Cumberland in the State of Maine, for all actions, proceedings and litigation arising from or relating directly or indirectly to this Agreement or any of the obligations hereunder, and any dispute not otherwise resolved as provided herein shall be litigated solely in said Court. If any provision of this Agreement is determined to be

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invalid or unenforceable, it shall not affect the validity or enforcement of the remaining provisions hereof.

18. **NOTICE**. All notices, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given on the date of service if served personally on the party to whom notice is to be given, or on the first business day after the notice is delivered to an overnight delivery service with delivery confirmation, addressed to the recipients at the addresses set forth below. Either party may change addresses for purposes of this paragraph by giving the other party notice of the new address in the manner described herein.

FOR THE City:	City of Portland ATTN: City MANAGER 389 Congress Street Portland, ME 04101
With a copy to:	The Office of the Corporation Counsel at the same address.
FOR Buyer:	Maine Cooperative Development Partners, 6 City Center, Fl. 3, Portland, ME 04101
With a copy to:	David C. Pierson, Esq. Eaton Peabody P.O. Box 15235 Portland, ME 04112-5235

19. **SIGNATURES; MULTIPLE COUNTERPARTS.** This Agreement may be executed in any number of counterparts and by different parties in separate counterparts. Each counterpart when so executed shall be deemed to be an original and all of which together shall constitute one and the same agreement.

20. **BROKERS.** The CITY and Buyer each represent and warrant that they have not dealt with a real estate broker in connection with this transaction. Buyer agrees to indemnify and hold harmless City from any claims made by any broker should Buyer's representation in this paragraph be false. Subject to the limitations of liability set forth in the Maine Tort Claims Act, City agrees to indemnify and hold harmless Buyer from any claims made by any broker should City's representation in this paragraph be false. The foregoing indemnities shall include all legal fees and costs incurred in defense against any such claim, and shall survive closing.

21. **RECITALS INCORPORATED BY REFERENCE**. The recitals set forth above are incorporated herein by reference and made a part of this Agreement.

IN WITNESS WHEREOF, the parties have caused this instrument to be executed on their behalf by their duly authorized offices or representatives, on the day and year first written above.

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City OF PORTLAND

DocuSigned by:
Jon P. Jennings
4F521A7E9E0344B...

Jon P. Jennings Its City Manager

MAINE COOPERATIVE DEVELOPMENT PARTNERS

DocuSigned by:
Brian Eng
14E9ED0E0B984B5...

Brian Eng
Its Principal

Approved as to Form:

DocuSigned by:
Michael Goldman
5BDA6A4DB5B4E1...

Corporation Counsel's Office

102 Exchange Street Portland, ME 04101 | (207) 842-2888 | kaplanthompson.com

December 20, 2022

LAMBERT WOODS
Architectural Narrative –Planning Board

We've advanced a number of architectural elements, which we feel add to the richness of the design and address the concerns raised by the board during the previous hearing.

We have added a variation to the rear of the rowhouse roof eave condition, lifting it up at certain locations. The intent is to further accentuate the rhythm and interest of the repeated units as they might typically appear in an urban setting, with occasional variation along the length of a streetscape. In addition, we are increasing window heights in those locations to respond to the added façade heights and add additional variation between units.

We are now recessing all the window units back from the face of the siding to provide a more robust shadow line, and increase the effective depth within the façade. Additionally, we are reducing the height of the kitchen window on the front of the rowhouse (façade that faces the common) and adding variation to fenestration at the second level through a large, picture window from the main living space. This increases the connectivity of occupants to other homeowners within the community.

We have increased the size of the utility sheds on the ends of the rowhouses to allow for a ten-foot by twenty-foot shared storage space for the tenants. They are accessible only from the exterior and offer adaptable space that the tenants can configure to meet their needs.

Phil Kaplan
Maine Licensed Architect, AIA
Kaplan Thompson Architects

Kaplan
Thompson
Architects

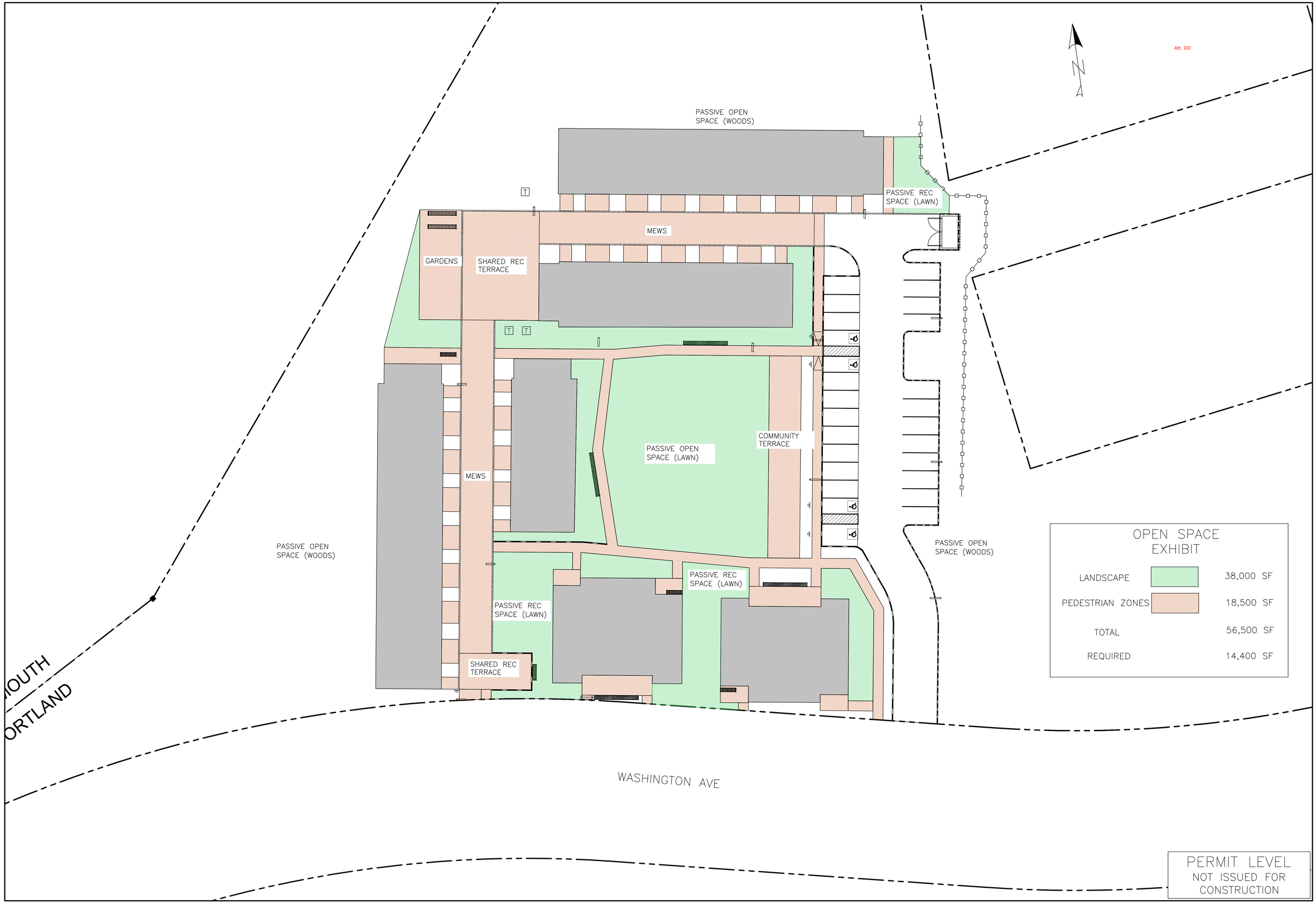
Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

ZONING ANALYSIS Relevant Zone(s) R3 - PRUD

All Projects:

	Required	Proposed
Lot Size	3 acres	17.94 acres
Area Per Dwelling Unit	3,250 SF	3,256 SF
Minimum Street Frontage	N/A	
Front Yard Minimum	N/A	
Front Yard Maximum	N/A	
Rear Yard	10'	>10'
Yard Right	10'	>10'
Yard Left	10'	>10'
Side Street Setback	N/A	
Step Back	N/A	
Maximum Lot Coverage	N/A	
Minimum Lot Coverage	N/A	
Maximum Height	35'	<35'
Open Space	300 S.F / D.U.	303 S.F/D.U.
Maximum Impervious Area	N/A	
Pavement Setback	N/A	
Floor Area Ratio	N/A	
Off Street Parking Spaces	N/A	67
Loading Bays	N/A	
Other 1		
Other 2		
Other 3		



PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SITE/SUB	SJL	6/17/22
COMMENT RESPONSE	SJL	9/26/22
COMMENT RESPONSE II	SJL	12/23/22

DRAWING NAME: **OPEN SPACE AREA EXHIBIT – NORTH SITE**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

THE PLANS, SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. AND ANY UNAUTHORIZED USE OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3477 PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
SAMUEL J. LEBEL
16595
LICENSED PROFESSIONAL ENGINEER
12/23/22

DRAWING NO.
EX

FALMOUTH

PORTLAND

WASHINGTON AVE

N

PASSIVE
REC (LAWN)

SHARED REC
TERRACE

PASSIVE
REC (LAWN)

COMMUNITY
TERRACE

PASSIVE
REC (LAWN)

PASSIVE
REC (LAWN)

PASSIVE OPEN
SPACE (WOODS)

MEWS

SHARED REC
TERRACE

GARDENS

OPEN SPACE EXHIBIT

LANDSCAPE		20,500 SF
HARDSCAPE		17,500 SF
TOTAL		38,000 SF
REQUIRED		18,000 SF

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/17/22
COMMENT RESPONSE	SJL 9/29/22
COMMENT RESPONSE II	SJL 12/23/22

DRAWING NAME: **OPEN SPACE AREA EXHIBIT**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS SHALL BE AT THE USER'S SOLE RISK AND OR ORIGINATOR, AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2655

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

DRAWING NO.

EX

E. Summary of Written Easements

Existing easements on site as identified by Owen Haskell, Inc. include:

- A drainage easement benefitting Maine DOT as recorded in the Cumberland County Registry of Deeds Book 3901/31.

Proposed Easements:

- There are several proposed drainage easements currently being coordinated on which will benefit the City of Portland.

January 10, 2023

Attn: Sean King
Urban Designer
City of Portland, ME

Att. EE

RE: Mercy Hospital Redevelopment Site and Landscape Design Approach

The Lambert Woods site will be a compact, highly-walkable, connected community designed to limit impact on the surrounding natural resources and wooded character while creating a strong sense of place through careful orientation and arrangement of buildings and exterior common spaces.

Both the north and south sites orient around an interior common. The commons are the shared 'backyards' of the community. The intent of the common is to provide versatile space for passive and active recreation play and relaxation. The commons may also be adapted for small, community events such as outdoor movie nights or other community gatherings. The commons have been situated between the parking lots and homes to encourage interaction amongst neighbors. Between the parking and common we have designed a simple crushed-stone courtyard where we envision a community chalk wall, seating, and bicycle racks. The chalk wall will be a fantastic opportunity for residents to share information and create art. The courtyard will provide a gathering space at the edge of the common for outdoor dining and socializing with filtered shade from the surrounding trees.

A mews (narrow, pedestrian-oriented, shared-use street) provides both direct, vehicular access to each home while also allowing emergency access, if needed. The main entry to each the rowhomes accesses directly to the mews, each with a small patio which can be furnished by residents to meet their personal needs. Along the mews, a series of small plazas, demarcated by a change of materials from bituminous to concrete pavers provides space for hard-surface recreation, play, and gathering. The plaza spaces will include modular seating and be located adjacent to the community gardens. Residents may use the plazas for hard surface recreation and games. The mews and associated plazas will be highly-versatile spaces which encourage neighborly interaction and adaptation for gathering and play.

Community gardens will be located adjacent to the mews to further encourage interaction amongst residents with two plots located adjacent to the primary plaza spaces at the northwest and southeast corners of the mews. Buildings have been designed to include shop and storage sheds which front on to the plazas and access directly to the gardens.
At the entry to each of the flats buildings we have proposed a change of paving materials to delineate the space for informal community gathering as well as identifying locations for benches and other site furnishings.

Planting areas have been carefully designed to provide separation and definition between exterior rooms along with a sense of visual interest and softening of built edges. All plantings have been carefully selected to require minimal maintenance, maximum hardiness and provide a sense of visual contiguity with the surrounding native landscape. Trees have been located to provide shade at strategic gathering locations, reduce heat-island effect, and provide a sense of scale and cadence to the architecture as one moves through the site. Sidewalks have been carefully located for efficient pedestrian movement through the site, access to each home, and encourage residents and guests to utilize the various exterior spaces and amenities.

Nick Aceto
Landscape Architect
Aceto Landscape Architects
na@acetola.com
207-221-3390 (ME Office)

Standard to be Waived: Cite Ordinance or Technical Manual Standard	**Cite Standard Language:** Cite specific language of applicable Ordinance or Technical Manual Standard	**Waiver Being Sought:** Describe waiver being sought. Ex. – We are requesting a two-way parking lot drive aisle width of 20' feet.	**Justification for Waiver:** Address specific waiver criteria, if applicable, and document reasons for the waiver request.
Technical Manual 1.7.2.3	24' Drive Aisle Width	We are requesting to reduce the drive aisle width from 24' to 22'.	Based on the proposed land use, the residents' familiarity with the site, and a low rate of turnover, a width of 24' is not necessary to accommodate a functional parking lot. 22' allows for a reduction in impervious area.
Technical Manual 8.2.1	The development should be designed to avoid disturbance in wetlands and the developer must establish undisturbed buffer strips from the wetland boundary. For developments located adjacent to perennial streams, a minimum one hundred (100) foot buffer strip on either side of the stream should be maintained. For intermittent streams, the buffer strip may be reduced to twenty five (25) feet. The undisturbed buffer must be placed in deed restrictions. In cases where State and Local rules are in conflict, the most stringent rules will apply.	We are requesting to reduce the 100' stream buffer.	The waiver is being sought to reduce the required 100' stream buffer. The site has been designed to minimize natural resource impacts to the greatest extent feasible with a compact site design. The current design encroaches on the 100' required buffer but is proposing to leave approximately 70' of undisturbed buffer on the southeastern portion of the southern site. This is the only conflict areas, whereas the rest of the site will provide the 100' buffer. We believe this approach to be desirable to increase residential density on site while also prioritizing the preservation of natural resources.

Standard to be Waived: Cite Ordinance or Technical Manual Standard	**Cite Standard Language:** Cite specific language of applicable Ordinance or Technical Manual Standard	**Waiver Being Sought:** Describe waiver being sought. Ex. – We are requesting a two-way parking lot drive aisle width of 20' feet.	**Justification for Waiver:** Address specific waiver criteria, if applicable, and document reasons for the waiver request.
Land Use Code Ch 14.6.1.B.3	All development's shall provide curbing along the frontage	Requesting to not install curbing along approximately 220' of the Lambert Street frontage. Curbing exists along Auburn frontage	It is proposed to extend the existing granite curbing approximately 30 feet south from the existing catch basin located on the southeastern curbline of the Lambert/Auburn intersection to the end of the project's frontage. This will help formalize the existing gutter line which features a significant portion of tributary flow from Lamber Street. We believe the existing open drainage system would not benefit from curbing at the other two segments of frontage along Lambert Street as this would promote channelized gutter flow where there isn't an existing closed system drainage network, making the existing sheet flow condition more concentrated causing erosion issues on the road shoulder, and would increase flows to the abutting property at 179 Lambert. By providing the segment of curbing at the Lambert/Auburn intersection this will provide a convenient location for a future sidewalk connection and offer the City design flexibility. We believe this aligns with the following waiver criteria: • Strict adherence to the curb requirement would result in the loss of significant site features related to landscaping or topography that are deemed to be of a greater public value. • Runoff from the development site or within the street does not require curbing for stormwater management.
Technical Manual 8.2. Standards	Design the development to minimize wetland impacts by either avoiding direct wetland impacts or minimizing them when they are unavoidable. Activities in or adjacent wetlands should be carried out in accordance with the standards set forth in the Maine Wetlands Protection Rules.	We are requesting that 10,000 sf of wetland fill is allowed for the project, which is consistent with the PSA	The waiver is being sought to fill a small portion of the wetlands on site (approximately 6,139 sf is proposed). The site has been designed to minimize wetland impacts to the greatest extent feasible with a compact site design. The current design fills a small portion of wetlands (adjacent to the road and an isolated pocket) but in turn allows for the preservation of the high value wetlands located adjacent to the stream. We believe this approach to be desirable to increase residential density, provide safe and functional multi-modal transportation, and also prioritizing the preservation of natural resources.
Technical Manual 1.7.2.8	No more than two (2) driveways shall be permitted for ingress and egress purposes to any commercial, industrial or residential (with 10 or more parking spaces) site. A joint access driveway shall be considered as adequate access for any adjacent sites and shall be encouraged. An easement for joint access shall be required.	We are requesting to provide two (2) driveways for the southern site and one (1) driveway for the northern site.	The waiver is being sought to provide access through the site for several parties including the Portland Fire Department, residents, the solid waste contractor, and mail services. Given the project contains nearly 3,000 feet of legal street frontage, three curb cuts represents a modest approach to provide the necessary access while complying with the various other site plan and NFPA standards.

Standard to be Waived: Cite Ordinance or Technical Manual Standard	**Cite Standard Language:** Cite specific language of applicable Ordinance or Technical Manual Standard	**Waiver Being Sought:** Describe waiver being sought. Ex. – We are requesting a two-way parking lot drive aisle width of 20' feet.	**Justification for Waiver:** Address specific waiver criteria, if applicable, and document reasons for the waiver request.
Land Use Code Ch 14.6.1.B.3	All development shall provide sidewalks along all frontages	We are requesting to provide a curbed sidewalk along the project's frontage on Washington Ave and request a waiver from this requirement along the project's frontage on Auburn and Lambert Streets.	In accordance with LUC ch 14.6.1.B.3.a , the following two criteria are met that permit a waiver request: 1) There is no sidewalk in existence or expected within 1000 feet and the construction of sidewalks does not contribute to the development of pedestrian-oriented infrastructure. *There is not an existing sidewalk within 1000 ft of the Lambert frontage* 2) A safe alternative walking route is reasonably available, for example, by way of a sidewalk on the other side of the street that is lightly traveled. *There is an existing sidewalk on the eastern side of Auburn Street along the project's frontage. Note that we recognize Auburn Street is not lightly traveled but as part of the project we are providing a robust bulbed-out crosswalk with RRFB to encourage a safe crossing that connects to the existing sidewalk.* The Applicant strongly feels their contributions to public infrastructure, as listed in the comment response letter from 12/27, are already demonstrating their commitment to go above and beyond the status quo. Lastly, it should be noted that the amount of street frontage on Lambert Street owned by the Applicant is minimal and segmented in a noncontiguous manner as the abutting single-family homeowners own most of the Lambert frontage – please refer to the survey for more information. With this approach we request the right-of-way improvements on the Washington / Auburn, Washington / Lambert, and Auburn Street count towards the frontage requirement. We believe these improvements will be more beneficial to the public rather than segments of non continuous sidewalk where there either isn't a sidewalk within 1,000 ft, or is already an existing sidewalk. Please refer to the comment response letter from 12/27 and 1/31 for additional information.

Att. FF

Aug 6, 2022

I, Liz Trice of Maine Cooperative Development Partners hereby certify that a neighborhood meeting was held on Thursday, Aug 4, 2022 at 6pm at Town and Country Federal Credit Union, 3 Auburn Street in Portland for the proposed project located at 165 Lambert Street and 622 Auburn Streets. The meeting also included zoom participants.

I also certify that on Saturday, July 23, 2022, more than ten (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 (1,000 feet for subdivisions within an industrial zone or industrial zone changes).

2. Residents on the “interested parties” list. A total of 307 for the combined two lists.

In addition, we sent emails to the 75 neighbors that have expressed interest.

Signed,

Elizabeth Trice

Maine Cooperative Development Partners

July 22, 2022

Dear Neighbor,

Please join Maine Cooperative Development Partners for a neighborhood meeting to discuss the proposed site plan to create Lambert Woods South and Lambert Woods North Neighborhoods (working titles) proposed at 622 Auburn Street and 165 Lambert Street, with entrances on either side of Washington Ave Extension between Auburn and Lambert Streets. We are working with the City of Portland to create an mixed income, green, transit-oriented, neighborhood surrounded by protected woods and wetlands.

We have submitted a site plan for approval by the planning board. At this meeting, we plan to review the site plan briefly, and to review possible pedestrian improvements that could happen along Washington Ave Ext. We hope to work with neighborhood residents and the city to enact some pedestrian improvements. Your participation and advocacy can help make it safer to walk in your neighborhood.

Date: Thursday, August 4, 6pm

Meeting Location: Zoom Video or by Phone

- For more information, maps, notes and presentations from previous neighborhood meetings, and Zoom and phone links, please visit: https://www.mainecooperativehousing.com/douglass.html

- **Please RSVP,** by emailing Liz Trice at members@coophomes.me and to get on our mailing list for updates and to receive the Zoom link and one tap mobile link by email.

We look forward to connecting with you!

Liz Trice, Matt Peters, and Brian Eng - Maine Cooperative Development Partners

Join Zoom Meeting by Computer:
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The Land Use Code requires that neighboring property owners and residents on an "interested parties list" be invited to participate in this neighborhood meeting. A [electronic] sign-in sheet will be circulated and a record of the meeting will be taken. Both the sign-in sheet and record will be submitted to the Planning Board.

Under the City of Portland land use code, an applicant for a major site plan, master development plan, subdivision of over five lots, or zoning map amendment is required to hold a neighborhood meeting within 30 days of an application being deemed complete and no less than seven calendar days before a public hearing. Should you wish to offer additional comments on this proposed development, you may forward them by e-mail to planning@portlandmaine.gov or by mail to the Planning and Urban Development Department, Planning Division, 4th Floor, 389 Congress Street Portland, ME 04101.

Lambert Woods Neighborhood Meeting, 8/4/2022, 6-7pm
Town and Country Federal Credit Union, 3 Auburn Street, Portland, ME + Zoom Video

Developer Team: Liz Trice, MCDP; Brian Eng MCDP; Nate Holt, Acorn Civil Engineering; Grace McNeill, Aceto Landscape Architects; Molly Dutton, MCDP Intern; Hillary Glaus, MCDP Coop consultant; Linda Hallerin and Chelsea Torrey, Town and Country Federal Credit Union (Hosts and partner)

Participants Sign In List

Name	**Address**
Gene Morin	564 Auburn St
Lauren Manera	77 Lambert St
Michael Bergeron	12 Lewis St Apt 9
Ed Eggleston	660 Auburn St
Hilary Glaus	535 Cumberland Ave
Nadine Pembele	194 Spring St
Delphin Ilunga	191 Spring St
Doug Malcolm	297 Brackett St Apt 1
Don Miller	45 Gansoe Dr
Ruth Beltinga	501 Summit St
Zoom Attendees:	
Irving Williams	33 Bayview Avenue South Portland
Leslie Case	915 S 50th St, Lincoln NE 68510
Evrard Ngabirano	65 Lambert Apt 14
Sofia Yalouris and John Bernier	63 Gray St Portland
Warwick Varney	Saco ME
Rochelle Baxter	145 Elmira Loop #5B Brooklyn NY 11239
Thomas Talarico	44 Clark St
Julie Ellis	53 Birchvale dr, Portland 04102

Lambert Woods Neighborhood Meeting 8/4/2022 6-7pm

Town and Country Federal Credit Union, 3 Auburn Street, Portland, ME

Meeting Notes:

Introductions of team, in-person attendees, and zoom attendees

Liz Trice:

- Is part of a three person development team with Brian Eng (present) and Matt Peters.
- Goal is to create affordable workforce green transit oriented neighborhoods
- Currently going through site planning process with the city this summer; If all goes well we'll start building spring 2023 and complete project in 2024
- Currently Lambert Woods North vs Lambert Woods South have separate financing, and are operating on independent timelines. Both will be Limited Equity Cooperatives, South side will be Middle income 60-100% Area median income, North side will be lower income LIHTC. Possibility that both can combine into one big coop after 15 years.
- Big things that we've heard from the neighbors and that we're committed to is taking care to avoid wetland areas on the property, to reduce and slow down the impact of cars and trucks on Washington, and to create pedestrian centered but car friendly spaces on the interior roads.
- The current plan is to keep cars off to one side, and then have narrow lanes for drop offs, and fire truck access. Current plan has two way road with a dead end and turnaround, and "Grasscrete" structured area that can support a fire truck but looks like grass.
- FedEx, USPS, UPS, school buses will stop on Washington Avenue, not enter sites.
- We've asked Bike Coalition of Maine to work with the city to propose traffic calming measures that could happen in the coming year; the basic idea is to flexible reflective posts in the places where crosswalks across Washington will eventually be, and also reflective stickers where the turning radii at Lambert and Auburn where "truck aprons" will eventually be, to start traffic to slow down.

Q: Ed Eggleston: If the goal is to be car-free friendly, why not just have the new roads be one-way and more narrow?
A: Good question, will check on rationale. Fewer curb cuts is considered to be safe generally
Q: Lauren Manera: if you don't want it car dominated, why put the property in North Deering?
A: The city asked for this property to be developed. If your priority is pulling a car into a garage, this isn't the space for you.
Q: Lauren Manera: It's a long way from the parking to the front doors, will the walks be shoveled?
A: Yes
Q: How to avoid porch pirates? Needs to be planned out.
A: Packages from all homes will go to flats buildings on Washington ave, will have to figure out how to number properties for mail vs E-911.
Q: Doug Malcolm: no garages?
A: Yes, surface parking only
Q: Don Miller: how many parking spots per people?

A: Currently have 124 spots available for 165 homes
Q: Lauren Manera: Will there be a charge for parking on street?
A: No; Vision is to have residents pay for reserved spots in lot, but street parking would be first come first serve
Q: Warrick Varney: I've seen lots of developments work where you can't park in front of your home;. Frequently there are carts that can be borrowed to move things to your unit.
Q: (person on zoom) What about when there's a parking ban on street parking? How far away would temporary parking be?
A: Needs to be addressed still, will likely talk to local businesses
Q: Doug Malcolm: will these developments ever be fully connected? Could you create a tunnel instead of crosswalks?
A: Those are expensive and probably not applicable here; with curb bumpouts at crosswalks across Washington, pedestrians will only have to cross about 20'; parking on both sides of Washington + 3 crosswalks mid-block should feel make pedestrians feel safe to cross.
Q: Ed Eggleston: Will there be different management for north and south?
A: Our goal is to set them up as similarly as possible, but they will be independently governed and can change that at time goes on.

Proposed changes for Washington Avenue

Brian: we're trying to make the two sides connected and make wash ave safer, there is a certain level of community that comes with living in a coop, people pull together and help each other out
Liz Trice: We heard that traffic is a big problem for neighbors, so we talked to Jim Tasse at the Bike Coalition of Maine to discuss traffic calming that could happen soon, before construction is complete. BCM will work with the city to propose a combination of paint and removable bollards (posts with reflective tape that can be run over without damaging a vehicle) to start slowing down vehicles now. It will also be a test of measures before they become permanent. Bollards need to be removed in the winter, so it's possible if the city approves we could have them up for a few months in the fall, and reinstall in April.
Nate Holt: In this in-between stage, we want to mimic what the improvements could be in the interim. We propose bollards that mimic where the truck apron will be and will paint the apron red to discourage people from driving over it. We will narrow the driving lane to 11' using bollards and indicating where the truck apron will be. (A truck apron is concrete that standard vehicles don't drive over but trucks can use since they need a larger turning radius). We will also place bollards in spaces where crosswalks will be.
Ed Eggleston: Place the bollards right or they'll be knocked down
Gene Morin: This is a tractor trailer route, we need to keep that in mind, have to take these trucks into account when planning what to do with the road
Nate Holt: We will use low, reflective pavement parkers at intersections, not bollards
Liz Trice: We know the bigger problem is traffic on lambert and auburn, what can we do to calm traffic there? The city needs to hear it's a problem, once we get the city's ear we can start to solve the problem
Brian Eng: Jeremiah Bartlett Dept of Public works is a good person to contact with this issue

Ruth Bettinger: Is collecting signatures about traffic calming efforts and to talk to the planning board. Neighbors support this development but are concerned about traffic in the area and want to slow traffic down
Liz Trice: if you send me an email I will forward your letter to our list of neighbors
Brian Eng: we will have the planning board mtg next Tuesday, you can show up and use the 3 minutes of public comment to speak on this topic.
Lauren Manera: They need to reduce the speed between auburn and summit
Liz Trice: One possibility: Lambert is considered a rural postal zone which means that there are wide shoulders that are used only for the daily mail truck and create the sense of a wide road that people feel safe driving 40+ MPH, making pedestrians feel unsafe. Changing to a walking postal route and having parking on both sides would reduce speed considerably, but neighbors would have to petition the postal office.
Ruth Bettinger: I'm concerned about kids walking between cars and the speed with which the cars go
Doug Malcolm: Wash ave is designed for trucks, lots of cars backed up on Wash trying to get on to auburn, will trucks still fit in these lanes?
Nate Holt: we have software that models for us and make sure everything fits
Brian Eng: We really just want traffic moving more slowly, right now everyone's going faster than the speed limit.
Ed Eggleston: Site lines need to be considered when cars are parked on the street
Nate Holt: We're working with a traffic engineer on that
Sophia: Does the tractor trailer model include snow situations?
Nate Holt: Yes; there are inherent conservative measures that the software produces, movements are wider than real life
Brian Eng: we do want tractor trailers following the speed limit, these measures will help. If they are driving slowly and following the limit the tractor trailers will be fine
Ed Eggleston: where are the pull off spaces for UPS and FedEx?
Liz: We are designing pull-off space big enough for a bus and delivery truck at the same time.
Hillary Glaus: I'm concerned about the sharpness of the turns inside the site
Grace McNeill: we ran autoturn models to make sure that fire trucks could make these turns, and they can, so sedans and suvs can as well
Ed Eggleston: I'd like it if you switched the snow space and dumpster on the North side; isn't there supposed to be a bigger setback from my property line? Also, doesn't really want a trail entrance onto Auburn street - there's no parking there. Please put a wall along the parking lot on the north side so car headlights don't enter his back yard.

G. Financial Capacity

Please find attached the status of good standing from the Secretary of State for the Maine Cooperative Development Partners and a letter of financial capacity from the Applicant's bank.

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Wed May 11 2022 10:31:06. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
MAINE COOPERATIVE DEVELOPMENT PARTNERS LLC	20212626DC	LIMITED LIABILITY COMPANY (DOMESTIC)	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
10/01/2020	N/A	MAINE

Other Names **(A=Assumed ; F=Former)**

NONE

Clerk/Registered Agent

DAVID C. PIERSON
PO BOX 15235

PORTLAND, ME 04112 5235

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evernorth
Investing in communities. Building possibilities.

June 2, 2022

Mr. Matthew Peters
Maine Cooperative Development Partners, LLC
c/o Elysian Enterprises LLC
P.O. Box 4341
Portland, ME 04101

RE: Letter of Interest – Lambert Woods North, Portland, Maine

Dear Matthew:

Thank you for the opportunity to review the Lambert Woods North project, the new construction of affordable family housing in Portland, Maine.

Evernorth is pleased to provide this letter of interest. As you know, Evernorth invests in community-based projects receiving the federal Low-Income Housing Tax Credit (LIHTC). The below pricing and investment estimates are based upon preliminary information provided by you.

The information provided describes an approximate $29.3 million construction of a 74-unit project located at 622 Auburn Street.

The project proposes 4% federal LIHTC equity.

We understand the project may qualify for up to $1,103,161 in annual federal LIHTCs. Upon satisfactory resolution of any identified funding needs, we would be interested in investing approximately $9,596,538 in LIHTCs (approximately $0.87 equity pricing) in exchange for a 99.99% limited partnership interest in the Partnership to be formed.

Changes in project timing or assumptions relied upon by Evernorth may result in changes to equity pricing. A more detailed equity letter of intent will be provided once all capital sources have been secured.

As this is not a commitment letter, Evernorth's investment is conditioned upon successful completion of underwriting, due diligence review, tax credit award, and pro-forma approved by Maine State Housing Authority.

We wish you success as you further define the project and look forward to working with you.

Sincerely,

Beth Boutin

100 Bank Street, Suite 400, Burlington, VT 05401
Phone: 802.863.8424 Fax: 802.660.9034
120 Exchange Street, Suite 600, Portland, ME 04101
Phone: 207.772.8255 Fax: 207.772.8241
evernorthus.org

Vice President, Community Investments

100 Bank Street, Suite 400, Burlington, VT 05401
Phone: 802.863.8424 Fax: 802.660.9034

120 Exchange Street, Suite 600, Portland, ME 04101
Phone: 207.772.8255 Fax: 207.772.8241

evernorthus.org

April 1, 2021

Matthew Peters
Principal
Maine Co-op Development Partners
6 City Ctr, Fl 3
Portland, ME 04101

RE: Lambert Woods Cooperative

To whom it may concern:

Centennial Mortgage has been engaged by Maine Co-op Development Partners to secure mortgage insurance through the FHA 213 program for cooperative housing and fund a construction/permanent mortgage for Lambert Woods Cooperative, a new cooperative housing project in Portland, ME. We have reviewed a financing request, including initial plans, pro forma operating budget, the construction budget and initial market information for Lambert Woods Cooperative in Portland, ME. In addition, we have reviewed the experience of the overall development team. Based on this review, we feel that this project is an excellent candidate for financing and will conform to all the requirements to qualify for construction and permanent financing through the FHA 213 program. We feel that this is the right time and place to create a new affordable cooperative given the advantages this particular form of housing provides to its members, primarily sustainable, affordable housing, democratic control and a greater sense of community.

Having now completed this structuring phase, we have now entered the formal application stage for the FHA 213 mortgage insurance and believe that Lambert Woods Cooperative has a high likelihood of success over the coming year in obtaining a 40-year, low interest loan for the project of approximately $25,210,000. Additional subordinated financing would serve to further increase that likelihood. We also believe that success at Lambert Woods Cooperative will open an entirely new avenue for affordable housing finance in the state of Maine by making the FHA 213 program finance accepted in the market.

Centennial Mortgage has substantial expertise and experience completing FHA financing transactions. We are very active in lending to cooperative housing projects throughout the country. Cooperative housing provides a unique form of democratically controlled housing and we are actively working with several groups to create new communities at affordable prices. Personally, I have been involved in cooperative housing for over 20 years, through financing and serving on the board of the National Association of Housing Cooperatives.

Phone: 202-415-1862 Email: hjeffers@centennialmortgage.com

We encourage other funding sources to join us in supporting this innovative project and creating up to 98% leverage for future projects through this program. Please let me know should you have any questions or require any additional information.

Sincerely,

Hugh Jeffers
Vice President of Originations

Phone: 202-415-1862 Email: hjeffers@centennialmortgage.com

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COOPERATIVE DEVELOPMENT INSTITUTE
P.O. Box 1051, Northampton, Massachusetts 01061-1051
PH 413-665-1271 • FX 413-541-8300 • www.cdi.coop • info@cdi.coop

April 29, 2020

To whom it may concern:

The Cooperative Development Institute (CDI) is excited to support the Maine Cooperative Developers' proposal for Lambert Woods II (at 622 Auburn Street, Portland and at 0 Gray Road, Falmouth). CDI believes this will be a beneficial addition to the adopted plan at the 165 Lambert St. parcel, which we also enthusiastically support.

CDI is a 501(c)3 nonprofit founded in 1994 by co-op leaders to work with people in the Northeast to create cooperative businesses and networks that grow a prosperous, equitable economy.

CDI provides expert assistance, organizational development, and support to groups undertaking cooperative development. In the past decade, CDI has helped create 49 new Resident Owned Communities (ROCs) in New England, representing 4,479 households. 10 of the ROCs are conversions of manufactured home parks in Maine. CDI's role is to help form new cooperatives, train residents, and ensure that the cooperative has the support it needs to remain permanently affordable.

Our intention is that at Lambert Woods II, CDI will:

- Lead the creation of the new Co-op entity.
- Lead resident training and resident participation in the construction phase.
- Create and administer a long-term management plan that would meet the city's TIF requirements to ensure that the property meets the city's affordability metrics for at least 30 years.
- Be the long term training & support organization for the Co-op.

We are pleased with the proposal and the development team, and hope to be part of this exciting project!

Sincerely,

Noémi Giszpenc
Executive Director

In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discrimination on the base of race, color, national origin, sex, age, or disability. (Not all prohibited bases apply to all programs.) To file a complaint of discrimination write USDA, Director, Office of Civil Rights, 1400 Independence Avenue SW, Washington, DC 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (voice and TDD).

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ANDREW REICHER EXECUTIVE DIRECTOR

April 29, 2021

To whom it may concern:

UHAB is pleased to support the Lambert II Project to create a Limited Equity Cooperative providing affordable home ownership on Lambert Street in Portland.

The Urban Homesteading Assistance Board was created to assist neighborhood residents in NYC to create, own and operate their own housing. Our original projects were Homesteading Projects where residents would take over abandoned buildings in NYC's low-income neighborhoods and rehab them using their own sweat equity and owning and operating them as affordable housing cooperatives. Since that time UHAB has assisted with the creation of about 1,200 limited equity cooperatives providing affordable homeownership to almost 30,000 households. We continue to support these co-ops with stewardship services, ongoing training and technical assistance as well as group insurance, fuel buying, green energy services, bookkeeping and election services.

Throughout our nearly 50-year history, UHAB has occasionally provided, training, capacity building and services to organizations and developers creating affordable co-ops in cities around the country. Six years ago, we began a census and survey of all limited equity housing co-ops in the nation. The results and a map of the 320,000 units can be found at www.sixthprinciple.coop. But also, as a result we have received requests for our capacity building, technical assistance, and services from organizations, local governments, and housing developers around the country. It has become part of our mission and our work to serve and grow the cooperative housing community not only in NYC but nationwide.

UHAB has also agreed to provide pre-development financing for the Lambert Woods I at 165 Lambert Street and would be open to considering additional support as Lambert Woods II moves forward.

Our work on the Lambert II project in support of CDI and MCDP is part of this national effort and we couldn't be more excited to be part of this effort. Lambert II is a great proposal with a strong development team.

Sincerely,

Andrew Reicher
Executive Director

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EXHIBIT C
Minimum Household Size and Maximum Allowable Monthly Rent Calculation

The Minimum household size for a unit in the Coop is based on the number of bedrooms in the unit, as set forth in the table below. The maximum allowable monthly rent for a unit is 1/12 of 30% of the Area Median Income, based on the minimum household size for a unit, less the Coop member's costs for utilities.

	Studio/One-Bedroom Unit	**Two-Bedroom Unit**	**Three-Bedroom Unit**	**Four-Bedroom Unit**
Minimum Household Size	1	2	3	4

For Example, utilizing 2021 AMI levels, and assuming no out of pocket utility costs for the Co-op member, the maximum allowable monthly rent at 100% AMI would be as follows:

Studio/One Bedroom Unit: 1/12(0.30 x $69,950) = $1,748.75

Two Bedroom Unit: 1/12(0.30 x $79,950) = $1,998.75

Three Bedroom Unit: 1/12(0.30 x $89,950) = $2,248.75

In the event that the Co-op member has out of pocket utility expenses, the maximum allowable monthly rent would be decreased by the amount of those utility expenses. For example, for a two bedroom unit with $300 in monthly utility expenses, the maximum allowable monthly rent would be $1,998.75 - $300 = $1,698.75.

Utility allowance will be calculated in one of two ways: (1) using the utility allowance established by the Portland Housing Authority or (2) based on actual documented utility usage at the property.

ACORN ENGINEERING, INC.

Sean King, PLA
Urban Designer
389 Congress Street
Portland, ME 04101

January 31, 2023

Subject: Comment Response Letter #4
165 Lambert Street – Portland, Maine

On behalf of Maine Cooperative Development Partners and the rest of the project team, we are pleased to respond to the 4th round of comments received.

To facilitate the review, comments are provided below in italics followed by the project team's response.

Acorn Engineering (Sam Lebel, PE & Nate Holt, EI) Civil Engineer
Kaplan Thompson Architecture (Phil Kaplan, RA & Adam Wallace, RA) Architect

City Planning Staff Comments

Comment – *Applicant has provided photometric plans for the development, along with replacement of cobrahead and illumination at Washington Ave. Ext for safe crossing between north and south development. Pedestrian walkway lighting shall meet Technical Manual 12.3.7 through the development* and promote walkability component outlined within the TDM plan.

Response – Prior to compilation of the Construction Plans, the final lighting plan will be coordinated with the final civil, architectural, and landscape plans. This will include review of the illumination levels against the Technical Manual. The Applicant team will share the final lighting plan with the City for review, prior to obtaining a building permit.

Comment – *Provide variation in façade character along building facades. City staff finds the Rowhome, Entry variation to be appropriate and recommends the replacement of window type RC-8A/B at 2nd level (kitchen space) for an operable larger picture window such as RC-6A/B to increase the connectivity of occupants along the Mews front entries.*

Response **– We have reviewed the suggested window RC-8A/B, and found that there is not enough space in the kitchen to widen the unit or to add a second fixed unit beside this operable unit. Due to the close proximity of the kitchen sink, if someone were standing at the sink, they would have a clear view out window RC-8A/B down to the Mews. Windows RC-6A/B and RC-1 are larger units placed in the living spaces to allow for more natural light and views when the occupant is seated far from the unit. Given the modest size of these living units and how they are to be used, we feel the proposed window**

configuration will be quite effective in supporting the connectivity of occupants along the Mews front entries.

Comment – *Applicant to indicate total bicycle parking within table on site plan with requirement and provided. In addition, applicant to locate number of bicycle racks adjacent to Washington Ave Ext per TDM pedestrian & bicycle access infrastructure table.*

Response – **This information has been added to the plans.**

Comment – *Applicant to indicate symbols for EV charging stations with conduit on site plan with requirement and provided.*

Response – **The requirement for EV charging stations and future connectivity is stated on the Site Plan. The final location of this infrastructure will be determined at a later date once an electrical engineer is brought on board and the architectural plans are detailed further in anticipation of a building permit. This is a typical approach and has been utilized on past Portland residential projects.**

Comment – *Applicant to show realistic limit-of-work boundary on site plans, grading/draining plans, landscape plans and others that encroach into the stream setback.*

Response – **The realistic limit of disturbance is currently shown in multiple locations. To clarify, we have prepared an exhibit to show the disturbance limits that encroach on the 100' setback. This information is compiled in Document AA Stream Setback Exhibit.**

Comment – *Applicant to revise waiver request table, specifically LUC ch 14.6.1.B.3.a to require sidewalk along frontage at Lambert & Auburn street. Applicant shall follow request for waiver from sidewalk installation requirement if they meet two or more applicable waiver criteria listed under LUC ch 14.6.1.b.3.c and observe the lack of existing sidewalk along these streets along with pedestrian improvements proposed along Auburn St. City staff recommends removal of 3,000 linear frontage specifics as criteria along Washington Ave to meet waiver request.*

Response – **We are requesting a waiver from the requirement to install a curbed sidewalk along the Lambert and Auburn Street frontages. In accordance with LUC 14.6.1.b.3.c. Along the Lambert frontage there is not an existing sidewalk within 1000 ft, and given the limited frontage this would result in an intermittent sidewalk with 50'-100' of interrupted sidewalk that would provide limited value to the community. Along Auburn Street there is another sidewalk on the east side of the street that has a curbed sidewalk. An RRFB is proposed in tandem with a curb extension to provide a safe crossing to the eastern sidewalk from the section of sidewalk that is proposed on Auburn. We believe this approach meets two applicable waiver criteria under the LUC while providing the necessary infrastructure that has the most benefit to the public. Based on this, it is**

proposed that in lieu of constructing sidewalks along the entire project frontage, the Applicant proposes significant off-site improvements that facilitates multimodal transportation. Please refer to Document F. Waivers for more information.

Comment – *The driveway detail on C-40 is outdated and doesn't reflect what should be built. The flare of the driveway should not extend into the sidewalk/shared use path area as is shown on the ROW plan sheets and site plan.*

Response – **The driveway detail on C-40 has been updated.**

Comment – *The bike lane symbols, if used, no Auburn Street in advance of and within the bike lane cut-thrus at the pedestrian crossing are incorrect. They are to be the helmeted bicyclist symbol (not the bicycle symbol as is used in sharrows/shared lane markings on Wash Ave).*

Response – **The shared use lane symbols along Auburn Street have been changed to bicycle lane symbols.**

Comment – *The raised crosswalk detail on Sheet C-44 is not drawn symmetrically it seems.*

Response – **The raised crosswalk has been removed from the project in lieu of an RRFB.**

Transportation & Traffic Comments

Comment *- The truck apron at the Washington Avenue Extension/Lambert Street intersection shall be removed from the design, as there is not an expectation of many large vehicles making a right-turn movement. Lane encroachment is acceptable as conditions are not expected to be significantly different following project completion.*

Response – Please refer to the attached memo from the project's traffic engineer that highlights the design vehicle accommodations for the project's intersections. Traffic turning movement data at Washington Ave and Lambert Streets were recorded between 7am-9am and then again between 3pm-6pm. Within the time periods there were 12 semis making a turn from Washington onto Lambert Street which is one less than turn than the 13 semi-trucks that were observed making a right-hand turn from Washington Ave to Auburn Street. Based on this information, we believe that a truck apron is appropriate for the right-hand turn from Washington onto Lambert Street.

Comment *- Given the requirement for the installation of a RRFB at the Washington Avenue Extension crosswalk, the R1-6 sign in road shall be eliminated.*

Response – The R1-6 sign has been removed.

Comment *– The illuminated post/bollards shall be eliminated, and light fixtures shall be installed on the RRFB posts.*

Response – These revisions have been made to the plans.

Comment *– The raised crosswalk sign shall meet MUTCD standards.*

Response – It is proposed to install an RRFB in lieu of the raised crosswalk.

Comment *– A new STOP sign with a supplemental all-way plate shall replace the existing STOP sign at Lambert Street.*

Response **– Please refer to Sheet C-09/C-32 which shows the new all-way plate on the relocated stop sign.**

Comment *– The sign #21 at the Washington Avenue Extension crosswalk shall be noted in the legend for review and approval.*

Response **– Sign #21 was a typo. The intended sign was the MUTCD R5-1 "Do Not Enter" sign to prevent traffic entering the emergency access driveways.**

Comment *– The applicant shall confirm sign #19 is appropriate at the Washington Avenue Extension crosswalk.*

Response **– This is an existing sign that will be relocated 7' to the northwest outside of the multi-use pathways. A note has been added to the plans referring the contractor to coordinate with Portland Trails and DPW on the proper location for the Portland Trails Sign.**

Comment *– Regulatory signs shall not share posts and the plans shall be revised accordingly.*

Response **– The plans have been revised to separate multiple regulatory signs so they do not share posts. Please note there are still instances where there is post sharing, this only occurs where the signage message requires multiple signs (i.e. #W11-2 and W16-7P combination to signal motorists of a crosswalk).**

Comment *- The applicant shall provide documentation that the Inter-City bus turning template represents a Metro or school bus. Adjustments to the radii may be justified.*

Response **– We have been in coordination with Mike Tremblay from Metro and Kevin Whittemore from the School District. They have confirmed the current Inter-City bus turning template is accurate and represents the typical Metro bus and is larger than the School District's largest school busses. Documentation is attached.**

Comment *- The applicant should adjust the curb radii for any excess truck apron turning south from Washington Avenue Extension to Auburn Street.*

Response **– Please refer to the revised truck apron that reduces the overall concrete area and provides more green space in spots where the truck will not be utilized by the larger design vehicles.**

Comment *- The applicant shall eliminate the center line shift on the Washington Avenue Extension approach to Auburn Street.*

Response **– The centerline shift has been simplified to remove the S-Curve. We are still proposing a slight modification in the centerline such that it's more linear than the current condition and so a 40' bus can make the right-hand turn from Auburn to Washington without mounting the ramp.**

Comment *– The applicant shall continue the 8-foot-wide path to the Auburn Street crosswalk south of Washington Avenue Extension.*

Response **– The multi-use path has been extended to the Auburn crosswalk per this recommendation.**

Comment *- The parking summary table should remove the on-street parking spaces as these are public parking spaces and not specifically designated for the project.*

Response **– The on-street parking spaces have been removed from the parking summary.**

Comment *– The applicant shall add a second STOP sign on the westbound Washington Avenue Extension approach.*

Response – There is currently a stop sign proposed on this approach – please refer to STA 0+75 LT 24'.

Public Works & Engineering

Comment *– Realign the proposed sidewalk where the recessed inlets will be eliminated based on Water Resources comments.*

Response – The sidewalk has been realigned where the recessed inlets were removed. Please note that this design may need to be revisited pending the field-located existing water main in Washington that would require the recessed inlet design should the water main exist further south than currently shown. Please also note that a slight deflection of curb is necessary in some instances to accommodate this request while maintaining 12' of horizontal separation between the structure and water main. As such there are instances where the curb line is deflected to the south to provide the necessary horizontal clearance (see Sta 5+00 and 9+10).

Comment *– Can some of the curb extensions be reduced to provide additional on street parking.*

Response – The curb extensions have been designed taking the driveway locations into consideration such that there is no on-street parking immediately adjacent to a driveway entrance. The curb extensions near Sta 9+00 have been shifted slightly west to accommodate two new additional on street parking spaces per request.

Comment *– The sidewalk layout on the site plan sheets do not match the landscape plans layouts. Update all sheets to ensure the same layout is used for all proposed improvements in the City ROW.*

Response – Please refer to the updated site and landscaping plans that depict the same sidewalk layout.

Comment *– Applicant to remove public on-street parking from Overall site plan parking calculations.*

Response – Public on-street parking has been removed from the Overall site plan parking calculations.

Comment *– All pavement cuts in the City ROW shall be repaired per the Minor Excavation Pavement Repair Details found in the Rules and Regulations for Excavation Activity.*

Response –The Contractor will comply with these regulations.

Comment *– The paving limits for the finished surface of the utility cuts shall be extended to the proposed raised crosswalk.*

Response – The raised crosswalk has been removed in lieu of an RRFB, pavement sawcuts have been updated as necessary.

Comment *– Pavement repairs adjacent to the proposed curbing shall be under warranty for 2 years. Any settlement occurring during that period shall be repaired as per DPW recommendations at the time.*

Response – Noted, the pavement adjacent to the proposed curbing will be under a 2-year warranty from the Contractor.

Comment *– City staff recommend removing large turning template at Lambert Street for a conventional turning radius per Technical Manual standards.*

Response – Please refer to the attached memo from the project's traffic engineer that highlights the design vehicle accommodations for the project's intersections. Traffic turning movement data at Washington Ave and Lambert Streets were recorded between 7am-9am and then again between 3pm-6pm. Within the time periods there were 12 semis

making a turn from Washington onto Lambert Street which is one less than turn than the 13 semi-trucks that were observed making a right-hand turn from Washington Ave to Auburn Street. Based on this information, we believe that a truck apron is appropriate for the right-hand turn from Washington onto Lambert Street.

Comment *– A RRFB shall be installed at the Washington Street crossing as a condition of approval.*

Response – The revised plans are now proposing an RRFB at Washington Ave

Comment *– The applicant shall update the plans to label to provide spot grades and or slopes for the proposed sidewalks accessible ramps and driveways at grade breaks.*

Response – Please refer to the revised ROW plans which provide additional spot grades at driveways and accessible ramps. As the project moves closer to construction, further engineering details, spot grades, etc. will be added to the plans and forwarded to DPW for final review and approval prior to obtaining a building permit.

Comment *– Improvements in the ROW shall be dimensions on the plan view sheets. For example ROW, street, lanes sidewalk, esplanade driveways (and other improvements) widths when the widths change (sheet 13 ROW – 15 ROW).*

Response – Please refer to Sheets C-32 through C-35 which depicts dimensions of the street lanes, sidewalks, esplanades, and curb cuts.

Comment *– City Staff is not supportive of the proposed illuminated bollards. Recommend a pedestrian fixture mounted to RFFB required across Washington Ave. Extension between north and south development.*

Response – A pedestrian fixture is proposed to be mounted on the RRFB required across Washington Ave.

Comment *– Please revise waiver request to per the City of Portland Land Use Code Article 14.6.1 (Transportation standards) subsection B (Access and circulation) item 3, Curb and sidewalk point c and d for the Lambert Street and Auburn Street curbing and sidewalk. Applicant shall indicate new improvements at Auburn street to apply to property frontages.*

Response – The waiver request has been updated to reference LUC 14.6.1.B.3 with the new improvements at Auburn and Lambert Streets to apply to property frontages.

Comment *– An applicant may request a waiver from sidewalk installation requirements if they meet two or more applicable waiver criteria as listed below:*

- *There is no reasonable expectation for pedestrian usage coming from, going to, and traversing the site.*

- *There is no sidewalk in existence or expected within 1000 feet and the construction of sidewalks does not contribute to the development of pedestrian oriented infrastructure.*
- *A safe alternative walking route is reasonably available, for example, by way of a sidewalk on the other side of the street that is lightly traveled.*
- *The reconstruction of the street is specifically identified and approved in the first or second year of the current Capital Improvement Program (CIP) or has been funded through an earlier CIP or through other sources.*
- *The street has been constructed or reconstructed without sidewalks within the last 24 months.*
- *Strict adherence to the sidewalk requirement would result in the loss of significant site features related to landscaping or topography that are deemed to be of a greater public valve.*

Response – Please refer to previous responses on this matter as well as Document F. Waivers.

Comment *– An applicant may request a waiver from curb installation requirements if they meet two or more applicable waiver criteria as listed below:*

- *The cost to construct the curbing, including any applicable street opening fees, is in excess of 5% of the overall project cost.*
- *The reconstruction of the street is specifically identified and approved in the first or second year of the current CIP or has been funded through an earlier CIP or through other sources.*
- *The street has been rehabilitated without curbing in the last 60 months.*
- *Strict adherence to the curb requirement would result in the loss of significant site features related to landscaping or topography that are deemed to be of a greater public value.*
- *Runoff from the development site or within the street does not require curbing for stormwater management.*

Response – The project's frontage along Auburn Street is currently curbed. It is proposed to extend the existing granite curbing approximately 30 feet south from the existing catch basin located on the southeastern curbline of the Lambert/Auburn intersection to the end of the project's frontage. This will help formalize the existing gutter line which features a notable portion of tributary flow from Lambert Street. We believe the existing open drainage system would not benefit from curbing at the other two segments of frontage along Lambert Street as this would increase runoff to the neighboring 179 Lambert Street property. We believe the project parameters meets the last two waiver criteria listed above and it's in the public's best interest to avoid installing intermittent curbing on Lambert Street.

Comment *– If the project meets any of the waiver criteria the applicant shall submit a request with the applicable justifications for review.*

Response – A waiver has been requested on the curbing requirement for a portion of the Lambert Street frontage.

Comment *– The applicant will need to formally request a waiver to eliminate the requirement of installing a new sidewalk along the property's Auburn street frontage to the north of the Washington/Auburn intersection.*

Response – A waiver has been requested for this portion of the project's frontage.

Comment *– City Staff supports 8-foot wide multi-use path. Applicant to increase to 8-foot at Auburn street crossing to provide adequate passage and movement to roadway bicycle facility.*

Response – The multiuse pathway has been extended to the Auburn Street crossing to provide a full-width connection to the existing bike lane.

Comment *– The applicant should consider signage to discourage on-site drivers from driving down and parking along the proposed emergency access roads corridor.*

- *Remove R1-6 sign in road at Xwalk, replaced with RRFB sign as needed.*
- *Install raised crosswalk sign MUTCD.*
- *Install new STOP sign with supplemental all-way plate at Lambert.*
- *No sign #21 shown on legend.*
- *Confirm sign #19 Portland Trails sign is placed appropriately.*
- *No sign sharing for traffic control.*

Response –

- **The R1-6 sign in the center of the crosswalk has been removed.**
- **The raised crosswalk has been removed from the design in lieu of the RRFB.**
- **All-way plate has been added to the sign legend. All-way plate to be installed at Lambert with new STOP sign.**
- **The #21 callout has been changed to #17 on the sign legend.**
- **This is an existing sign that will be relocated 7' to the northwest outside of the multi-use pathways. A note has been added to the plans referring the contractor to coordinate with Portland Trails and DPW on the proper location for the Portland Trails Sign.**
- **The plans have been revised to separate multiple regulatory signs so they do not share posts. Please note there are still instances where there is post sharing, this only occurs where the signage message requires multiple signs (i.e. #W11-2 and W16-7P combination to signal motorists of a crosswalk).**

Comment *– City staff recommended removing on-street parking stall count from the plans as these counts do not contribute to off-street parking requirements per site plan review.*

Response – The on-street parking stall count has been removed from the plans.

Comment *– City staff not in support of centerline shift.*

Response – The centerline shift has been simplified to remove the S-Curve. We are still proposing a slight shift in the centerline to make the striping more linear and so that a 40' bus can make the right-hand turn from Auburn to Washington without mounting the ramp.

DPW Water Resources Comments:

Comment *– Updates to the inlet system at the end of the southerly ditch line are reflected on the plans and acceptable, however details for this work shall be included in the plan set.*

Response – Please refer to Sheet C-48 for detail of the stone trench/inlet system.

Comment *– DPW recommends the final design approval for the proposed rain gardens on the northerly side of Washington Avenue Extension be added as a condition of approval and be resolved prior to the issuance of a building permit.*

Response – The team is comfortable with the design approval for the rain gardens be included as a condition of approval. We recognize there is a significant amount of proposed work within the public ROW, and while the current plan set has been engineered to a sufficient level under Site Plan review, as the project moves towards Construction, we will be adding layers of engineering details that are not typically found on a Planning Board level set. These plans and additional layers of detail will be forwarded to DPW and Planning Department for final review and approval prior to obtaining a building permit.

Comment *– The current plan omits key details such as the length of the proposed energy dissipation pad for each Rain Garden.*

Response – Please refer to revised sheet C-32 which depicts the lengths of the riprap plunge pools. Also see sheet C-48 which depicts a side view of the plunge pool.

Comment *– Another cross section, cut longitudinally through the unit, should be submitted to provide further detail of each system's configuration. The energy dispaction pads shown on the current plans seems insufficient.*

Response – The detail on sheet C-48 currently has two separate cross sections, cut in directions perpendicular to each other. The soil filter cross section from the rain garden/bioretention cell detail has been updated include more detail such as the storm drain discharging into the system and the riprap plunge pool. If additional information is requested, it can be provided post-approval as we prepare the plans for construction-level detail.

Comment *– There is still concern that the concentrated pipe discharge will cause erosion of the filter bed. DPW will require the applicant to provide further information to ensure the rain gardens will be properly stabilized and won't experience erosion issues at the conclusion of the project as a result of the concentrated pipe flow discharge to them.*

Response – The rain gardens will be armored with a riprap plunge pool to act as both an energy dissipation measure as well as sediment forebay. The plunge pools will consist of 4" D50 riprap with at least a 2-course thickness at the thinnest portion of the plunge pool. A geotextile layer between the riprap and filter media is proposed to provide additional erosion protection and mitigate fine migration. Additionally, pipe slopes have generally been laid at minimum slopes to minimize flow velocities.

Comment *– DPW will require a 2 year warranty on the proposed rain garden vegetation to ensure proper establishment over multiple growing seasons. DPW will take over maintenance of these units once it's been determined that vegetation has been properly established and the system is functioning properly.*

Response – Noted, the team is aware of this.

Comment *After further review of the PSA agreement for the subject parcel, it appears the developer is required to grant the City of Portland easements for the wetlands and streams located on the subject parcel. The PSA indicates the developer will be allowed to infill a maximum of 10,000 sf wetlands. The developer will need to grant the City easement for the remaining wetlands and streams. These streams and wetlands are a critical component to the City's drainage system in this area. The applicant shall provide a sketch of the proposed easement areas for the City to review and approve. Once the concepts are approved the applicant shall provide easement language, figures and descriptions for each proposed easement. These easements shall also be added to the proposed subdivision plat.*
The applicant has acknowledged this requirement and indicates sketches will be forthcoming. It's recommended that a form of this comment be added as a condition of approval, should the project be approved by the planning board.

Response – Noted, the team is comfortable with this being a condition of approval.

Comment *– The applicant shall revise the plans to remove the 3 recessed catch basins located along the southerly curb line between stations 5+10 and 9+25 and replace them with catch basins meeting all City technical standards. The catch basins shall be installed in-line with the proposed curb line. The installation of these catch basins should resemble what is being proposed on the northerly side of the street.*

Response – The catch basins have been revised to be located on the proposed curbline. This design is complicated by the presence of an existing 12" water main within Washington Ave and Portland Water District's 1' horizontal separation requirement between the face of water main and face of structure. As such there are instances where the curb line is deflected to the south to provide the necessary horizontal clearance (see Sta 5+00 and 9+10). Depending on the field-located water main, recessed inlets may need

to be reconsidered in coordination with DPW. It is proposed to sawcut a segment of pavement and repave to ensure 1% minimum slope is maintained to the inlet. Where a catch basin is located along the on street parking curb line and is not buffered by an esplanade, we are proposing varying the curb reveal from a minimum reveal of 3" to a maximum of 7" to help promote positive drainage while allowing the multi-use pathway to slope down at a more gradual percentage. Refer to Sta 1+60 south and Sta 9+10 north and south for this instance. Please note that the previous design may need to be revisited pending the field-located existing water main in Washington that would require the recessed inlet design should the water main exist further south than currently shown.

Comment *– The plans shall be revised to eliminate concentrated stormwater discharges into the southerly Washington ditch-line by extending the subsurface storm drain system along the proposed southerly multi-use path from approximate station 4+25 to 1+50. The pipe should daylight and discharge directly into the head of the proposed rip-rap ponding area near the terminus of the southerly ditch-line. The proposed private stormwater discharge (SD S.12.1) should also be directed to this extended sub-surface drainage line. Based on the recent design revisions provided by the applicant, DPW is not comfortable with the proposed strategy of daylighting the concentrated flow from both sides of the development and street into the southerly ditch line.*

Response – Please refer to sheet C-32 which now shows the stormwater runoff from the development being piped to the riprap trench at the southern ditch terminus.

Comment *– The overflow connection from Rain Garden #2 should connect directly into the adjacent drain manhole located in the northerly multi-use path at approximate station 4+25.*

Response – Please refer to Sheet C-32 which depicts the rain garden outlet connecting to the adjacent drainage manhole.

Comment *– The beehive overflow catch basins at the terminus of the northerly and southerly ditch lines shall be 4' diameter precast basins with 3' sumps and meet all other City technical standards.*

Response – These structures will meet the mentioned specifications.

Comment *– A portion of the roadway drainage currently sheet flows to wetlands on-site. The applicant is proposing to capture roadway drainage and pipe it in the post-construction condition to the wetlands. Concentrated discharge to the wetland is not a viable option without implementing mitigation design measures as required by Section 4H and 4I of the Maine DEP Chapter 500 stormwater management law. We think that the redistribution of stormwater and discharge to wetlands standards apply in this case. The design of these discharge points shall be updated to reflect compliance with these standards.*

Response –

- **A level lip spreader is proposed on the south side of the road near Sta 9+10. This spreader is receiving a peak flow from the 10-year storm of 2 cfs. The spreader is**

10' long which results in a peak flow to length ratio of 0.2 cfs/ft and meets the standard set forth in Section 4H of Chapter 500 which requires a 0.25 cfs/ft ratio (or lower).

- **The northern catch basin Sta 9+10 has been slightly revised due to other City comments. This catch basin has been shifted west slightly which requires the outlet to be discharged to the southern catch basin instead of the adjacent wetlands which formerly was the case. Since this catch basin no longer discharges to the wetlands on the north parcel the redistribution standards no longer apply.**

Comment *– Basic design information including pipe size, slope and diameter for the proposed sewer lateral connection from building S.1 (Station +/- 5+25) shall be added to the plans. Notes shall also be added indicating how the proposed connection to sewer main will need to be made with a wye fitting and attached to the existing sewer main with solid PVC couplings per requirements listed in section #2 of the technical manual.*

Response – This information has been added to the plans. It is proposed to core into the existing drop manhole per Technical Manual Section 2 Detail II-14.

Comment *– The applicant shall add the technical manual #2 sewer lateral details II-16 and II-17. As a general note the applicant shall make sure all City of Portland Technical Manual Details are updated to reflect the recent updates approved by the planning board in November of 2022.*

Response – Technical manual #2 sewer lateral details II-17 is already present and up-to-date on sheet C-45. It does not appear necessary to include technical manual #2 sewer lateral detail II-16 on the detail sheets. We have cross referenced details with recently revised details and will continue to do so as the plans move towards construction-level.

Comment *– Notes shall be added to the plan to direct the contractor to plug and flow fill an existing 12" sewer service line if encountered during construction (approximate station 5+50).*

Response – This note has been added to Sheet C-32.

Comment *– Proposed Nyloplast basins depicted on sheet ROW-4 shall be replaced with precast concrete F-Basins.*

Response – F-Basins are proposed in lieu of the Nyloplast basins on Sheet C-35.

Comment *– Please see the attached sketch depicting the requested changes.*

Response – The plans have been updated in response to these comments.

Open Space & Trails

Comment *– Advocate for trails in passive wooden areas, applicant to clarify how open space requirement is being met.*

Response – Trails may be added to the project in the future in coordination with Portland Trails. The Open Space Exhibit has been included as Document Y. As shown, the project far exceeds the minimum open space required.

Comment *– It is essential to include a variety of on site recreational and/or trail amenities for this project. The geographic location is out of walking distance to existing playgrounds and trails.*

Response – The landscape architect has worked to include additional recreational opportunities as shown on the revised plans.

Comment *– In the spirit of the proposed project which should be attractive to young families, some type of play structure is clearly warranted. Most if not all other similar residential projects are within walking distance to public, structured playgrounds. This should be a condition of approval and supported by the developers as responsible ingredient for youngsters living in this new complex. It is our responsibility to anticipate these needs and ensure future residents have a degree on constructive play elements, we should agree kids need more than a walkway or yard between parking lots and housing units.*

Response – Thank you for the suggestion – a play structure has been added to the plans.

Comment *– Playground structures should be looked at as key elements and not burdensome cost extras. Two creative play elements one for each side should be constructed and condition of approval.*

Response – The Applicant feels that one play structure is sufficient to serve the development and anticipated usership. The project has been proposed as a communal Co-Op and at the City's request, is implanting a central crosswalk with a rapid flashing beacon to provide a safe and functional link between the two sides of Washington Ave Ext.

Zoning

Comment *– Where exactly has the separate bulk table been provided? To me it makes sense to have one table that includes the north and south side total calculation or revise the zoning analysis table to include the total proposed min lot area etc. The Overall site plan has the Net Land area calculation for the whole PRUD but the min lot area for just the North side of the PRUD, applicant to revise.*

Response – We believe the separate tables may have been unintentionally missed during Staff review as they were shown in two different location on Sheet C-09. Sheet C-09 depicted the north space and bulk table in the top left corner of the plan, and the south table in the top right corner of the plan (due to visual constraints and to avoid covering relevant information). To help clarify this, the north and south space and bulk tables have been consolidated to a singular table on Sheet C-09 and are located on the top left side of the plan. A standalone table for the northern space and bulk table is also on Sheet C-10, and the southern space and bulk is shown on Sheet C-11. The Net Land Area table remains as one standalone table as PRUDs are permitted to cross the public right-of-way per Section 18.2.4.B.4 of the Land Use Code.

Please let us know if you have any additional questions or comments.

Sincerely,

Samuel J. Lebel, P.E.
Project Manager
Acorn Engineering, Inc.

Nathan PP Holt, E.I.
Project Engineer
Acorn Engineering, Inc.

Attachments:
- Lambert Woods Design Vehicle Memo
- Correspondence with Metro and School District

Barton & Loguidice

Supplemental Traffic Assessment - Speed Study & Design Vehicle Accommodations

Date: January 31, 2023

To: **Sam Lebel, PE, Project Manager**
Acorn Engineering, Inc.

From: Jacob Sirois
Engineer 1
Barton & Loguidice, LLC.

John Q. Adams, P.E., PTOE
Associate, Senior Transportation Engineer
Barton & Loguidice, LLC.

Re: **Proposed Lambert Woods Development**
Washington Street Extension, Portland, Maine
B&L #2491.001.001

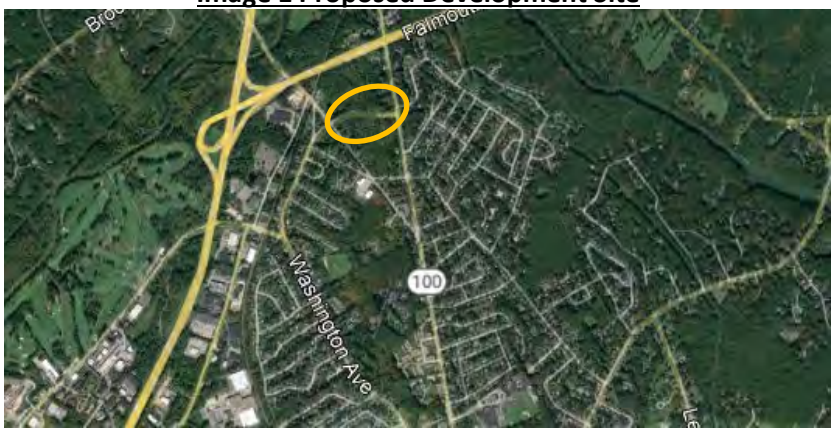
Introduction

This supplemental traffic assessment is in addition to the Traffic Impact Study submitted on 9/27/22. The focus of this supplemental traffic analysis is the speed study on Auburn Street and its potential impacts on the traffic signal warrant analysis previously completed, and secondly a review of large truck traffic movements on Washington Avenue Extension and its impacts to intersection design.

In the Traffic Impact Study prepared for the proposed Lambert Woods Development, signed and dated on September 27th of 2022, a traffic signal warrant was performed using MUTCD's condition "C" "which is to be used when "*the major street speed exceeds 40 mph or in an isolated community with a population of less than 10,000"*. Our traffic warrant analysis indicated that the warrant volumes are met under existing conditions when using Condition "C"

The speed study evaluated the speeds on Auburn Street and confirmed the use of MUTCD's condition "C" for the traffic signal warrant analysis. The Design Vehicle Accommodations section of this report will evaluate and review the need for truck aprons on Washington Avenue Extension at Lambert Street and Auburn Street.

Image 1 Proposed Development Site



Speed Study

Auburn Street in the vicinity of Washington Avenue Extension is posted at 35mph. Our field observations indicated that the 85th percentile speed exceeded 40mph, therefore warranting the use of condition "C". To confirm our observations, James Tasse from the Bicycle Coalition of Maine performed a speed study on September 27th, 2022 between 3:50 PM and 4:40 PM. The vehicle speed measurements were collected at a point on Auburn Street approximately 200-feet south of the intersection at Auburn Street and Washington Avenue Extension. Vehicles speeds were measured on both the northbound and southbound travel lanes and are attached in the appendix for reference.

Table 1 summarizes the collected speed data.

Table 1 – Auburn Street Speed Summary

	Auburn Street	
	Northbound	**Southbound**
Speed Limit	35	35
Average	39	40
85th Percentile	42	43

As shown in the preceding table, Auburn Street northbound has an average speed of 39mph and a 42mph 85th percentile speed. The measured speeds in the southbound travel lane are slightly higher with an average speed of 40mph and an 85th percentile speed of 43mph, showing that the use of condition C in the traffic signal warrant analysis at the intersection of Washington Avenue Extension and Auburn Street is warranted.

Design Vehicle Accommodations

The roadway improvements presented for the Lambert Woods development feature concrete truck aprons on each right-turn radius at Washington Avenue Extension, allowing semi-trucks to make right-turns in and out of each intersection approach. During the meeting held with City officials, on November 9, 2022, Tom Errico requested that the need for semi-truck accommodations be reviewed at the right-turn from Washington Avenue Extension onto Auburn Street, the right-turn from Washington Avenue Extension onto Lambert Street, and the right-turn from Lambert Street onto Washington Avenue Extension.

The turning movement data, attached at the end of this report, differentiates vehicle class between passenger car, truck, semi and bus. In this analysis, we will be reviewing the semi turning movements and evaluating the need for concrete truck aprons on each of the turning movements noted above.

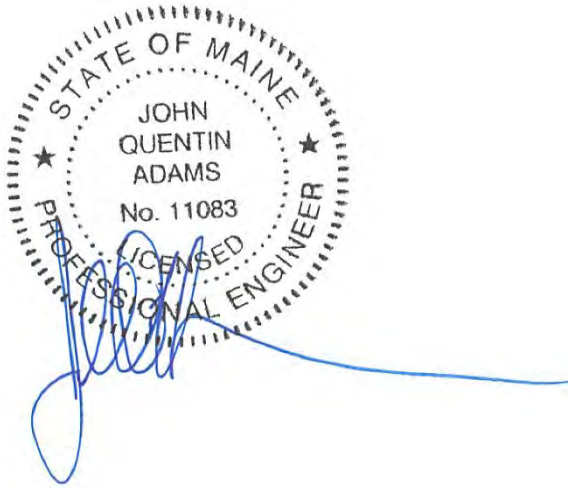
The traffic turning movement data at Washington Avenue Extension and Lambert Street was recorded between the hours of 7:00 AM and 9:00 AM, and again, between 3:00 PM and 6:00 PM. At Washington Avenue Extension and Auburn Street, the turning movement data was collected between the hours of 6:00 AM and 6:00 PM. Table 2, presented on the following page, summarizes the data.

Table 2 – Semi Right-Turn Movement Summary

Semi Right-Turn Movements		
From	**To**	**Right-Turns**
Washington Ave Ext	Lambert Street	12
Lambert Street	Washington Ave Ext	0
Washington Ave Ext	Auburn Street	13

Within the recorded time periods, **12** semis were recorded making a right turn from Washington Avenue Extension onto Lambert Street, **13** semis performed a right-turn from Washington Avenue Extension onto Auburn Street, and **0** semis made a right turn from Auburn Street onto Washington Avenue Extension.

Based on the collected and reviewed data, we recommend that concrete truck aprons be installed on Washington Avenue Extension for the right-turn movements out of this roadway onto Lambert Street and Auburn Street.



John Q. Adams, PE, PTOE, Date: 11/16/2022

From:	Mike Tremblay
To:	Nate Holt
Cc:	Sam Lebel
Subject:	Re: 165 Lambert St Co-Op - Bus Turning Radii
Date:	Tuesday, January 24, 2023 12:19:00 PM

Nate,

This looks great. Thanks for checking.

--

Mike Tremblay, P.E. *(he, him, his)*

Director of Transit Development

Greater Portland Metro

114 Valley Street | Portland, ME 04102

Office: 207.517.3023 | Mobile: 508.451.0208

e-mail: mtremblay@gpmetro.org | website: www.gpmetro.org

On Tue, Jan 24, 2023 at 11:13 AM Nate Holt <nholt@acorn-engineering.com> wrote:

> Hi Mike just wanted to follow up on this and see if you had any questions, thanks!
>
> **Nate Holt, EI, CFM**
>
> C. 207.778.1840
>
> ---
>
> **From:** Nate Holt
> **Sent:** Wednesday, January 18, 2023 11:52 AM
> **To:** mtremblay@gpmetro.org

Cc: Sam Lebel <slebel@acorn-engineering.com>
Subject: 165 Lambert St Co-Op - Bus Turning Radii

Hi Mike,

I'm working on the 165 Lambert St Co-Op project in North Deering, I know you are already aware of the project but as a brief reminder we are proposing multiple right-of-way improvements associated with this affordable housing project that includes providing truck aprons at the Lambert/Washington and Auburn/Washington intersections as a traffic calming measure. DPW wanted us to confirm that the bus size and specifications we used to size the truck aprons align with Metro's bus dimensions. I'm attaching the most recent turning template prepared that has the size and specifications of the design vehicle (see pages 2 and 3). As a side note we are designing the aprons so that the Metro bus **does not need** to mount the apron to make the turn

Nathan Holt, EI, CFM

Project Engineer

Licensed in Maine

Acorn Engineering, Inc.

P.O. Box 3372, Portland, Maine 04104

B: 207.775.2655 | C: 207.778.1840

Acorn's Website | Instagram | LinkedIn

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From:	Kevin Whittemore
To:	Robyn K. Wells
Cc:	Nate Holt; Terrence Young; Scott St Ours; Joel Thoits; Sam Lebel
Subject:	Re: 165 Lambert St Co-Op Project
Date:	Tuesday, January 24, 2023 12:12:46 PM

Hi Nate, Our largest buses have a wheel base of 273 inches and overall length under 40 feet.

On Tue, Jan 24, 2023, 11:30 AM Robyn K. Wells <wellsr@portlandschools.org> wrote:

> Hi again Nate,
> I am cc-ing Terry and Kevin on here who may have a better idea of what this may involve.
>
> Terry & Kevin- feel free to reach out to Nate with any questions or concerns on this project.
>
> On Tue, Jan 24, 2023 at 11:14 AM Nate Holt <nholt@acorn-engineering.com> wrote:
>
> > Good afternoon, just wanted to follow up on this and see if there were any questions. Happy to set up a time for a quick call or zoom if that would be helpful!
> >
> > **Nate Holt, EI, CFM**
> >
> > C. 207.778.1840
> >
> > ---
> >
> > **From:** Nate Holt
> > **Sent:** Wednesday, January 18, 2023 12:18 PM
> > **To:** thoitj@portlandschools.org; wellsr@portlandschools.org
> > **Cc:** Sam Lebel <slebel@acorn-engineering.com>
> > **Subject:** 165 Lambert St Co-Op Project
> >
> > Good afternoon,
> >
> > Myself and Sam Lebel (cc'd) are the civil engineers on the 165 Lambert St Co-Op project located in the North Deering neighborhood. The project is proposing 162 affordable housing units on two sites that are bisected by Washington Ave. As part of the project we are proposing a number of right-of-way improvements that include providing truck aprons at the Washington/Lambert, and Washington/Auburn intersections as a traffic calming measure. The truck aprons have been sized taking a 40' bus turning radius into consideration so that the aprons **are not mounted** by bus traffic making a turn at the intersections. I've attached the most recent turning templates that shows the turning

movements at the intersection as well as the bus specifications that were used for the templates (see pages 2 and 3). As part of the project's site plan review, DPW has requested we confirm the bus sizes used to size the aprons are representative of the larger busses in your fleet, if you could weigh in on this that would be greatly appreciated.

Let me know if you have any questions, thanks!

Nathan Holt, EI, CFM

Project Engineer

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Acorn Engineering, Inc.

P.O. Box 3372, Portland, Maine 04104

B: 207.775.2655 | C: 207.778.1840

Acorn's Website | Instagram | LinkedIn

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--
Robyn K. Wells
Transportation Logistics Manager
Portland Public Schools
207-874-8240

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H. Technical Capacity

Please find attached descriptions and examples of technical capacity for the Maine Cooperative Development Partners, Aceto Landscape Architects, and Acorn Engineering.

Maine Cooperative Development Partners

MAINE COOPERATIVE DEVELOPMENT PARTNERS build neighborhoods where the elements that constitute quality of life—access to green space, healthy lifestyles, community, privacy, and affordability—are not at odds with each other. Grounding principles for this work are creating equitable communities; complementing walkable neighborhoods; building healthy buildings; and celebrating beauty, art, and the natural environment. We use Limited Equity Cooperatives as a form of ownership to create options for people of all ages, backgrounds, and incomes to live in harmony with nature and their neighbors.

WE ENVISION small towns, urban neighborhoods, and suburban neighborhood centers that are walkable to daily needs and adjacent to recreational facilities, trails, and transit corridors; homes that use energy efficient construction, and shared gardens, patios, and play spaces for people to get to know and enjoy their neighbors.

WE GIVE BACK by partnering with organizations that support trails and green space, transit, local businesses, social equity, and efforts to mainstream energy efficient building and land use.

PRINCIPALS

MATTHEW PETERS has been involved in the completion of over 20 new construction, major rehab, and acquisition deals. Matt worked for eight years at Avesta Housing, one of Northern New England's largest non-profit housing developers and owners, project managing affordable housing developments, building out and overseeing the Asset Management department, and ending in an executive role overseeing the entire development and acquisitions pipeline as Vice President of Real Estate Services. In 2018 he began to consult for Housing Authorities, housing non-profits, and Community Development Finance Institutions in Maine supporting these organizations in acquisition, ground-up development, and underwriting of affordable housing properties. Matt also is the Executive Director of Freeport Housing Trust based in Freeport, Maine. He has strong working relationships with MaineHousing, Rural Development, lenders, tax credit syndicators, and other professionals in the design and construction field, holds a Masters in Urban Planning from the University of Washington, and certifications such as Spectrum's C3P and Rural Development STAR trainings and LEED Accredited Professional.

BRIAN ENG is a real estate investor who has worked on commercial projects in Florida, Connecticut, New Jersey, and Maine. He has worked as a principal on developments of over 200 units, is a principal on redeveloping the MERC site in Biddeford, and has redeveloped several smaller properties in Portland. He brings strong expertise in financials, fundraising, advocacy, and public speaking. He grew up in a co-op in New York City, and is on the board of UHAB, the entity that manages 20,000 units of cooperative housing in New York.

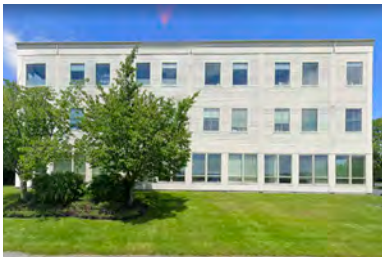
LIZ TRICE is a policy professional who builds multidisciplinary partnerships across real estate, economic development, entrepreneurship, and public health. Liz holds a masters degree in Public Policy & Management with a certificate in Community Planning & Development from the Muskie School at the University of Southern Maine. She has worked on multi-unit projects in Portland to obtain zone changes, lead the public engagement process with neighboring residents and businesses, apply for TIFs and grants, and direct the design of shared spaces. Her work includes award-winning research on the regulatory barriers to people living alone achieving home ownership, leading the process to redesign Bramhall Square, and working with medical and economic development institutions to develop strategic plans. Her projects to re-envision urban spaces for livability and natural ecosystems won two of three awards given by the 2019 Portland Society of Architecture's Complete City Competition. Liz trained as a cohousing developer and Passive House Design Consultant and has visited over 20 cohousing developments in the United States. She is currently the owner of PelotonLabs, a coworking space in Portland.

PROJECTS

M NORTH ORLANDO—As a principal of Clay Cove Capital, Brian was the control capital partner in the ground-up development of M North in Orlando, a $37.1M, 288-unit multifamily development in Orlando, Florida. www.mnorthorlando.com

BIDDEFORD MERC REDEVELOPMENT Brian worked with Jim Brady of Fathom Companies, to serve as master developer of city-owned land on the former Maine Energy Recovery Corp. incinerator through a public-private partnership with the City of Biddeford.

6 CITY CENTER IN PORTLAND—Brian redeveloped and retenanted a largely vacant Old Port mixed use building including executive office suites. www.sixcitycenter.com, and bringing in a law firm condo, law firm tenant, Lio Restaurant, and HE Paintbar nail salon.

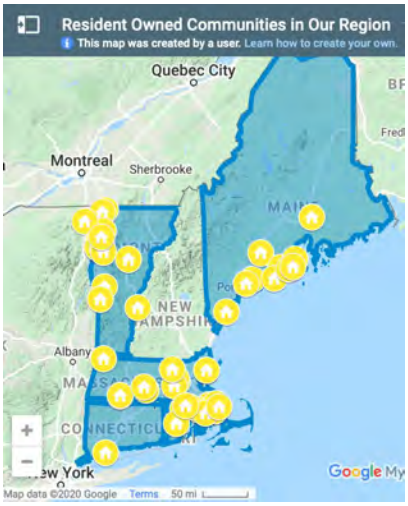


1685 CONGRESS IN PORTLAND—Brian redeveloped a 50% vacant office/medical building and retenanted it including Maine Plastic Surgery Center and Maxim Healthcare. www.maineplasticsurgery.com

645 CONGRESS STREET—This former downtown college dormitory was converted to 55 one-bedroom and studio apartments with retail on the first floor. Liz worked for developers Shinberg and Alfond on the initial concept, conducted a market analysis, developed relationships and communication with neighbors and businesses, creating a bike storage and parking plan, created a community management plan, and assisted with lease-up.

The Cooperative Development Institute (CDI) is a regional 501(c)3 non-profit founded in 1994 by co-op leaders in the Northeast. CDI's mission is to build a cooperative economy through the creation and development of successful cooperative enterprises. We are transforming ownership of our economy, so all people can meet their basic needs. CDI has 30 staff across the Northeast including six staff members in Southern Maine.

New England Resident Owned Community Projects (NEROC)



One of our primary activities is creating cooperative housing in Maine and the Northeast. When a park is for sale we help residents form a cooperative, get financing to buy the park, and learn how to run it with democratic resident control. This program gives residents control of the land beneath their homes and protects the affordability of their housing.

The Resident Owned Community (ROC) model began in NH with the NH Community Loan Fund and became a national model with the formation of ROC USA in 2008. The program has helped people in over 50 parks – comprising more than 4,800 homes — convert to resident ownership. Those communities are part of the ROC USA Network, which has helped secure over 15,000 units of affordable housing nation-wide. CDI provides ongoing support as trainers and advisers for the ROCs and other cooperatives in the region. We assist in governance, management, financial oversight, communications, conflict resolution, compliance, and securing financing.

Charter Oaks Village Cooperative

With the support and technical assistance of the Cooperative Development Institute (CDI), the residents of Charter Oaks Village acquired the land on the 40 unit Arundel manufactured housing park on June 11, 2019 for $1,170,000, helping to preserve the affordable housing community within it.

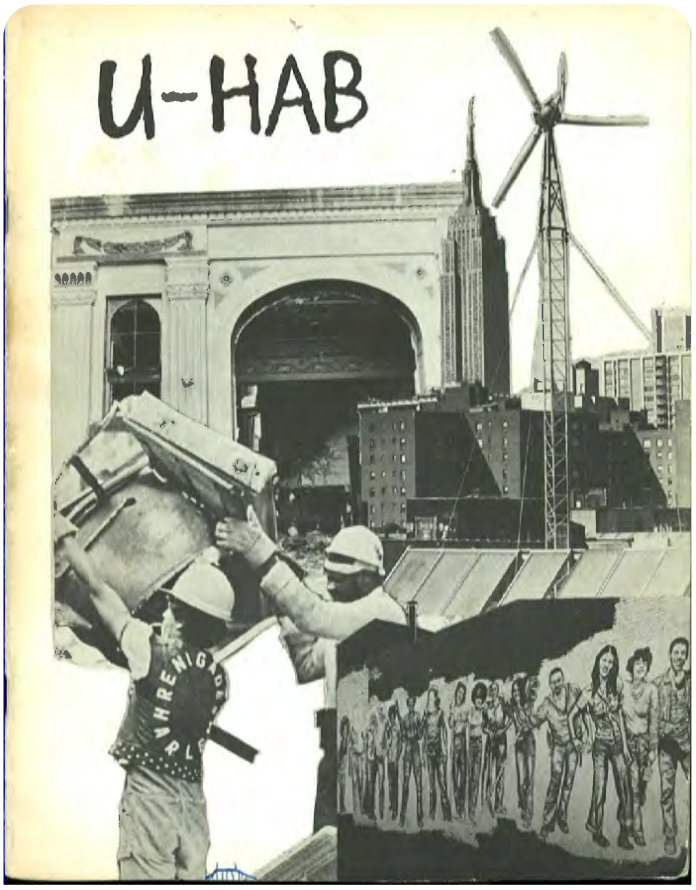
Charter Oaks Village joins nine other Maine manufactured housing communities supported by CDI and financed by Genesis Community Loan Fund, representing 440 homes now under resident control. The newly formed housing cooperative was a recipient of a GrowSmart Maine's honorary 2019 Smart Growth Award.

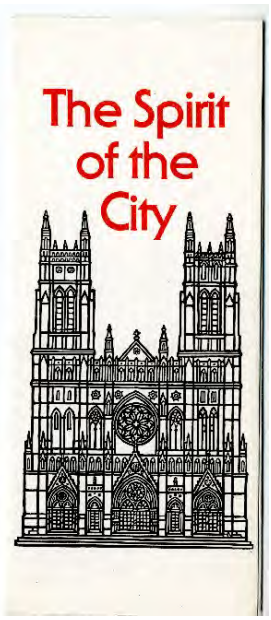
Mountainside Community Cooperative

CDI's newest Maine Cooperative is the 52-unit Mountainside Community Cooperative in Camden, Maine. Securing affordable housing in a community like Camden is increasingly challenging as housing costs escalate and its population ages. The residents of Mountainside Community purchased the community on December 11, 2019 for $1,900,000 with financing provided by Camden National Bank, Genesis Community Loan Fund and the Local Enterprise Assistance Fund. "We are so pleased to be able to help the residents of the Mountainside Community Cooperative become property owners today," said Bill Floyd, Executive Director of the Genesis Fund.

Wardtown Mobile Home Cooperative

The residents of the 60-unit Wardtown Mobile Home Cooperative voted to form the cooperative and purchase the community in May 2015, with assistance from CDI, and combined financing from Maine State Housing and The Genesis Community Loan Fund. As with all of the CDI's Resident Owned Communities (ROCs), Wardtown members continue to engage in extensive training and organizational development. As Bill Hodgkins, Cooperative Treasurer explains, "We all gained valuable new skill sets as we went through the process of establishing and financing our cooperative...Now we have a very strong board of directors and feel very organized, to the point we are able to assist other ROC mobile home parks with advice about the process."





2019 UHAB ANNUAL REPORT

Building for Us

This year, UHAB made a considerable effort to build an archive. In doing so, the lesson we learned from decades of growth is very simple: what has always mattered most for affordable housing is community. It is the strength and support that comes from the community inside a co-op that is just as essential as the affordable housing itself.

With this in mind, UHAB is proud to offer new and expanded programs to low-income homeowners with a refined lens on our work. We have more data and research than ever on the long-term impacts of redlining policies and how communities of color have been resilient in their efforts to remain in their homes, whether in the 1970s or today. By building new affordable co-ops, strengthening tenants' rights statewide, making share loans through our HomeOwnership Lending program, and working in cooperation with our Interboro Community Land Trust partners to create the first Citywide CLT in New York City, we are actively working to dismantle the detrimental legacies of redlining and community disinvestment.

As we look toward the future, our work is expanding in several ways. We are offering more services like Co-ops Go Solar and our energy programs that are tackling the most pressing issue of our lifetime: the climate crisis. Without renewable energy and carbon reduction, low-income residents more than anyone will be affected. Most importantly, we need to recognize that it is not just low-income communities, but people of color in particular who are disproportionately affected by this crisis, just as they have been marginalized from fair and stable housing. UHAB's CDFI, HomeOwnership Lending, helps ensure that a family is not denied the opportunity to purchase because they don't have the money to be an all cash buyer. This program makes small loans where other lenders are reluctant and in this way supporting our HDFC and Mitchell Lama co-op communities in continuing to provide affordable housing.

The interest in co-ops and our work is expanding not just in New York City, but in upstate New York where residents can securely remain in their mobile homes; to New Haven, CT where the nearly 50-year old Seabury Co-op struggles to keep up with its aging infrastructure; and to Seattle, WA where a new permanently affordable co-op is being created. UHAB is excited to be assisting a new City financed co-op development program in Oakland, CA and we continue to meet with organizations and officials in other cities who are seriously considering the limited-equity model.

We have come a long way and welcome our next chapter of growth.

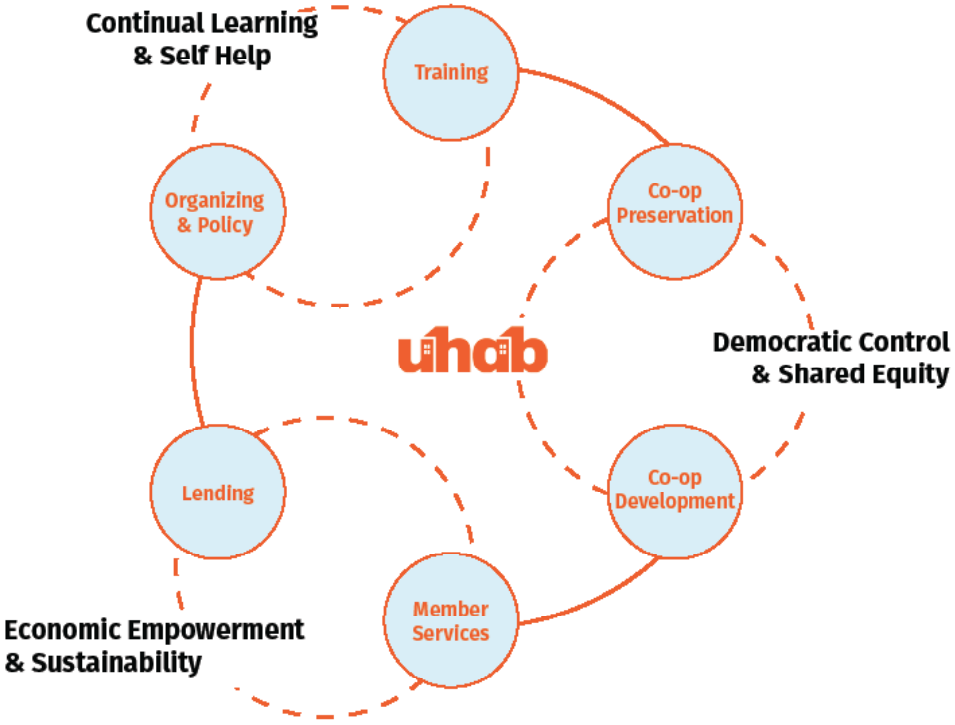
Sincerely,

Andrew Reicher, Executive Director

Community through Cooperation

UHAB empowers low- to moderate-income residents to take control of their housing and enhance communities by creating strong tenant associations and lasting affordable co-ops.

Our Principles



I. Continual Learning & Self Help

When residents take the lead on everything from creating, managing, and preserving their own co-ops to advocating for affordable housing policy reform, this not only improves buildings and neighborhoods, but it transforms lives as well. Ongoing education and training is the key to preserving affordable housing cooperatives and strong tenant associations.

II. Democratic Residential Control & Shared Equity

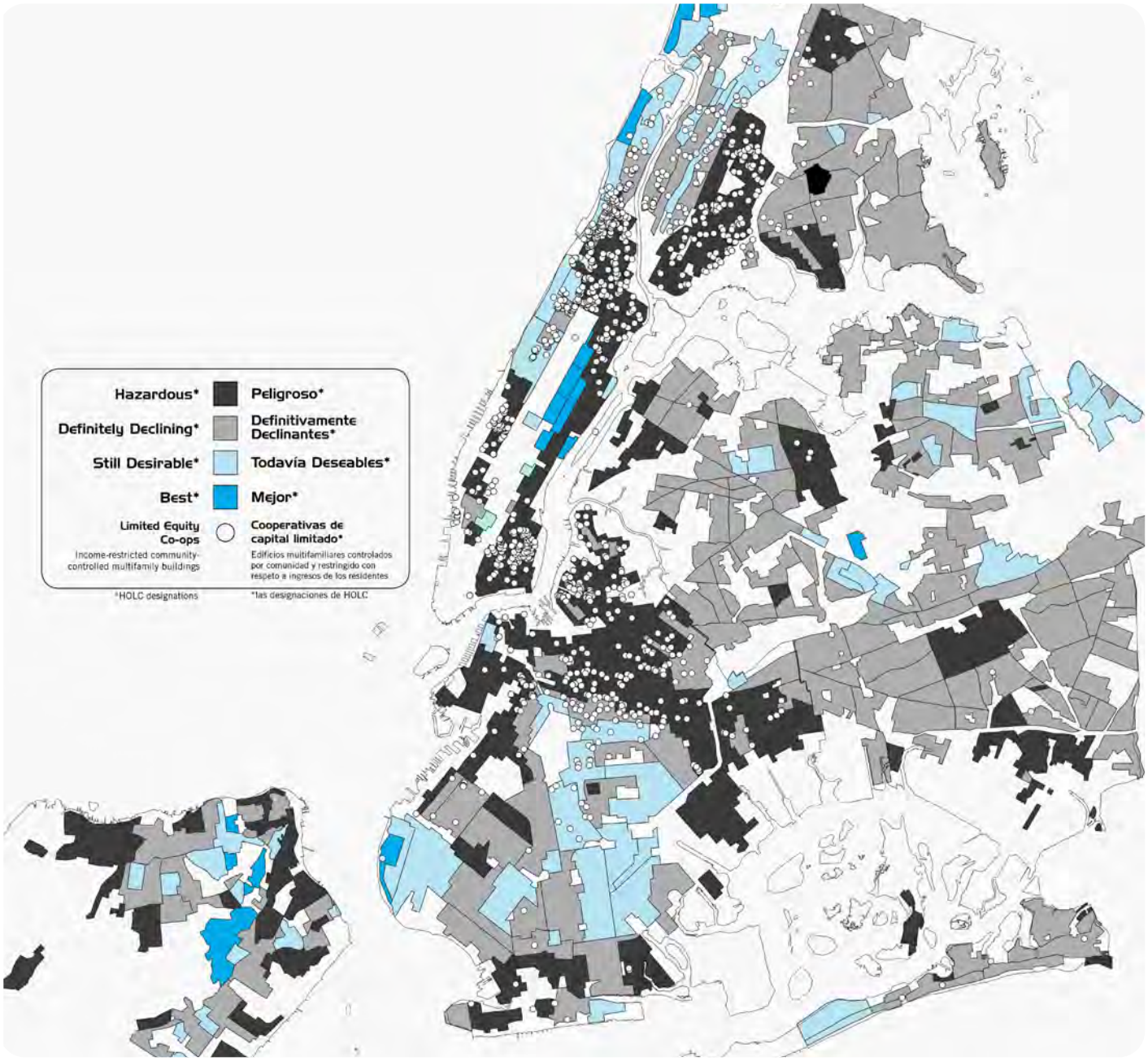
Transparent leadership and the participation of a majority of residents—each contributing unique skills and perspectives—make democratic governing and organizing possible. This collective control of housing helps prioritize a shared equity that keeps affordabiilty manageable for future incoming residents.

III. Economic Empowerment & Sustainability

UHAB provides access to affordable, high-quality resources covering areas of energy, finance, democratic participation and education. These tools help residents maintain lower costs of living while helping to demystify financial technicalities. With support and guidance, all residents should be able to read and manage their finances, in order to make informed decisions about their operating costs.

Housing Justice is Racial Justice

This map overlays the location of modern-day HDFC co-ops with redlined neighborhoods from the 1930s. Redlining was a discriminatory housing practice that devalued neighborhoods where people of color lived and made it difficult for people of color to secure safe, affordable housing. In this map, the deepest shade of grey represents the least economically desirable neighborhoods. In the 1970s and 1980s, landlord abandonment and arson led to City foreclosure on thousands of occupied buildings in these same neighborhoods, creating the conditions for the self-help housing movement and the creation of thousands of HDFCs.



Through organizing and self-help initiatives, community-controlled housing arose as a way for low-income people and people of color to take control of their housing solutions when the government and private sector would not. Today, neighborhoods like Harlem, the South Bronx, and Central Brooklyn still struggle with the legacy of redlining; high air pollution, increased heat waves, higher poverty rates, and gentrification all threaten to displace longtime residents from neighborhoods that were once widely abandoned.

Through it all, community control remains a tool to provide New Yorkers with decent, affordable housing. HDFC co-ops are anchors in their neighborhoods, providing a safe haven to raise families and age in place. Tenant unions build power among renters and win victories like stronger rent laws.

Through our work, UHAB helps people of color control, manage, and improve their homes. We know from experience that most of the low- to moderate- income residents in the buildings we serve are Black or Latinx. Our goal is to have as many people from the communities we serve reflected in our organization's leadership and programs.

Currently, around 60% of our Board and program staff are people of color, and more than half of our organization is bilingual in English and Spanish, fulfilling an essential need for our Spanish-speaking HDFC board members and residents. We provide our technical assistance, homeownership advisement, energy advisement, bookkeeping services, quarterly newsletter, and entire training curriculum in both English and Spanish.

UHAB BY THE NUMBERS: 2019

125 fair elections monitored in practice of democratic community control

3,500,000 tenants protected under stronger rent laws

9 HDFCs adopted solar, bringing the total number to **28**

5 affordable homeowner-ship loans totaling **$242,011**

115 budgets planned to preserve HDFCs' financial stability & affordability

203 trainings for affordable co-op residents

$9,197,000 secured in loans to help HDFCs make capital improvements

Our Co-op Preservation team helped **15 co-ops** secure necessary loans to avoid City foreclosure last year.

This represents over **350 families** that were able to retain their equity and control of their homes through technical assistance and guidance from UHAB staff.

To date, UHAB is the foremost developer of limited-equity housing co-ops in NYC. we have developed **over 1,300 units** of affordable housing with the support of a variety of City and State programs.

FIRM BIO

ACETO LANDSCAPE ARCHITECTS

ALA is a process-driven, landscape architecture and urban design firm ommi ed to thoughtful, c eati e intervention t the intersection of e vironment, economics, art, and culture. ALA was founded on the notion that great design is a product of careful listening, inclusive decision-making, and unrelenting passion for enduring built spaces. We believe landscape architecture lies at the nexus of the built form and the ephemeral qualities of an ever-changing environment. ALA's team o ers a unique set of skills and perspecti e, well-equipped to harmonize and reconcile the roles and value systems of varied design disciplines. We integrate expertise and intuition o craft p werful places, built upon a commitment to resiliency and sustainability. Our studio's passion for craft and echnical savvy a ords us the opportunity to collaborate across a broad geographic range and myriad project scales from intim te private spaces to large-tract master plans.

ALA was founded in 2014 by Principal, Nick Aceto. ALA has 5 employees, all of which are landscape architects, licensed in the states of Maine, Massachusetts, N w York and Colorado.

PROJECT TEAM KEY PERSONNEL

NICK ACETO, PLA, ASLA

ACETO LANDSCAPE ARCHITECTS
FOUNDING PARTNER, LANDSCAPE ARCHITECT | NA@ACETOLA.COM

Nick is a licensed landscape architect and urban designer with a deep passion for the creati e process. Nick believes in landscape as a framework for organizing the pa erns and behaviors through which we live. From the private garden to the region, Nick has the ability to recognize and translate pa erns into visual narrati es which tell the unique story of a place through built form. Nick grew up in Portland, Maine where he developed an deep appreciation or the rich and varied New England landscape, from rocky shorelines of the Atlantic o the forested peaks of the Appalachians. As both a consummate urbanist and adventure-seeking outdoorsman, Nick is intrigued by the interplay between urban form, economics, wild nature, and ecology.

CAITLIN ACETO, PLA, ASLA

ACETO LANDSCAPE ARCHITECTS
FOUNDING PARTNER, LANDSCAPE ARCHITECT | CA@ACETOLA.COM

Caitlin is a licensed landscape architect in the states of Maine, New Hampshire, and Colorado, who's passion for art and design began in the Chicagoland area where she was exposed to the architectural works of Frank Lloyd Wright and Olmsted's historic planned community of Riverside. Caitlin's project experience ranges in scale from circulation and ayfinding design t Grand Canyon National ark, to security barrier conceptualization or the Thomas Je erson Memorial, to signage programming and design. Caitlin brings a distilled clarity o design that strives to embody the contextual heritage, textural richness and cultural integrity of place.

SETH KIMBALL, PLA, ASLA

ACETO LANDSCAPE ARCHITECTS
PRINCIPAL, LANDSCAPE ARCHITECT | SK@ACETOLA.COM

Seth has been practicing Lands ape Architecture for over 15 years. He has a Bachelor's degree in Landscape Architecture from the University of Massachusetts Amhe st. Seth's project experience includes serving as project manager/lead designer for a master plan for the new Al Guhair University in Dubai, the Al Ain Oasis Cultural Quarter Master Plan in Abu Dhabi, institutional xperience including Phillips Andover Academy, Bates College, George Stevens Academy, and Southern New Hampshire University, and a range of residential p oject including homes in Texas, Idaho, Montana, New York, Arizona, and several throughout the northeast. Seth joined ALA in 2018, bringing to the practice his experience in civic, institutional, and esidential p ojects. further ALA's commitment to achieve sustainable and resilient project outcomes.

LIST OF SELECT CURRENT & ONGOING OR COMPLETED ALA PROJECTS

ALA has been fortunate to have made meaningful contributions o a vast array of projects across a wide gamut of scales over the last 5-6 years. Below is an abbreviated list of select project examples intended to provide a sense of our professional skill set, experience, and range as a design studio. We would be happy to provide more information about a y of the below projects upon request.

RESIDENTIAL

DBX 11 RESIDENCE	ASPEN, CO
WHITE HORSE SPRINGS RESIDENCE	ASPEN, CO
TELLURIDE AGUIRRE ROAD RESIDENCE	TELLURIDE, CO
PRIVATE RESIDENCE	SOUTH FREEPORT, ME
SHADOW MOUNTAIN CONDOMINIUMS	ASPEN, CO
SMYTH RESIDENCE	SNOWMASS, CO

COMMERCIAL/CAMPUS

100 FORE STREET OFFICE BUILDING	PORTLAND, ME
66 STATE STREET	PORTLAND, ME
LAAM 525 LIVE-WORK	BASALT, CO
HOTEL ASPEN	ASPEN, CO
MEMORIAL PLAZA	QUANTICO, VA
CUMBERLAND CLUB SITE PLAN	PORTLAND, ME
RIVERSIDE LIVE-WORK	PORTLAND, ME
WILLITS BEND LIVE-WORK	BASALT, CO
RED HAWK ELEMENTARY SCHOOL	ERIE, CO
CSU UNDERPASS STUDY	FORT COLLINS, CO
ANDERSON RANCH ARTS CAMPUS	SNOWMASS VILLAGE, CO

HOUSING & DEVELOPMENT

SCARBOROUGH DOWNS MASTER PLAN	SCARBOROUGH, ME
THE TREE FARM	BASALT CO
66 STATE STREET	PORTLAND, ME
BLOCK 11 MASTER PLAN	BRECKENRIDGE, CO
BROKEN COMPASS BREWERY	BRECKENRIDGE, CO
RIVERBEND COMMERCIAL CENTER	TIMNATH, CO
CUMBERLAND MULTI-GEN	CUMBERLAND, ME

PUBLIC

COMMERCIAL STREET TRANS. STUDY	PORTLAND, ME
LIBBYTOWN PLAYSCAPE	PORTLAND, ME
PORTLAND DOWNTOWN SQUARE	PORTLAND, ME
BASALT POST SIGNAGE	BASALT, CO
TOWN WAYFINDING SIGNAGE	BASALT, CO
BAYSIDE ADAPTS MASTER PLAN	PORTLAND, ME
ARBANEY PARK MASTER PLAN	BASALT, CO
BASALT OUR TOWN	BASALT, CO
TIMNATH COMMUNITY PARK	TIMNATH, CO
PACTS SMART CORRIDOR STUDY	PORTLAND, ME
LIBBYTOWN VISIONING	PORTLAND, ME
BERTHOUD PARKS & OPEN SPACE PLAN	BERTHOUD, CO

REFERENCES

CAITLIN CAMERON
CITY OF PORTLAND, URBAN DESIGNER
207-874-8901
CCAMERON@PORTLANDMAINE.GOV

"In my capacity as Urban Designer for the City of Portland, I interacted with Aceto Landscape Architects (ALA) on the 100 Fore Street project where they demonstrated thoughtful and c eati e design strategies for a challenging urban site. Speaking from my experience working with a diversity of landscape and urban design professionals in Southern Maine, I found ALA to have an innovati e approach that demonstrates a value for and understanding of the role of public space and urban landscape for the livability and resiliency of cities and owns." - Caitlin Cameron

BRUCE HYMAN
CITY OF PORTLAND. TRANSPORTATION PROGRAM MANAGER
207-874-8717
BHYMAN@PORTLANDMAINE.GOV

"Aceto Landscape Architecture's compelling graphics as part of the Portland-South Portland Smart Corridor Plan e ort in 2017 enabled the public to readily visualize the benefits and t ade-o s of various transportation al ernati es being considered and highlighted the opportunities those al ernati es could also have for placemaking, a key goal of the Plan."- Bruce Hyman

RICH CIECIUCH
PROJECT WORKSHOP
970-729-0126
RICH@PROJECT-WORKSHOP.COM

"ALA is a key design collaborator in our design build approach, helping to navigate complex approval issues, particip ting seamlessly in the i erati e design process that succeeds best when site attribu e identi ation and organization melds with building design oncepts. They are excellent listeners and always come back with creati e and unexpected solutions. Community and Neighbor impacts of a y development must be carefully contemplated and negoti ted to a successful outcome, and ALA has all the skills and experience to shape and illustrate how new projects relate to the existing abric of community and neighborhoods." - Rich Cieciuch

DAN BACON
DEVELOPMENT DIRECTOR MR.HOLDINGS
207.232.5154
DBACON@MR.HOLDINGS

JAY CHACE
PLANNING DIRECTOR, TOWN OF SCARBOROUGH
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CITY OF PORTLAND SUSTAINABILITY COORDINATOR
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207.756.8362

THE DOWNS | 510-ACRE MASTER PLAN & TOWN CENTER

SCARBOROUGH ME

ALA has worked collaborati ely with Gorrill Palmer Consulting Enginee s along with a large team of consultants and stakeholders in developing a master plan for this 500+ acre former harness racing facility. The project was recently granted a TIF agreement based in large part on the attribu es ALA visualized in their plans for the proposed Town Center which included a 4 acre community park with music venue, playground, and sport courts.

KEY STAFF	Nick Aceto, Seth Kimball
SERVICES	Master Planning, Urban Design, Landscape Architecture, Visualizatio
STATUS	Planned
REFERENCE	Jay Chace, Planning Director, Town of Scarborough | Jchace@Scarboroughmaine.org

GRIST MILL NEIGHBORHOOD

SCARBOROUGH ME

ALA worked with closely with an experienced Southern Maine builder to develop a neighborhood plan which begins to challenge conventional subdivision de elopment rules with a compact pa ern and highly walkable streetscape organized around a central woodland preserve which serves as a neighborhood playscape.

KEY STAFF	Nick Aceto, Seth Kimball
SERVICES	Master Planning, Urban Design, Landscape Architecture, Visualizatio
STATUS	Completed Fall 2019
REFERENCE	Jay Chace, Planning Director, Town of Scarborough | Jchace@Scarboroughmaine.org

FRONTRUNNER PARK

SCARBOROUGH ME

This third phase of The Downs master plan includes over 200 homes across a broad range of a ordability inclu-diing compact, lane-loaded single family and pocket homes as well as more than 75 apartment units and ground floor office space. The plan is ganized around a series of small parks and a highly-walkable street grid.

KEY STAFF	Nick Aceto, Seth Kimball
SERVICES	Master Planning, Urban Design, Landscape Architecture, Visualizatio
STATUS	Permi ed, Expected Construction all 2020
REFERENCE	Jay Chace, Planning Director, Town of Scarborough | Jchace@Scarboroughmaine.org

LAAM 525

BASALT CO

Aceto Landscape Architects worked closely with architect, owner and contractor on this urban infill d velopment, providing creati e streetscape and urban plaza design interventions. The p oject included 8 a ordable residential units, 5,000 SF of ommerical / light industrial space, parking, and integration with the owns transit system.

KEY STAFF	Caitlin Aceto, Nick Aceto
SERVICES	Landscape Architecture, Urban Design
STATUS	Under Way Summer 2020
REFERENCE	Glenn Rappaport| grappa@blackshack.net

FREEPORT LIVE-WORK

FREEPORT ME

Freeport Live-Work is a community master plan envisioned as a series of mixed-density neighborhoods including more compact, single-family pocket homes as well as mixed-use townhomes and commercial-office buildings

KEY STAFF	Nick Aceto, Caitlin Aceto
SERVICES	Landscape Architecture, Urban Design, Planning
STATUS	Planned
REFERENCE	Undisclosed

BASALT ON-CALL PLANNING

BASALT CO

ALA was tasked with the study of two parcels within the Town of Basalt Growth Management Area for feasibility of alternati e 'a ainable' housing development options. ALA xplored options or pocket neighborhoods, compact lot scenarios, and consolidation of i frastructure as a means to o set development cost and in turn reduce home pricing.

KEY STAFF	Lisa Cowan, Caitlin Aceto
SERVICES	Landscape Architecture, Visualizatio
STATUS	Planning Document Complete 2016
REFERENCE	Undisclosed | Undisclosed

ACORN ENGINEERING, INC.

COMPANY PROFILE

Acorn Engineering, Inc. is a Portland-based civil and environmental engineering firm of nine full-time employees and four construction inspectors. Acorn's team has a diverse portfolio providing Maine with quality engineering and environmental services as well as state-wide construction administration on behalf of the Maine Department of Transportation.

A cornerstone of Acorn Engineering is the attention to quality and exceptional level of service on every project, regardless of size. Our engineers and scientists pride themselves on their extensive experience, which is backed by a broad knowledge of civil and environmental engineering practices from smaller residential projects to larger commercial projects that integrate environmental assessment and site redevelopment.

Acorn Engineering has demonstrated the ability to breakdown and synthesize widely disseminated regulations into accepted engineering practices and practical site assessment and development. As a result of Acorn's efforts, the Cumberland County Soil & Water Conservation District recently recognized Acorn as the Contractor of the Year. This was the first award associated with the nationally recognized Long Creek Restoration Project and the first time the Cumberland County Soil & Water Conservation District ever recognized an engineering firm as their Contractor of the Year.

Acorn's expertise covers the areas of: civil/site design, evaluation, development, and permitting; and construction phase services such as construction administration, construction documents, project bidding, and site inspection including erosion and sedimentation control. Acorn's experience also includes the field of environmental engineering and compliance such as: Phase I and Phase II environmental site assessments, soil and groundwater remediation planning and design; Maine's Voluntary Response Action Program (VRAP); and stormwater treatment system design and permitting.

Acorn's engineers have designed, permitted, and overseen construction on numerous single-family and multifamily residential projects including traditional subdivision designs featuring on-site sewage/septic disposal and drilled wells. Furthermore, Acorn has demonstrated extensive experience and capabilities with municipalities, the Maine Department of Transportation (MDOT), Maine Department of Environmental Protection (MDEP), soil & water conservation districts, conservation commissions, municipalities, and the private sector on environmental and site development projects as demonstrated by the following:

- Listed on Maine DEP's Pre-Qualified Vendor List for Environmental Consulting Services
- Listed on Maine DOT's Pre-Qualified Consultants for eight service areas (listed under Section I.D)
- Cumberland County Soil & Water Conservation District Contractor of the Year for work on the Long Creek Restoration Project

- **Public Works Redevelopment – Meeting House Hill**

Over the past two years, Acorn Engineering has worked in close association with the City of South Portland, neighbors, and private clients on the re-development of the former Public Works facility. The 6-acre site is nestled in the middle of the Meeting House Hill residential neighbor-hood and is currently a mix of storage buildings, fuel fill stations, miscellaneous stockpiles, and pavement. The site will be redeveloped into a mix of multifamily townhomes and single-family dwellings comprising 38 units along with a public park and community gardens.

In addition to the environmental remediation, Voluntary Response Action Program (VRAP), and other environmental considerations given the previous land use, the project is subject to a Maine DEP stormwater management law. The redevelopment design results in a reduction in impervious area of over 50% and reduces land use intensity across the site. Though not required, several stormwater BMP's have been implemented into the site as a best practice, further attenuating and treating stormwater runoff. In addition to the significant redevelopment plan, Acorn has designed an infrastructure plan to separate the storm and sewer mains. This will include installing 400 feet of new storm drain along the existing O'Neil Street right-of-way and 700 feet of new storm drain along the proposed O'Neil Street right-of-way extension. Overall, this effort will reduce the effects of combined sewer overflows (CSO) into Casco Bay which occur due to wet-weather events and the wastewater treatment plant's inability to provide capacity for both storm and sanitary sewer flows.

As part of this project, Acorn held a multitude of meetings with the City including the assistant City manager, the former Mayor, the entire planning division, and the chief engineer of Public Works. Furthermore, Acorn has collaborated with department heads of the Fire, Parks, Public Works, and Water Resource departments to ensure a feasible and ideal project for all parties. As a result, the process was truly a collaborative effort with a number of stakeholders weighing in on the design.

- **Munjoy Heights**

Acorn provided civil/site engineering and permitting for the design of Munjoy Heights – a six townhome, 29-unit development on the steep slopes of Munjoy Hill in the City of Portland. Acorn designed and developed construction drawings for the sanitary sewers, storm drains, water mains, driveways and pedestrian circulation, retaining wall locations, building locations, and drainage infrastructure to be built in compliance with City standards.

A key component to the project was coordinating with the City on the future combined sewer separation project and the site's overall stormwater management. Additionally, discussions with neighbors and stakeholders were paramount in the project's success.

The innovative urban infill project compliments the Munjoy Hill neighborhood with a communal design and plentiful native landscaping that replaced invasive species which previously dominated the eroding banks prior to the development. The $22 million project features a courtyard, terraced landscaping, a Portland Trails-maintained path that connects the redevelopment to the existing trail system, and low impact development (LID) techniques that meet MDEP Chapter 500 regulations. The stormwater management includes an underdrained sand filter and chambers that detain and treat stormwater on site in tandem with strategically placed rain gardens.

The project required extensive coordination and collaboration between the client, City of Portland, Portland Trails, the structural engineer, the architect, and the contractor to successfully complete the project with the first "woonerf" in the state and maintaining the existing public walking path through the property.

- **200 Valley St**

Working with Avesta Housing, Acorn Engineering provided civil engineering and permitting for Avesta's 60-unit project in the St. John Valley neighborhood. This urban infill project replaces the existing single-family house and abutting vacant lots into new affordable housing opportunities with two levels of covered parking, amenities, and a rebuilt project frontage with new sidewalks, street trees, and bicycle hitches.

As part of the project, Acorn developed a transportation and parking analysis to ensure that the provided parking will adequately serve the redevelopment. Furthermore, the design team identified and implemented multiple strategies to encourage residents to efficiently utilize the many modes of transportation available on the Portland peninsula.

- **Little Dolphin Drive & Jocelyn Place**

In collaboration with the South Portland Housing Authority and Risbara Holdings, Acorn provided civil engineering design and permitting of a multi-use subdivision at the end of Little Dolphin Drive in Scarborough. Proposed uses include a two-story office building and a three-story 60-unit senior housing facility with associated parking and landscaped areas.

In addition to a voluntary neighborhood meeting, the project went through a 3-step master plan phase with the Town of Scarborough in which the project was collaborated on with Planning Staff, the Planning Board, and neighbors.

The project is subject to Maine DEP and US Army Corps permits. To adequately treat stormwater on the site, Acorn has designed multiple stormwater BMPs meeting Maine DEP Chapter 500 regulations resulting in a low impact design.

- **89 Anderson Street**

In collaboration with Redfern properties and the East Bayside neighborhood, Acorn developed the civil/site engineering design of a mixed use 53-unit redevelopment of an existing under-utilized, urban infill lot in the East Bayside neighborhood. Acorn's scope of services included in the initial phase applying for and obtaining a zone change and conducting Phase I and Phase II Environmental Site Assessments to evaluate potential environmental contamination at the site.

After conducting the environmental remediation efforts, Acorn developed the site layout and design of sanitary sewers, storm drains, water mains, site driveway, retaining wall locations, building locations, parking lot design, building drainage structures, utility connections and landscaping plan (with a landscape architecture subconsultant) to meet the City of Portland Technical Standards. Acorn also integrated sidewalk and improvements associated with the project into the City's Anderson Street ByWay project. Furthermore, the project team worked with a non-profit organization, the Telling Room, to provide public art along the Fox Street streetcape in lieu of traditional fencing.

Overall, the project established an important mixed use building on a prominent corner lot adjacent to Kennedy Park which contains popular recreation space. The building houses a restaurant and the Gear Hub bicycle school on the first floor with residential apartments above which encourages an active street presence with housing, goods, and services that help tie the neighborhood together and keep eyes on the street.

- **667 Congress Street – The Hiawatha**

The $28 million project included the civil/site engineering design for the 8-story, first floor retail and 139-unit apartment building on Congress Street in Portland. Vehicle parking is served by two levels with separate access from Vernon and Avon St. The project featured building and site design in an historic district adjacent to Longfellow Square.

Services included, but is not limited to, permitting with the City of Portland, layout and design of sanitary sewers, storm drains, water mains, pedestrian and vehicle entrances, building locations, parking lot design, and parking garage grading and drainage. Acorn provided significant coordination between the Architect, Structural Engineer, Geotechnical Engineer, Construction Management Company, Owner, and the City.

GENERAL NOTES:

1. MEASURES TO REMOVE BUCKTHORN SHRUBS, AN INVASIVE SPCIES, ARE TO BE IMPLEMENTED TO MITIGATE MORE SPREAD. THE BUCKTHORN SHRUB IS TROUBLESOME TO REMOVE AND CAN TAKE UP TO TWO YEARS TO KILL IF HERBICIDES ARE NOT USED. UPROOTING MEASURES CAN BE IMPLEMENTED AND HAVE BEEN SHOWN TO KILL THE PLANT WHERE TREES ARE BELOW AN INCH IN DIAMETER, HOWEVER IT HAS NOT SHOWN TO BE EFFECTIVE ON LARGER SHRUBS.
2. GIVEN THE PROJECT LOCATION IN RELATION TO WETLANDS AND WATERBODIES, THE USE OF HERBICIDES IS NOT RECOMMENDED. THE FOLLOWING PROVIDES THE STEPS FOR REMOVAL OF THE BUCKTHORN SHRUB WITHOUT THE USE OF HERBICIDES. THE REMOVAL PROCESS BEGINS BY CUTTING THE SHRUB DOWN TO A STUMP LESS THAN 6 INCHES OFF THE GROUND, AND THEN COVER THE STUMP WITH AN OPAQUE MATERIAL (BUCKTHORN BAGGIE, BLACK PLASTIC BAG, TIN CAN, ETC.). THIS METHOD COULD TAKE UP TO A YEAR OR TWO TO KILL THE PLANT AND PREVENT IT FROM GROWING.
3. PROPER DISPOSAL OF THE PLANT REMINISCENCES IS CRITICAL SO THE SPECIES CAN SPREAD IF COMPOSTED. IN THE EVENT HERBICIDES ARE TO BE USED THE CONTRACTOR SHALL CONSULT WITH THE MAINE BOARD OF PESTICIDE CONTROL AND THE MAINE NATURAL AREAS PROGRAM PRIOR.
4. REFER TO LA PLANS FOR ADDITIONAL INVASIVE SPECIES MANAGEMENT GUIDANCE.

Att. HH

100' STREAM SETBACK REQUIRED BY CITY OF PORTLAND

75' STREAM SETBACK REQUIRED BY DEP

TREE SAVE, TYP.

APPROX. EDGE OF DISTURBANCE

HATCH DENOTES DISTURBANCE WITHIN 100' SETBACK

DOUBLE ROW OF SEDIMENT PERIMETER CONTROL BMPS WHEN ADJACENT TO NATURAL RESOURCE.

SEEDING

RESTORATION MIX: NEW ENGLAND CONSERVATION/WILDLIFE MIX MFR: NEW ENGLAND WETLAND PLANTS TOTAL AREA: 17,857 SF APPLICATION RATE 25 LBS/ACRE / 1750 SQ FT/LB (SEEDING RATE MAY VARY DEPENDING ON TIME OF YEAR, SEE SPEC. SHEET FOR INSTRUCTIONS)

10 0 10 20

SCALE: 1"=10'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: **STREAM SETBACK EXHIBIT**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP** PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS PORTLAND, MAINE

ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3257 PORTLAND, MAINE 04101
(207) 775-2655

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FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
SAMUEL J. LEBEL
15564
LICENSED PROFESSIONAL ENGINEER
1/31/23

DRAWING NO.
C-10

GENERAL NOTES:

1. MEASURES TO REMOVE BUCKTHORN SHRUBS, AN INVASIVE SPCIES, ARE TO BE IMPLEMENTED TO MITIGATE MORE SPREAD. THE BUCKTHORN SHRUB IS TROUBLESOME TO REMOVE AND CAN TAKE UP TO TWO YEARS TO KILL IF HERBICIDES ARE NOT USED. UPROOTING MEASURES CAN BE IMPLEMENTED AND HAVE BEEN SHOWN TO KILL THE PLANT WHERE TREES ARE BELOW AN INCH IN DIAMETER, HOWEVER IT HAS NOT SHOWN TO BE EFFECTIVE ON LARGER SHRUBS.
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4. REFER TO LA PLANS FOR ADDITIONAL INVASIVE SPECIES MANAGEMENT GUIDANCE.

100' STREAM SETBACK PER CITY OF PORTLAND

75' STREAM SETBACK LINE REQUIRED BY DEP

TREE SAVE, TYP.

WETLAND SETBACK LINE

HATCH DENOTES DISTURBANCE WITHIN 100' SETBACK

DOUBLE ROW OF SEDIMENT PERIMETER CONTROL BMPS WHEN ADJACENT TO NATURAL RESOURCE.

APPROX. EDGE OF DISTURBANCE, TYP.

SEEDING

RESTORATION MIX:
NEW ENGLAND CONSERVATION/WILDLIFE MIX
MFR: NEW ENGLAND WETLAND PLANTS
TOTAL AREA: 17,857 SF
APPLICATION RATE 25 LBS/ACRE / 1750 SQ FT/LB
(SEEDING RATE MAY VARY DEPENDING ON TIME OF YEAR, SEE SPEC. SHEET FOR INSTRUCTIONS)

STREAM

10 0 10 20
SCALE: 1"=10'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/17/22
COMMENT RESPONSE	SJL 9/28/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: **STREAM SETBACK EXHIBIT**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.
ENGINEERING, INC.
ACORN ENGINEERING, INC
PO BOX 3372, PORTLAND, MAINE 04101
(207) 775-2655

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FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
SAMUEL J. LEBEL
15504
LICENSED PROFESSIONAL ENGINEER
1/31/23

DRAWING NO.
C-11

I. Conformity with Land Use Ordinance

The following outline is made in accordance with the City of Portland Code of Ordinances, Chapter 14 Land Use, Article V Section 14.6.1-4

OVERVIEW

The proposed mixed-use residential buildings have been designed to conform to City standards where possible, as well as improve upon existing non-conformities. This project conforms with the majority of the applicable standards of Portland's Land Use Ordinance Section 14-526 as demonstrated in the following narrative.

14.6.1 Transportation Standards

A. Impact on Surrounding Street Systems:

a. The project will not create any significant hazard to safety on the surrounding street network. The site is located along Washington Avenue Extension. It is classified as a Major Urban Collector according to the City of Portland Federal Street Classification map.

b. A moderate traffic increase is expected for this project due to the change in use of the property. Intersection improvements are proposed at the Auburn and Lambert intersections to help mitigate any impacts from increased trip generation.

B. Access and Circulation:

1) In general

a. The development will provide safe access and internal circulation for both pedestrians, vehicles and emergency vehicles as seen on the Site Plan.

b. Continuous internal walkways will be provided and will connect to the proposed transit stops along Washington Avenue.

c. The proposed parking areas can be accessed from Washington Avenue. Points of access have been located to avoid conflicts with turning movements and traffic flows on the site.

d. The site does not feature drive up services as mentioned in this requirement.

2) Loading and Servicing:

A designated space has been signed along the northern and southern portion of Washington Ave near the proposed bus stops. It is proposed that delivery vehicles use this space for delivery purposes in lieu of

circulating through the site. Ample space has been provided both for short-term unloading and bus loading/unloading to exist in one location.

3) Curbs and Sidewalks:

   a. Bituminous pavement sidewalks are proposed throughout the site, as seen on the Site Plan, and will connect to the proposed bus-stops on Washington Avenue. Curb and sidewalks will be provided along the property frontage and continuing to the Portland Trails connection on Garsoe Drive.

   b. There are no existing sidewalks along Washington Avenue. Utility connections within the road will be required and will be rebuilt in conformance with City standards.

   c. Not applicable

   d. We will be requesting a waiver from curb installation requirements as it is proposed to install slipform concrete curb in lieu of granite.

C. Public Transit Access:

1) As part of the development, two bus stop/shelters are proposed along the properties Washington Avenue frontage.

2) The bus stop/shelters will be connected to the internal sidewalks within the site.

3) Not applicable.

D. Parking:

1) Vehicular Parking

   a. The proposed project will provide 122 parking spaces which is anticipated to meet the requirements of the proposed uses within the new buildings.

   b. Although not specifically required within this zone or land use, Transportation Demand Management (TDM) strategies will be implemented as identified in Section U.

   c. Not applicable.

   d. The parking space and aisle dimensions are in conformance with the Technical Standards with the exception of a waiver request to reduce the drive aisle width from 24' to 22' given the residential use and low turnover rate. Please refer to the Site Plan for more information.

2) Location and Required Number of Bicycle Parking Spaces:

   a. A minimum of 66 bicycle spaces are proposed for the 165 residential units. Please refer to the Landscape Plan for more information.

   b. Not applicable

3) Snow Storage:

   a. Snow storage area is provided throughout the site. The Owner will be responsible for managing snow at their discretion and/or coordinating snow removal from the site when necessary.

   b. Snow storage areas will not encroach on parking, walkways, or stormwater management systems.

4) Electric Vehicle (EV) charging

   a. The development will adhere to applicable EV standards, as it will provide 20% of parking spaces with charging.

E. Transportation Demand Management (TDM):

1) A Transportation Demand Management (TDM) plan will be provided as part of the site plan application.

2) The plan will comply with the transportation systems and street design standards of the technical manual.

14.6.2 Environmental Quality Standards

A. Preservation of Significant Natural Features:

1. The site is completely wooded and undeveloped. Wetlands traverse the site and are considered a significant natural feature due to the life they have the potential to house. There are no known endangered species or plants existing on the site.

2. The contiguity of the wetlands will be preserved to the greatest extent feasible.

3. Not applicable

B. Landscape Preservation:

1) There are many existing trees on site, a portion of the existing trees will need to be removed to accommodate the building. Given the compact development scheme, a significant portion of the existing trees and vegetation will be preserved. This effort will be further acted upon by hiring a forester to help select tree saves in tandem with the proposed

2) Measures will be taken in accordance with Section 4 of the Technical Manual.

3) It's anticipated a minimum of 30% of existing trees ten inches DBH or greater within the setback area will be preserved as a result of the efficient development scheme.

4) A waiver is not requested.

5) Not applicable.

C. Site Landscaping and Buffers

1) The development will include a minimum of one shade tree or six plantings per 30 linear feet of all frontages as measured along the property line. Where applicable it is proposed to utilize the existing vegetation to remain in order to satisfy this requirement.

2) Buffers

a. The solid waste locations will be located adjacent to the parking lots on the east sides of the development on both sides of the street. The proposed solid waste containers are anticipated to be screened by a decorative fencing, screening, and landscape plantings.

b. Not applicable

c. The existing buffers are to remain or be replanted along all residential abutters.

3) Parking Landscaping

a. The proposed development will include one (1) tree and three (3) shrubs for every five (5) parking spaces within landscaped islands to screen shade and break up parking.

b. Uninterrupted parking spaces do not exceed forty (40) parking spaces.

a. Not applicable.

4) Street Trees

a. Street trees along the property frontage will be provided per the standards of the technical manual.

b. Not applicable.

D. Water Quality, Stormwater Management and Erosion Control:

a. The site drainage will not be directed to flow or pond onto adjacent lots. The runoff created from the site will be collected, attenuated, and released at a rate that does not exceed the existing condition.

b. Provisions are in place to ensure stormwater from the development will not exceed the pre-development flows.

c. Not applicable

ii. A site-specific Stormwater Management Plan has been developed for the project to show compliance with Section 5 of the Technical Manual, including the basic standards of MEDEP Chapter 500. Please refer to sections J and K, the Erosion & Sedimentation Control and Stormwater Management Plans, respectively, for more information.

iii. The development is not anticipated to pose a contamination risk to groundwater during or after construction. The project will be serviced by a public wastewater system.

The development will provide for adequate and sanitary disposal of sewage in accordance with Section 2 of the Technical Manual.

14.6.3 Public Infrastructure and Community Safety Standards

1. Consistency with City Master Plans:

a. The project has been designed to be consistent with the City's Zoning Ordinance and off-site infrastructure.

b. Not applicable.

2. Public Safety and Fire Prevention:

    a. The site has been designed to allow for long viewing aisles and minimal spaces obscured from view. An open space area has been provided at the center of both site's to reinforce a sense of community. Lighting will be provided to create a safe environment at nightime.

    b . Emergency access has been provided. Fire trucks and ambulance will be able to access all of the site and buildings, the grass paver access aisle has been included in the site design to promote efficient emergency access circulation.

3 . Public Utilities
    a . Ability to Serve letters have been sent to the respective companies. Responses are forthcoming.
    b . The electrical service will be wired underground via a new pad-mounted transformer as shown on the Utility Plan.
    c . The new sewer and stormwater infrastructure will meet the provisions of the Technical Manual.
    d . The project will be served by connection to the public sewer system within Washington Avenue. The stormwater management system is designed to meet the standards of Chapter 500.
    e . A space allocated for solid waste storage can be seen on the Site Plan (C-09, C-10, and C-11). The solid waste containers will be fully enclosed and screened from the public view.

16.4.4 Site Design Standards

A. **Massing, Ventilation and Wind Impact**:

    a. Please refer to Section O, Architectural Design Narrative.

B. Shadows:

    a. Not applicable.

C. Snow and Ice Loading:

    a. The structure will not distribute snow and ice onto adjacent properties.

D. View Corridors:

Please refer to Section O. Architectural Design Narrative.

E. Historic Resources:

    a. The development is not located in a historic district, historic landscape district or City designated landmark.

b. The development is not located adjacent to designated landmarks, historic district, or historic landscape district.

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

F. Exterior Lighting:

a. Exterior lighting will be designed to meet the requirements of Section 12 of the Technical Manual.

b. Any lighting that may adversely impact the abutting residential properties will feature house-side shielding.

c. Architectural and Specialty Lighting.

d. No architectural or specialty lighting is proposed.

e. No up-lighting is proposed.

f. No new street-lights are proposed.

G. Noise and Vibration:

a. The HVAC system will meet the applicable state and federal emissions requirements and will also be screened and directed away from abutters.

H. Signage and Wayfinding:

a. All street and wayfinding signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.

b. The project is not located in a historic district or subject to Article IX.

c. Signage will only be related to vehicular access.

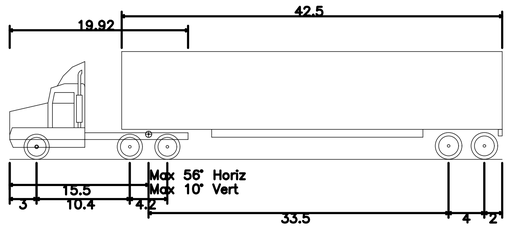
d. All street and wayfinding signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.

I. Design Standards.

a. The project has been designed to meet the standards set forth in the R-3 zone. Please refer to the Site Plan for more information on the Space & Bulk Standards.

Att. II

WB–50 RIGHT HAND TURN TEMPLATES



WB–50 – Intermediate Semi–Trailer	
Overall Length	55.000ft
Overall Width	8.500ft
Overall Body Height	12.052ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock–to–lock time	6.00s
Max Steering Angle (Virtual)	17.90°

40 0 20 40

SCALE: 1"=20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SITE/SUB	SJL	6/21/22
COMMENT RESPONSE	SJL	8/12/22
COMMENT RESPONSE II	SJL	9/28/22
COMMENT RESPONSE III	SJL	12/23/22
	SJL	1/31/23

DRAWING NAME: **EXISTING LAMBERT STREET WB–50 TURN TEMPALTE**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO–OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.
ENGINEERING, INC.
ACORN ENGINEERING, INC.
PO BOX 3177 PORTLAND, MAINE 04101
(207) 775–2655

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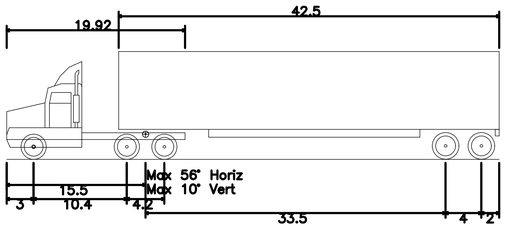
FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

DRAWING NO.

TT8

WB–50 RIGHT HAND TURN TEMPLATES



WB–50 – Intermediate Semi–Trailer	
Overall Length	55.000ft
Overall Width	8.500ft
Overall Body Height	12.052ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock–to–lock time	6.00s
Max Steering Angle (Virtual)	17.90°

40 0 20 40

SCALE: 1"=20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SITE/SUB	SJL	6/30/22
COMMENT RESPONSE	SJL	8/18/22
COMMENT RESPONSE II	SJL	9/28/22
COMMENT RESPONSE III	SJL	12/23/22
	SJL	1/31/23

DRAWING NAME: **PROPOSED LAMBERT STREET WB–50 TURN TEMPALTE**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO–OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

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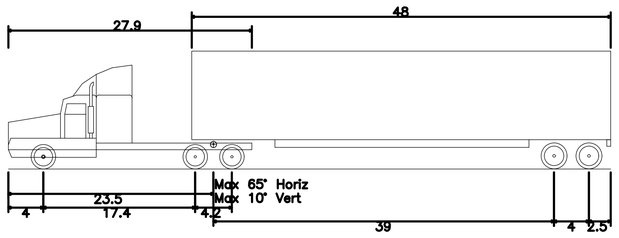
ACORN ENGINEERING, INC.
PO BOX 3377 PORTLAND, MAINE 04101
(207) 775–2655

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

DRAWING NO.

TT9

WB–62 RIGHT HAND TURN TEMPLATES



WB–62 – Interstate Semi–Trailer	
Overall Length	69.000ft
Overall Width	8.500ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock–to–lock time	6.00s
Max Steering Angle (Virtual)	28.40°

SCALE: 1"=20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SITE/SUB	SJL	6/30/22
COMMENT RESPONSE	SJL	9/28/22
COMMENT RESPONSE II	SJL	12/23/22
COMMENT RESPONSE III	SJL	1/31/23

DRAWING NAME: **EXISTING LAMBERT STREET WB–62 TURN TEMPALTE**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO–OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

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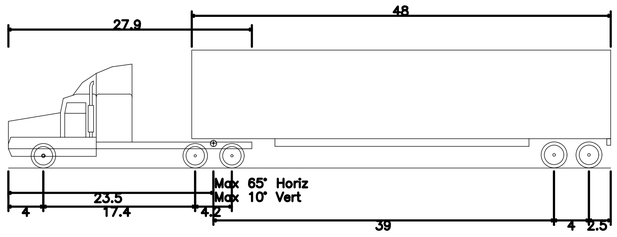
DRAWN BY:	NPH
CHECKED BY:	WHS

DRAWING NO.

TT6

WB–62 RIGHT HAND TURN TEMPLATES



WB–62 – Interstate Semi–Trailer	
Overall Length	69.000ft
Overall Width	8.500ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock–to–lock time	6.00s
Max Steering Angle (Virtual)	28.40°

40 0 20 40

SCALE: 1"=20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/30/22
COMMENT RESPONSE	SJL 9/28/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: **PROPOSED LAMBERT STREET WB–62 TURN TEMPALTE**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO–OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

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TT7

A C O R N
ENGINEERING, INC.

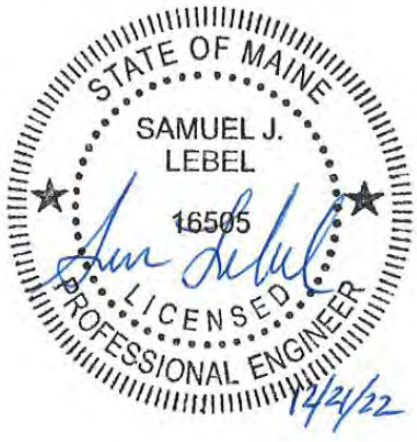
STORMWATER MANAGEMENT REPORT

Prepared For:

Maine Cooperative Development Partners
Portland, Maine 04103

Prepared By:

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104



June 2022

Rev. September 2022
Rev. December 2022

INTRODUCTION

Acorn Engineering, Inc. has been retained by The Maine Cooperative Development Partners to provide civil engineering services for the proposed development at 165 Lambert Street and 622 Auburn Street. The property consists of approximately 17.95 acres of land and contains the following parcels (Chart, Book, Lot, 385-A-1, 386-C-1, 386-B-12, and 386-B-15).

A stormwater analysis was prepared to demonstrate that the project will meet the requirements set forth by Maine DEP Chapter 500 Basic and General Standards and the following requirements from the City of Portland (the City):

- City of Portland Land Use Ordinance Article 14.6.2.D.
- City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards and Maine DEP Chapter 500 Stormwater Management.

EXISTING CONDITIONS

The project site is bordered by Lambert Street, Auburn Street, and Washington Ave. A boundary plan has been prepared by Owen Haskell Inc., dated June 14th, 2021 and revised December 21st, 2021. Two wetland investigations were performed (separate investigations for both parcels) by Jones Associates Inc., dated June 2021 and October, 2021. As shown in the reports there are two wetlands on the south parcel, one of the identified wetlands is within 25 feet of a stream and therefore is classified as a Wetland of Special Significance (WOSS). There are also two wetlands within the northern parcel where one is considered a WOSS due to its proximity to an identified stream. Jones Associates identified multiple streams in both parcels. The southern parcel consists of four streams, with two converging at the eastern portion of the parcel creating one larger stream flowing from the east to west. These streams are a result of culverts flowing onto the property. Two feeder streams also contribute to the large stream and drain from the south to the north. One stream is located on the northern parcel and flows from east to northwest, this stream is formed from a culvert draining onto the property. The site is not in the watershed of an urban impaired stream.

The site primarily consists of wooded, undeveloped area with six subcatchments.

- SC 1N – This subcatchment consists of wooded land and a vegetated ditch alongside Washington Ave. This subcatchment drains to an existing catch basin at the end of the ditch which outlets runoff to another existing catch basin located at the end of the southern Washington Ave ditch.
- SC 1S – This subcatchment consists of wooded land, a vegetated ditch, and an isolated wetland pocket. This subcatchment drains to the south roadside ditch which is collected by an existing catch basin at the end of the ditch. The catch basin outlets to an existing cross culvert beneath Lambert Street.
- SC 2N – This subcatchment consists of undeveloped land, a portion of the single family lots along Auburn Street, and existing wetlands. This subcatchment includes area from the northeastern portion of Washington Ave as well as the Washington Ave / Auburn Street

intersection. The subcatchment crosses Washington Ave via a 12" culvert that outlets into the south parcel and flows to the existing 18" culvert.

- SC 2S - This subcatchment consists of the southern portion of the south parcel and is primarily wooded and undeveloped land. Multiple stream exist in this subcatchment and serve as the primary drainage conveyance system. The confluence of the stream occurs near the western portion of the parcel upstream of an 18" culvert off Lambert Street.
- SC 3N – This subcatchment consists of wooded area along the northern parcel. The area drains to an existing wetland within the Falmouth parcel as identified by Jones Associated.
- SC 4N – This subcatchment consists of wooded area along the northern parcel as well as a portion of the single family lots located along Auburn Street. This area drains to the stream flowing east to west and bisects the parcel.

It should be noted that the USGS soil survey has soil types HSG A and HSG D in SC 1S. The delineated wetland located in this subcatchment falls in the HSG A area. We believe that the wetland pocket should be replaced with HSG D soils in lieu of HSG A to better represent the existing site conditions. As such the stormwater model has been updated to reflect the above.

PROPOSED DEVELOPMENT

The project features the development of a planned unit residential development (PRUD) which a development program outlined within the land use ordinance and generally follows the principles of cluster subdivision planning where infrastructure is denser and more efficient in lieu and as a result, grater open space opportunities are available. The site will consist of fourteen separate residential buildings with a total of 162 dwelling units, each building will be served with associated parking and utilities. Overall, the project proposes to develop 4.57 acres of the lots with 2.59 acres consisting of impervious area.

The site has been graded to slope with the existing topography while providing for appropriate slopes in the parking areas. The slopes on the outside of the parking areas that are not part of a stormwater system will be appropriately stabilized per the specifications in the plans and are anticipated to be heavily landscaped for further slope protection and buffering. The majority of the site's runoff, including 97.5% of the new impervious area, will be either piped to the two proposed Underdrain Subsurface Sand Filters (USSF), or graded to flow to the three proposed porous pavement sections. The USSFs consist of a pretreatment isolator row which provides initial settlement and filtration of contaminants. Water will then flow vertically through the sand filter providing water quality improvements and outlet via an underdrain. At each outlet to the downstream drain manhole, orifices through the use of drilled holes in pipe caps will be utilized to help reduce the flow rate leaving the USSFs.

A portion of the parking areas and mews will consist of porous pavement with filter media and stone beneath the pavement profile. Traditional pavement will be used in the parking lot areas in the higher portions of the site and will runoff onto the porous pavement. In the mews, it is proposed for pavers or traditional pavement to be located upgradient of the porous pavement. Underdrains will be provided to collect and convey water with catch basins being

located at the low points to serve as overflows for extreme storm events as well as an access point for inspection and maintenance purposes.

The discharge from these systems will ultimately flow to a level lip spreader or riprap apron before entering the roadside ditch or surrounding woods. Two 15" storm drains are proposed to outlet into the existing ditch line with a proposed riprap apron to help reduce velocity, based on the peak 10-year flow rates the maximum water velocity discharging into the City's ditch system will be below 5 ft/sec. Maine DOT recommends grassed ditches be designed to ensure flow velocities are below 5 ft/sec for the 10-year storm, as such the stormwater outlet aligns with industry standard hydraulic design.

The development will be served by the Portland Water District, CMP, Spectrum, Consolidated Communications, and municipal sewer and storm systems. Utility mains and services have been coordinated with each respective utility company.

GENERAL STANDARDS – WATER QUALITY

All treatment BMPs proposed as part of this development were designed in accordance with The Maine Stormwater Management Design Manual Chapter 7.3 and 7.7.

Treatment Area

In accordance with Chapter 500, General Standard rules, treatment must be provided for no less than 95% of the impervious area and 80% of the developed area. As such, it is proposed that treatment is required via the Underdrained Subsurface Sand Filter (USSF) and Porous Pavement BMPs. The USSF provides initial treatment of the larger sized pollutants. The stormwater will flow vertically through the sand filter layer. The treated stormwater will then be collected within perforated pipes and released slowly into the downstream system. The Porous Pavement will collect runoff through the top bituminous paved surface where it will then filter through several layers of media before being collected by an underdrain and transported to the downstream system.

The treatment of the impervious and developed surfaces by the BMPs are as follows:

Table 1 – New Impervious Area Treatment Area Table

Existing Imp. Area (SF)	Proposed Total Imp. Area (SF)	Net Change in Imp. Area (SF)	Proposed Imp. Area with Treatment (SF)	% Overall New Imp. Area Treated
0	112,810	112,810	110,000	97.5%

Table 2 – New Developed Area Treatment				
Existing Dev. Area (SF)	Proposed Total Dev. Area (SF)	Net Change in Dev. Area (SF)	Proposed Dev. Area with Treatment (SF)	% Overall New Dev. Area Treated
0	199,100	199,100	167,600	84%

Underdrain Subsurface Sand Filter

The underdrained subsurface sand filters were sized to meet or exceed the requirements set forth within the MDEP Volume III BMPs Technical Design Manual, Chapter 7.3. Filter BMP systems have shown to be effective at filtering out and removing a wide range of pollutants from stormwater runoff.

As shown above, the project anticipates meeting the required treatment for new impervious and developed surfaces with the filter BMPs.

Filter Area Sizing

A calculation for sand filter area is necessary to meet the requirements below the surface of the USSF. As defined in the Volume III: BMPs Technical Design Manual, Chapter 7, the surface area of the filter shall be no less than the sum of 5% of the tributary impervious area and 2% of the tributary vegetated area. The filter area is calculated by the following formula:

[(Imp. SF x 0.05) + (Veg. SF x 0.02)] = Filter Area (SF)

Please refer to Table 2 below.

Table 2 – Total Filter Surface Area, displays the proposed USSF sizing requirements, actual size and the percentage of required area.

Table 3 – Total Filter Surface Area				
	Landscaped Area (SF)	Impervious Area (SF)	Required Filter Area (SF)	Actual Filter Area (SF)
USSF 1	17.720	26,580	1,683	1,939
USSF 2	21,971	32,958	2,087	2,398

As shown, the size of the soil filter area will meet and exceed the surface area requirements.

Isolator Row Sizing

The isolator row was sized based upon a letter from Mark Bergeron, Director of the MDEP Bureau of Land Resources, to StormTech dated July 29, 2016. The calculation that Mr. Bergeron references to determine the minimum number of stormwater chambers needed for the isolator row is defined as the one-year peak flow rate divided by the specific flow rate of the chamber (0.3 cfs for MC-3500 chambers).

Table 4 – Isolator Row Sizing			
	1-Year Peak Flow (cfs)	Required Chambers	Provided Chambers
USSF 1	1.28	4	5
USSF 2	1.72	5.3	7

Water Quality Volume

In accordance with the Volume III: BMPs Technical Design Manual, a water quality volume of 1.0 inches times the tributary impervious area plus 0.4 inches times the tributary vegetated area is required to be treated by the USSF. The water quality volume is calculated by the following formula:

$$\left(\frac{\text{Imp. SF x 1.0"}}{\text{12"/1'}}\right) + \left(\frac{\text{Veg. SF x 0.4"}}{\text{12"/1'}}\right) = \text{Treatment Volume (CF)}$$

The proposed water quality volume is as follows:

Table 5 – Water Quality Volume Table				
	Landscaped Area (SF)	Impervious Area (SF)	Treatment Volume Required (CF)	Treatment Volume Provided (CF)
USSF 1	17,720	26,580	2,806	3,893
USSF 2	21,971	32,958	3,479	4,697

As shown, the size of the combined water quality volume will meet and exceed the treatment volume requirements. Values from the HydroCAD calculations are attached to this report.

The treatment volume was calculated by using the HydroCAD model and the rainfall that produces 18" of ponding within the chambers. The storage volume within the crushed stone and chambers – the two layers above the filter sand – is then added together to calculate the water quality volume.

A vertical orifice is modeled in HydroCAD at the end of the underdrain outlet to detain the stormwater for an approximate 24-hour time frame. The orifice is intended to be a PVC cap placed on the outfall pipe (no glue) with the orifice drilled into the cap eccentrically. The PVC cap can be easily inspected, removed, or replaced if necessary.

Porous Pavement

The porous pavement subsurface media was sized to meet or exceed the requirement set forth within the MDEP Volume III BMPs Technical Design Manual, Chapter 7.7. The system has proven to be effective at filtering and removing a wide range of pollutants contained in stormwater runoff.

Filter Area Depth

Per the requirement for porous pavement in Chapter 7.7 of the MDEP Stormwater BMP manual, the filter depth shall be a minimum of 4 inches. The proposed design incorporates a filter depth of 10 inches with an assumed void ratio of 5%.

FLOODING STANDARD – WATER QUANTITY

The proposed project was modeled using HydroCAD to verify that the post-development conditions do not exceed the pre-development conditions. A 24-hour SCS Type III storm distribution for the 2, 10, and 25-year storm events were used. The corresponding rainfall amounts for these storms are 3.10", 4.60", and 5.80" respectively. Due to the numerous variables, and inherent inaccuracies with the modeling program used to calculate stormwater runoff it is custom at Acorn Engineering, Inc. to round to the nearest whole number. However due to the small size of the project and the minimal existing flows, the stormwater runoff shall be rounded to the nearest tenth of a cubic feet per second (cfs).

Time of Concentration (Tc)

The times of concentration for subcatchments in both the pre and post conditions were calculated by entering the flow path with the associated ground cover and slopes. HydroCAD then calculated the Tc's and incorporated the total Tc for each subcatchment into the model. When the calculated Tc was less than six minutes (0.1 hours), a direct entry of six minutes was used as advised by the TR-55 model. Consistent with previous submissions and best practices, the sheet flow length for any Tc path was capped at 100 feet.

Curve Number (CN)

Within the pre-development model, the wooded and vegetated ditches were conservatively considered good condition with appropriate underlying soil hydrologic group. In particular, the woods were given a "good" condition throughout the entire development. Based upon the understory, the CN value contained either light underbrush or dense underbrush, depending

on the location as verified by multiple site visits. The site generally features denser underbrush towards the back of the parcels and less dense underbrush closer to Washington Avenue. Lastly, the wetlands were modeled as Woods in the D condition in both the pre and post.
The post development landscaped areas were given a good rating within the appropriate underlying hydrologic soil group. This assumption is reinforced given the aggressive landscape plan which will feature more porous conditions that are appropriately mulched along with future extensive root systems and canopy cover that will exist once the landscaping has matured.
Pre-development Calculations

The site consists of wooded area and wetlands in the predevelopment condition, for the purpose of this analysis the land has been divided into six separate sub catchments.

The existing cross culvert underneath Washington Ave, as well as the catch basin outlet for the northern Washington Ave ditch have been included in the model as reaches. The intent of this is to measure the capacity of the existing infrastructure down stream of any proposed peak flow alterations.

Peak flow rates for the pre-development storm events are as follows:

Table 6 – Pre-Development Peak Stormwater Flows

Drainage Area	2-Year Storm Event (cfs)	10-Year Storm Event (cfs)	25-Year Storm Event (cfs)
POI #1	1	3	6
POI #2	8	19	27
POI #3	0	0	0
POI #4	0	0	1

Post-development Calculations

The post condition features the same four point of interests that exist in the pre-development condition, but with multiple BMPs throughout the north and south parcel dedicated for the treatment of runoff generated primarily by roof and pavement via porous pavement and the two (2) USSFs. The subcatchments are as follows:

- Subcatchment 1.1N – This subcatchment consists of primarily undeveloped land that flows to the roadside ditch along the northern side of Washington Ave.
- Subcatchment 1.1S, 1.4S, 1.7S – This subcatchment consists of the roof area contained within the southern parcel, the open space in the center of the southern parcel consisting of landscaping and lawn area, and a small portion of area behing building A.9 and A,19. The roofs will be equipped with downspouts to underground storm drains that are routed to USSF 2. SC 1.4S and 1.7S will be collected via a series of field inlets and piped to USSF 2.

- Subcatchment 1.2N – This subcatchment consists of a portion of Washington Ave and a small portion of the northern parcel. These subcatchments flow to a proposed rain garden located near Sta 4+25 along Washington Ave. The rain garden will help cool, detail, and filter out any pollutants before slowly discharging to the roadside ditch along the northern side of Washington Ave.
- Subcatchment 1.3S, 1.5S – This subcatchment of the western parking lot in the south parcel, as well as the mews section and grass paver emergency access aisle. The porous pavement segments are split up into two different low points and will collect and filter the runoff. The runoff will be conveyed via underdrains to the existing ditch along the south side of Washington Ave.
- Subcatchment 1.3N, 1.2S, 1.4N – These subcatchments consists of a portion of Washington Ave, and a small portion of the northern parcel. These subcatchments flow to a proposed rain garden near Sta 6+00 and is used to cool, detain, and filter out any pollutants before slowly discharging to the roadside ditch along the northern side of Washington Ave.
- Subcatchment 1.6S – This subcatchment consists of undeveloped land, single family lots off Lambert Street, and the western portion of the south parcel's frontage along Washington Ave. This area drains to the existing roadside ditch along the southern side of Washington Ave.

- Subcatchment 2.1N – This subcatchment consists of the eastern portion of Washington Ave, the wetland within the north parcel, a portion of the single family lots off Auburn Street, and the intersection of Washington and Auburn. The low point of this subcatchment consists of an existing 12" cross culvert that outlets into the southern parcel. It is proposed for this culvert to remain, with the peak flow rate for the 2, 10, and 25 year storms being reduced or maintained in the post development condition.
- Subcatchment 2.1S – This subcatchment consists of the eastern parking lot with porous pavement located at the low spot. The runoff will be collected via underdrains and outlet into a wooded area before draining towards POI #2.
- Subcatchment 2.2S – This subcatchment consists primarily of undeveloped wooded land. This area drains to POI #2.
- Subcatchment 3.1N – This subcatchment consists primarily of undeveloped land and drains to POI #3.
- Subcatchments 1.1N, 1.7N, 1.8N, 1.9N – These subcatchments consist of the roof area within the north parcel, the common space in the center of the site, and small areas to the rear of Buildings A.4 and C.1 consisting of landscaping, lawn area, and impervious patios. The roofs will be conveyed to USSF 1 via a series of downspouts and underground storm drains. The open space areas will be collected via a series of field inlets and storm drains and routed to USSF 1.
- Subcatchments 4.1N and 4.2N – These subcatchments make up the parking lot and mews section. The porous pavement is located at the low point of this subcatchment and is collected via underdrains and piped to POI #4.
- Subcatchment 4.3N – This subcatchment consists primarily of undeveloped land that flows to POI #4.

The post-development calculations include changes to the land use, and the compensation provided by the USSF's and associated engineered orifices.

The ideology HydroCad uses to model porous pavement assumes the pavement has no surface runoff under ideal conditions and accepts several inches of precipitation. An extended Tc is used to simulate the travel time through the base and the pavement is modelled as a pond which represents storage in the base material. Our analysis of porous pavement uses a time of concentration based on the UNHSC's (University of New Hampshire Stormwater Center) research in which the time of concentration for porous pavement is equal to following ratio:

Tc = 790 minutes / 41" of base above the underdrain

Taking a conservative approach, the Tc was calculated using only the depth of the filter course while excluding the stone layers. The equivalent ratio yielded a Tc of 231 minutes based upon the 12" filter course.

Source: Ballestero, Thomas, UNHSC. "*Real Time Hydrology of Permeable Pavements*" Philadelphia Low Impact Development Symposium, 2011.

Peak flow rates for the storm events are as follows:

Table 7 – Post-Development Peak Stormwater Flows

Drainage Area	2-Year Storm Event (cfs)	10-Year Storm Event (cfs)	25-Year Storm Event (cfs)
POI #1	1	3	5
POI #2	8	18	26
POI #3	0	0	0
POI #4	0	0	1

The post-development calculations include changes to the land use and the compensation provided by the stormwater BMPs. The following table represents comparison of pre-development and post-development condition peak runoff rates for the proposed development and tributary area.

Table 8 – Comparison of Peak Flows

POI	2-Year Storm Event (cfs)		10-Year Storm Event (cfs)		25-Year Storm Event (cfs)	
	Pre	Post	Pre	Post	Pre	Post
POI #1	1	1	3	3	6	5
POI #2	8	8	19	18	27	26
POI #3	0	0	0	0	0	0
POI #4	0	0	0	0	1	1

As shown in Table 7 and 8, the net impact of the post development peak flows will remain at or below the predevelopment levels. This is due to the attenuating effect of the USSD's and

the proposed underdrained storage and filter layers beneath the porous pavement. Peak water elevations for a 100-year storm remain below pavement elevations. A maintenance agreement in accordance with Chapter 7.7 and UNHSC specifications will be established. Maintenance activities may include inspections, sweeping, vacuuming, and the limiting of salt and sediment transport to the porous pavement.

A post-development watershed map developed for this project can be viewed in Attachment B, and a copy of the HydroCAD calculations is included within Attachment C of this report.

SOILS

Onsite soil information includes the following:

- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County
- United States Department of Agriculture Web Soil Survey

Given the soils information, listed above, no onsite wastewater is proposed; the applicant does not intend to perform a more intense hydric soil boundary delineation because the waiver requirements set forth in the City of Portland Technical Manual – Section 7 – Soil Survey, Rev. 6/17/11 are met.

The area within and surrounding the project includes soil types listed in the table below. The susceptibility of soils to erosion is indicated on a relative "K" scale of values over a range of 0.02 to 0.69. Higher "K" values indicate more erodible soils.

Table 1 - "K" Value		
Soils Type	**Subsurface**	**Substratum**
Elmwood fine sandy loam (EmB)	.32	.49
Hinkley Loamy Sand (HIC)	.17	.17
Suffield Silt Loam (SuE2)	.49	.49
Scantic silt loam (SN)	.49	.49
Swanton Fine Sandy Loam (SZ)	.32	.49

The soil "K" value for the soil, listed above, shows a low to medium susceptibility to erosion. The site's susceptibility to erosion is sourced from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County. Although the soil "K" value shows a low to medium susceptibility to erosion, implementation of the proposed Erosion & Sedimentation Measures by the contractor will be of the utmost importance given the sustained slope throughout the site.

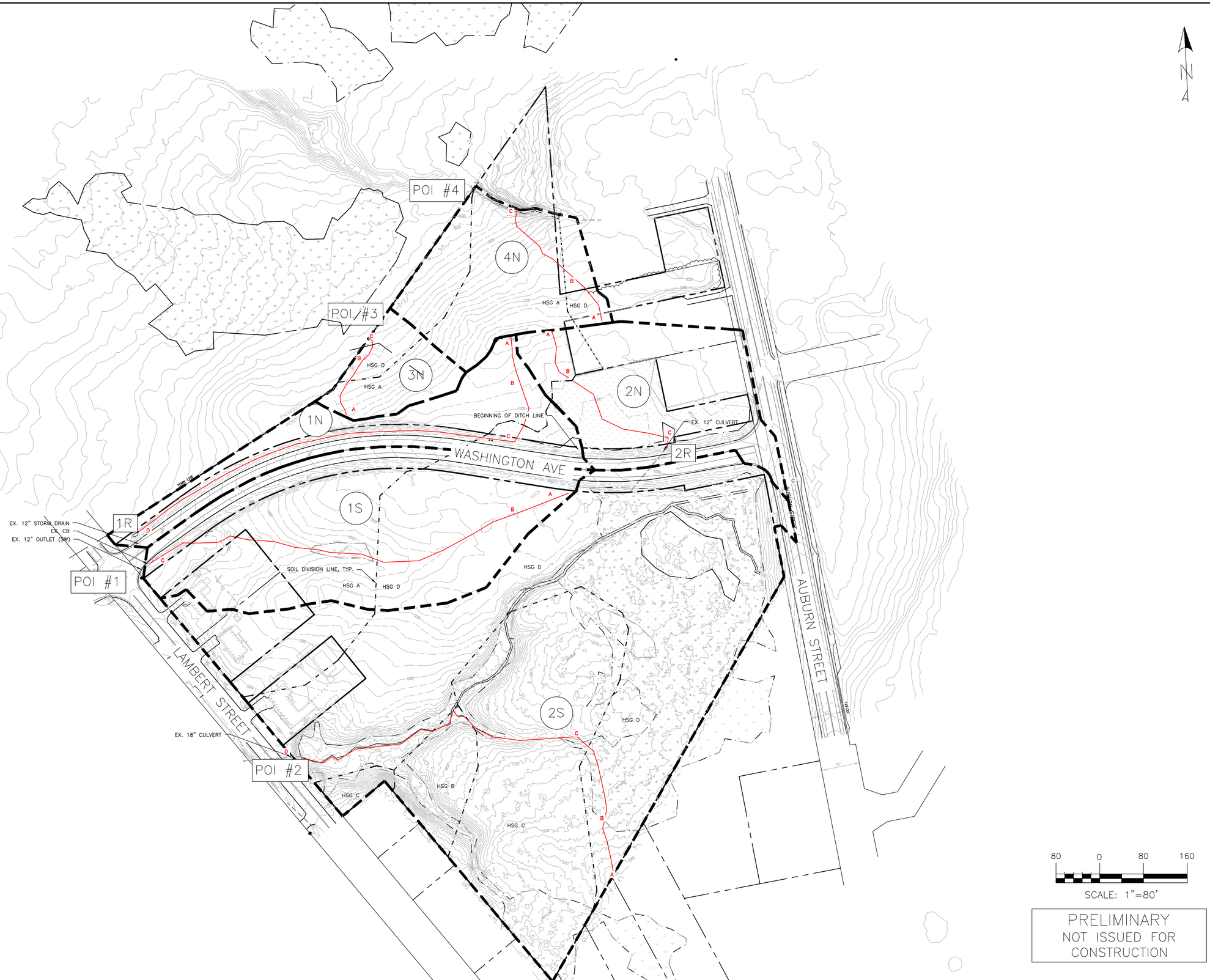
CONCLUSION

The proposed development was designed to meet the requirements implemented by the MDEP under the Stormwater Management Statute (38 M.R.S.A. § 420-D) as well as the City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards. The proposed project as designed is not anticipated to cause flooding or erosion problems within the subject site, abutters' sites, nor within the right-of-way. Overall, the project will provide an improvement to stormwater runoff and overall management from several perspective as outlined above.

ATTACHMENTS

Attachment A: Pre-Development Watershed Map
Attachment B: Post-Development Watershed Map
Attachment C: HydroCAD Calculations
Attachment D: Soil Survey

LEGEND	
POI #1	POINT OF INTEREST
1	POND NUMBER
1	SUBCATCHMENT NUMBER
	SUBCATCHMENT BOUNDARY
	SOIL BOUNDARY
A — B	TIME OF CONCENTRATION PATH
	STREAM
	WETLAND



PRELIMINARY
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SITE/SUB	SJL	6/17/22

DRAWING NAME: **PRE-DEVELOPMENT WATERSHED MAP**

PROJECT NAME: **165 LAMBERT ST**

CLIENT: MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC
P.O. BOX 432 KENNEBUNK, MAINE 04043
(207) 775-2655

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DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
SAMUEL J. LEBEL
6908
LICENSED PROFESSIONAL ENGINEER
6/17/22

DRAWING NO.
PRE

POI #4

POI #3

POI #1

TM U48 LOT 027
AREA=
641,973 S.F.
14.739 ACRES

MDOT DRAINAGE EASEMENT 3901/31

GARSOE DR

AUBURN STREET

WASHINGTON AVE

TOWN LINE

CURB TO BE REMOVED

TRANSITION TO 6" CURB

4.3N
1.7N
1.5N
4.1N
1.5N
1.5N
1.5N
1.8N
4.2N
1.5N
1.5N
2.1N
3.1N
1.1N
1.4N
1.2N
1.3N
1.6N
1.9N
3P
1P
2P
9P
7P
2R
1R
4R

40 0 40 80
SCALE: 1"=40'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SITE/SUB	SJL	6/30/22
		8/10/22
COMMENT RESPONSE	SJL	9/26/22
COMMENT RESPONSE II	SJL	12/23/22

DRAWING NAME: **POST-DEVELOPMENT MAP – NORTH PARCEL**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

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DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
SAMUEL J. LEBEL
16505
LICENSED PROFESSIONAL ENGINEER
12/23/22

DRAWING NO.

POST

SITE/SUB 6/17/22 SJL

POST-DEVELOPMENT MAP – NORTH PARCEL

WASHINGTON AVE

FALMOUTH

PORTLAND

TOWN LINE

STREET LINE TO STREET LINE ALONG TOWN LINE 66.80'

LAMBERT STREET

STOCKADE FENCE

BRICK STONEWALL

STONE WALL

STREAM

STREET & STOP SIGN

1.1S

1.2S

1.3S

1.4S

1.5S

1.6S

1.7S

1.8S

2.1S

2.2S

3R

4P

6P

8P

10P

18" RPP

CMP

#19S

#17

#16

#15

#16S

U/S

INV. OUT=92.11

CURB #2114

TM 385-A-7
N/F
PALMER T. PETERS
34 TOES LN
14360/22

TM 385-A-8&12
N/F
KEITH O. & KIERSTEN A. SWANSON
13597/177

TM 385-A-5
N/F
TAMARA B. GREENLAW
JOHN GOSSETT
29414/2411

TM 385-A-4
N/F
MADELEINE L. BATES
29617/027

TM 382A-C-4
TM 385-C-2
N/F
EUGENE P. MORIN
DIANE M. MORIN
7423/127

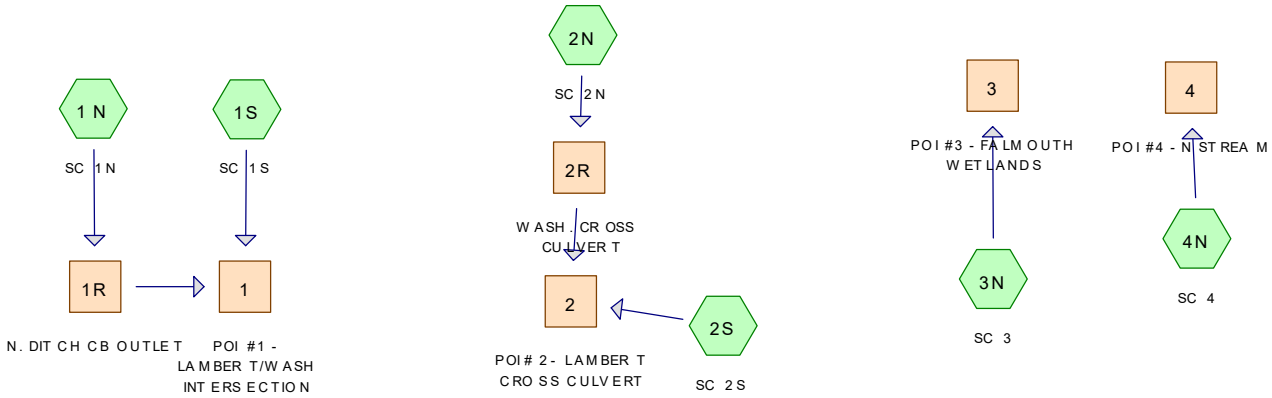
TM 382A-C-3
TM 385-C-14
N/F
GARY A. OUELLETTE
[illegible]

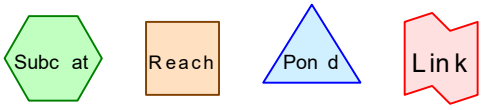
A
B
C
D

40 0 40 80

SCALE: 1"=40'

POST





Routing Diagram for 1145_PRE

Prepared by HP Inc., Printed 6/17/2022

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.708	39	>75% Grass cover, Good, HSG A (2S)
0.249	80	>75% Grass cover, Good, HSG D (2S)
0.041	98	Aubur n, paved ROW (2S)
0.529	80	Lawns HSG D (2N)
1.277	98	Paved RO W an d gr av el shoul der (1N, 1S, 2N)
0.131	80	Roads ideslope HSG D (2N)
0.321	39	Roadside ditch a nd s hr ubs, HSG A (1N)
0.065	80	Roadside ditch a nd s hr ubs, HSG D (1N)
0.197	39	Roads ide di tch, HSG A (1S)
0.282	80	Roads ide di tch, HSG D (1S, 2S)
0.032	98	Roofs, HSG A (1S)
0.089	98	Roofs/driveways/patios (HSG A) (2S)
0.080	98	Roofs/driveways/patios (HSG D) (2S)
0.165	98	Rooftops and driveways (2N)
0.177	98	Wash. paved RO W an d gr av el shoul der (2S)
0.057	77	Wet lan d p ocket, assumed HSG D (1S)
4.493	30	Woods, Good, HSG A (1N, 1S, 2N, 2S, 3N, 4N)
0.555	55	Woods, Good, HSG B (2S)
3.516	70	Woods, Good, HSG C (2S)
8.889	77	Woods, Good, HSG D (1N, 1S, 2N, 2S, 3N, 4N)
21.854	**65**	**TOTAL AREA**

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Summary for Subcatchment 1 N: SC 1 N

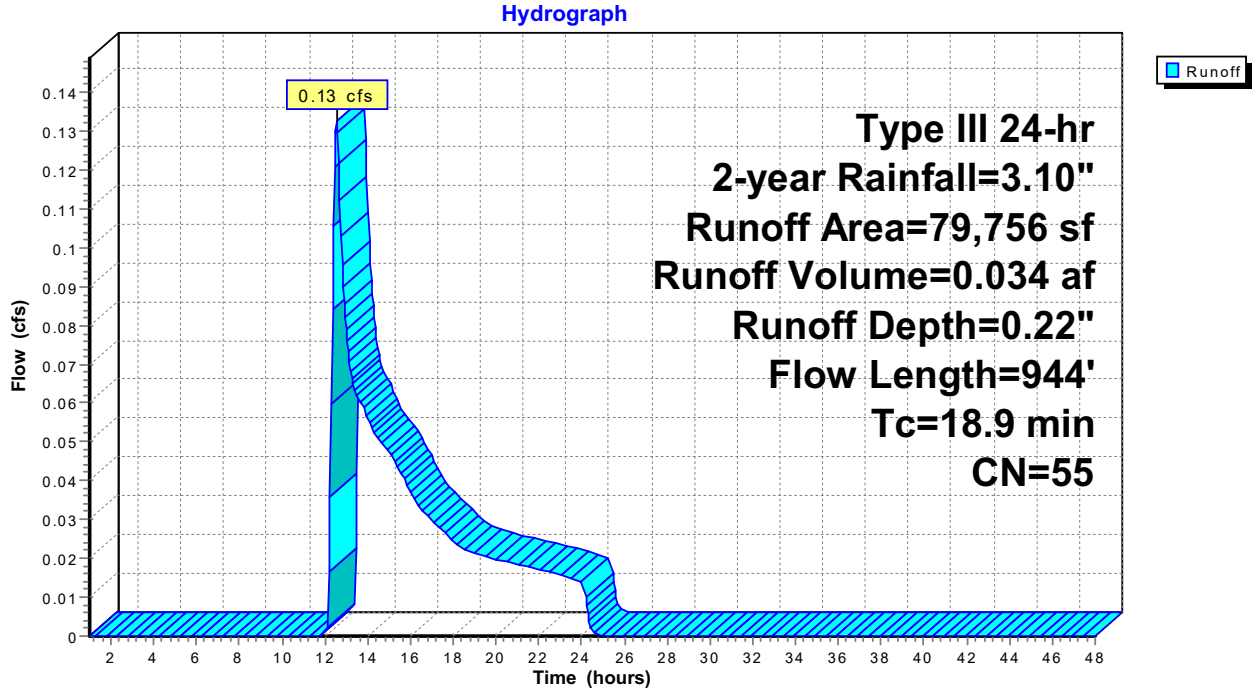
Runoff = 0.13 cfs @ 12.55 hrs, Volume= 0.034 af, Depth= 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	13,977	39	Roadside ditch and shrubs, HSG A
*	21,422	98	Paved ROW and gravel shoulder
	35,717	30	Woods, Good, HSG A
	5,802	77	Woods, Good, HSG D
*	2,838	80	Roadside ditch and shrubs, HSG D
	79,756	55	Weighted Average
	58,334		73.14% Pervious Area
	21,422		26.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0500	0.11		**Sheet Flow, Sheet Flow (A to B)** Woods: Light underbrush n= 0.400 P2= 3.27"
1.6	106	0.0500	1.12		**Shallow Concentrated Flow, SCF (B TO C)** Woodland Kv= 5.0 fps
2.6	738	0.0310	4.64	17.83	**Trap/Vee/Rect Channel Flow, Ditch Flow (C to D)** Bot.W=2.00' D=0.80' Z= 2.5 & 4.5'/' Top.W=7.60' n= 0.035 Earth, dense weeds
18.9	944	Total			

Subcatchment 1 N: SC 1 N



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Summary for Subcatchment 1S: SC 1 S

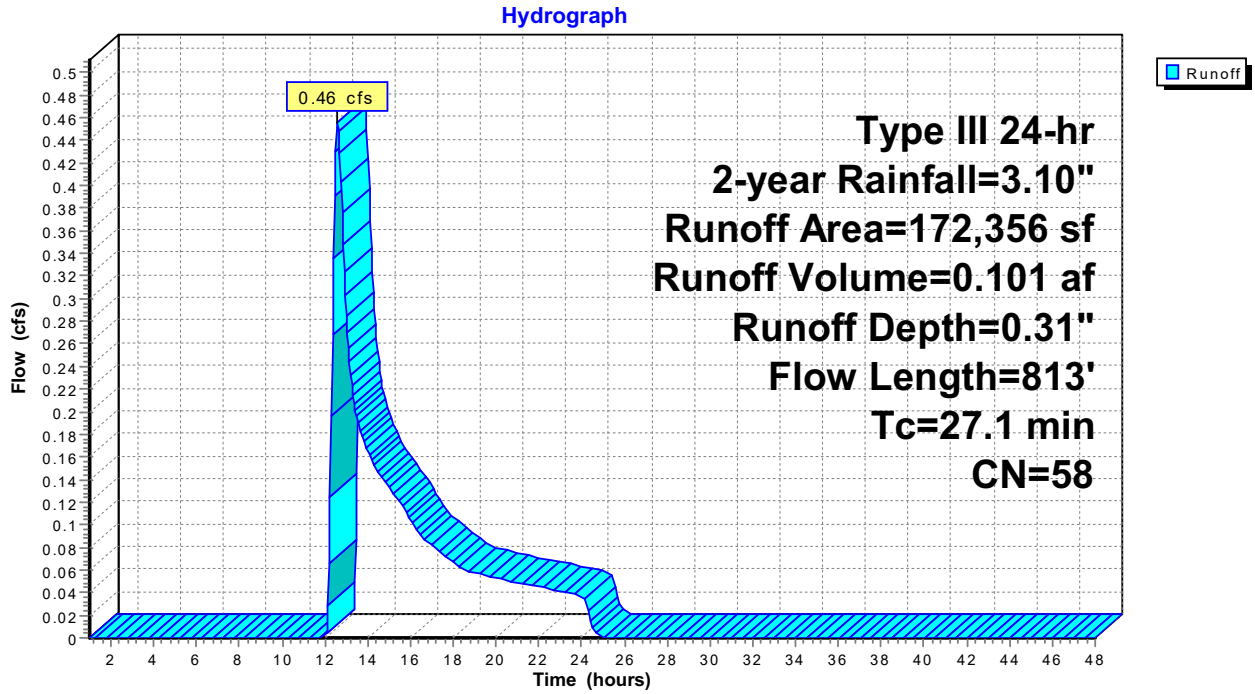
Runoff = 0.46 cfs @ 12.59 hrs, Volume= 0.101 af, Depth= 0.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
	72,886	30	Woods, Good, HSG A
*	61,363	77	Woods, Good, HSG D
*	1,387	98	Roofs, HSG A
*	2,490	77	Wetland pocket, assumed HSG D
*	8,584	39	Roadside ditch, HSG A
*	4,340	80	Roadside ditch, HSG D
*	21,306	98	Paved ROW and gravel shoulder
	172,356	58	Weighted Average
	149,663		86.83% Pervious Area
	22,693		13.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	100	0.0300	0.09		**Sheet Flow, Sheet flow (A to B)**
					Woods: Light under brush n= 0.400 P2= 3.27"
9.0	713	0.0700	1.32		**Shallow Concentrated Flow, SCF (B to C)**
					Woodland Kv= 5.0 fps
27.1	813	Total			

Subcatchment 1S: SC 1 S



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Summary for Subcatchment 2N: SC 2 N

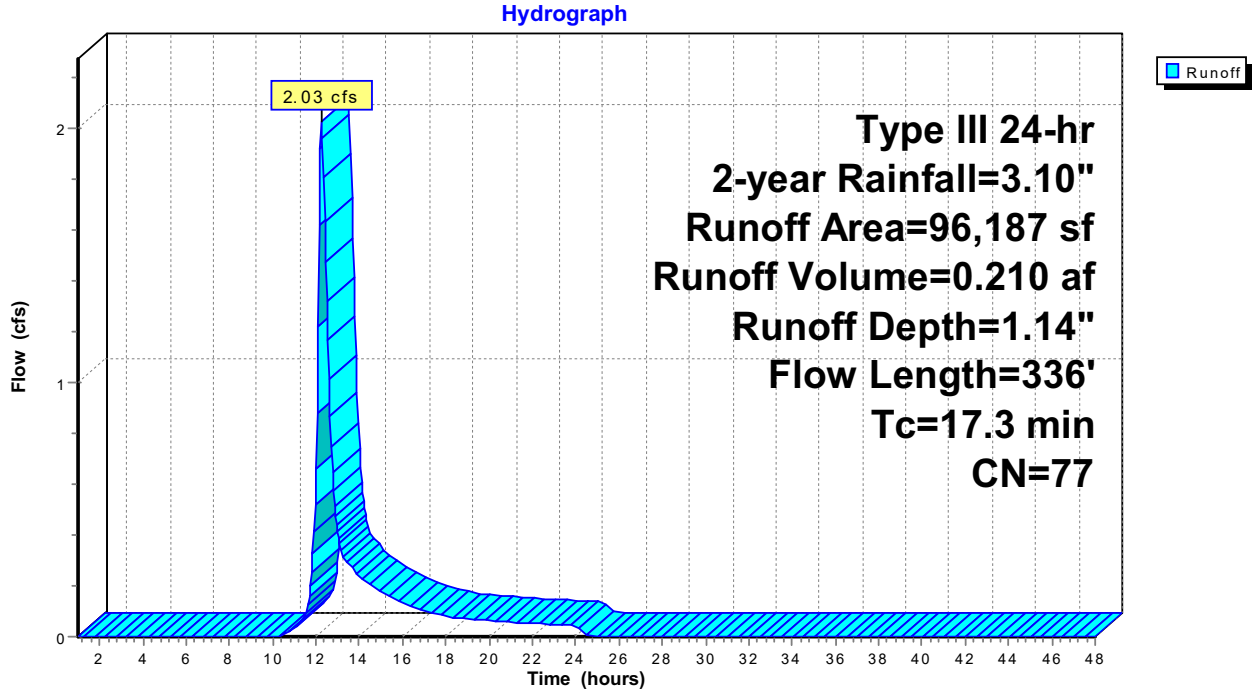
Runoff = 2.03 cfs @ 12.26 hrs, Volume= 0.210 af, Depth= 1.14"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
	11,790	30	Woods, Good, HSG A
	35,555	77	Woods, Good, HSG D
*	5,690	80	Roadside slope HSG D
*	12,892	98	Paved ROW and gravel shoulder
*	7,208	98	Rooftops and driveways
*	23,052	80	Lawns HSG D
	96,187	77	Weighted Average
	76,087		79.10% Pervious Area
	20,100		20.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0500	0.11		**Sheet Flow, Sheet Flow (A TO B)**
					Woods: Light underbrush n= 0.400 P2= 3.27"
2.6	236	0.0100	1.50		**Shallow Concentrated Flow, Wetlands**
					Grassed Waterway Kv= 15.0 fps
17.3	336	Total			

Subcatchment 2N: SC 2 N



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Summary for Subcatchment 2S: SC 2 S

Runoff = 6.41 cfs @ 12.40 hrs, Volume= 0.826 af, Depth= 0.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
	5,912	30	Woods, Good, HSG A
	30,826	39	>75% Grass cover, Good, HSG A
*	3,896	98	Roofs/driveways/patios (HSG A)
	24,173	55	Woods, Good, HSG B
	6,557	70	Woods, Good, HSG C
	146,595	70	Woods, Good, HSG C
	247,584	77	Woods, Good, HSG D
	10,866	80	>75% Grass cover, Good, HSG D
*	3,503	98	Roofs/driveways/patios (HSG D)
*	7,726	98	Wash. paved ROW and gravel shoulder
*	7,931	80	Roadside ditch, HSG D
*	1,794	98	Auburn, paved ROW
	497,363	72	Weighted Average
	480,444		96.60% Pervious Area
	16,919		3.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.4	100	0.0700	0.07		**Sheet Flow, Sheet Flow (A to B)**
					Woods: Dense underbrush n= 0.800 P2= 3.27"
0.7	170	0.0700	3.97		**Shallow Concentrated Flow, SCF (B TO C)**
					Grassed Waterway Kv= 15.0 fps
2.6	565	0.0350	3.56	3.92	**Channel Flow, Stream**
					Area= 1.1 sf Perim= 3.0' r= 0.37'
					n= 0.040 Winding stream, pools & shoals
25.7	835	Total			

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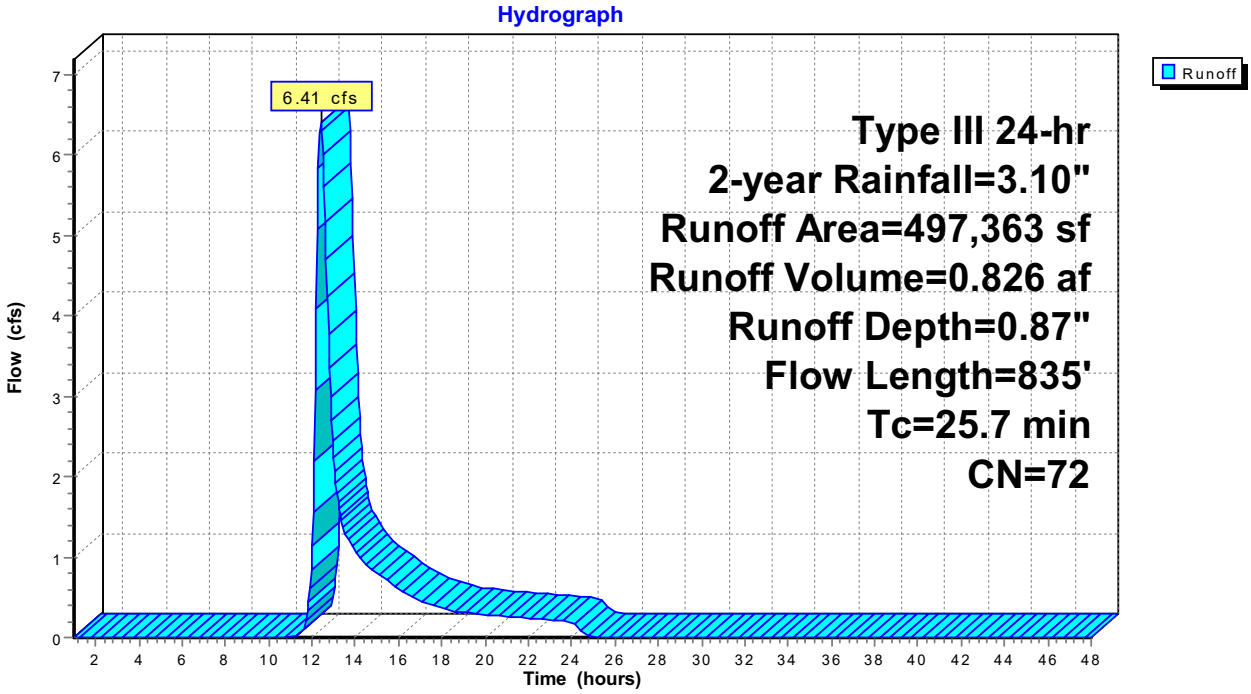
Subcatchment 2S: SC 2 S



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Summary for Subcatchment 3N: SC 3

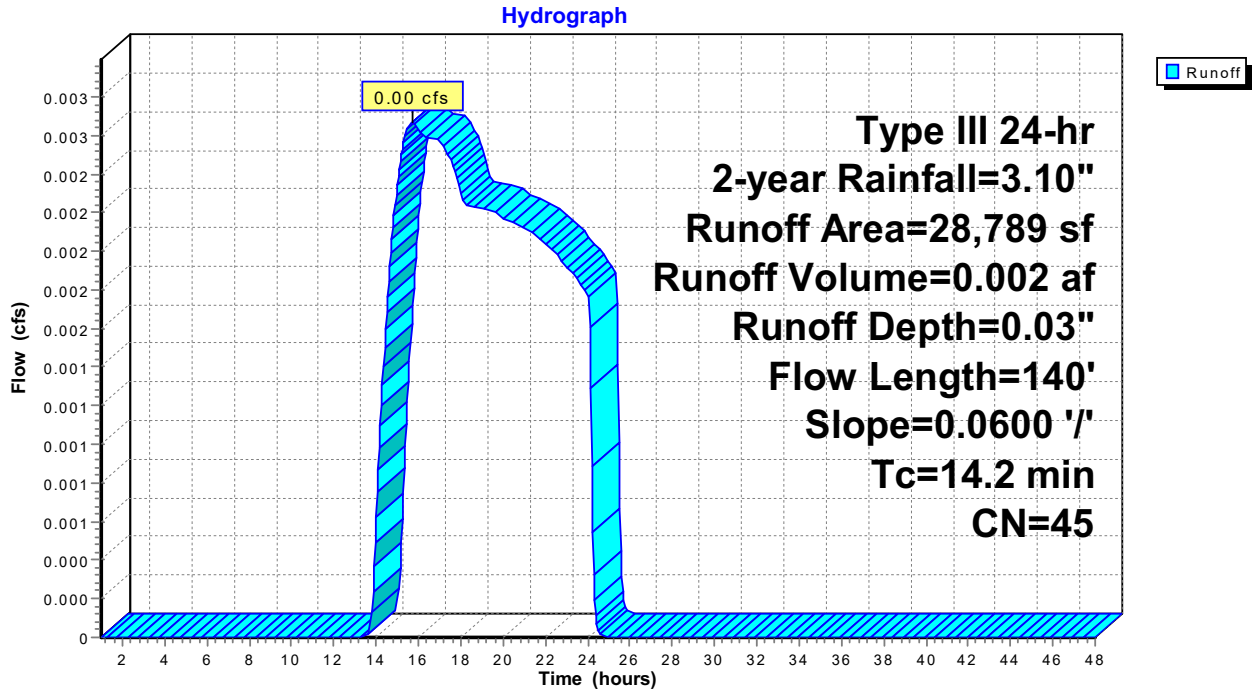
Runoff = 0.00 cfs @ 15.75 hrs, Volume= 0.002 af, Depth= 0.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
19,623	30	Woods, Good, HSG A
9,166	77	Woods, Good, HSG D
28,789	45	Weighted Average
28,789		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0600	0.12		**Sheet Flow, A-B**
					Woods: Light underbrush n= 0.400 P2= 3.27"
0.5	40	0.0600	1.22		**Shallow Concentrated Flow, B-C**
					Woodland Kv= 5.0 fps
14.2	140	Total			

Subcatchment 3N: SC 3



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Summary for Subcatchment 4N: SC 4

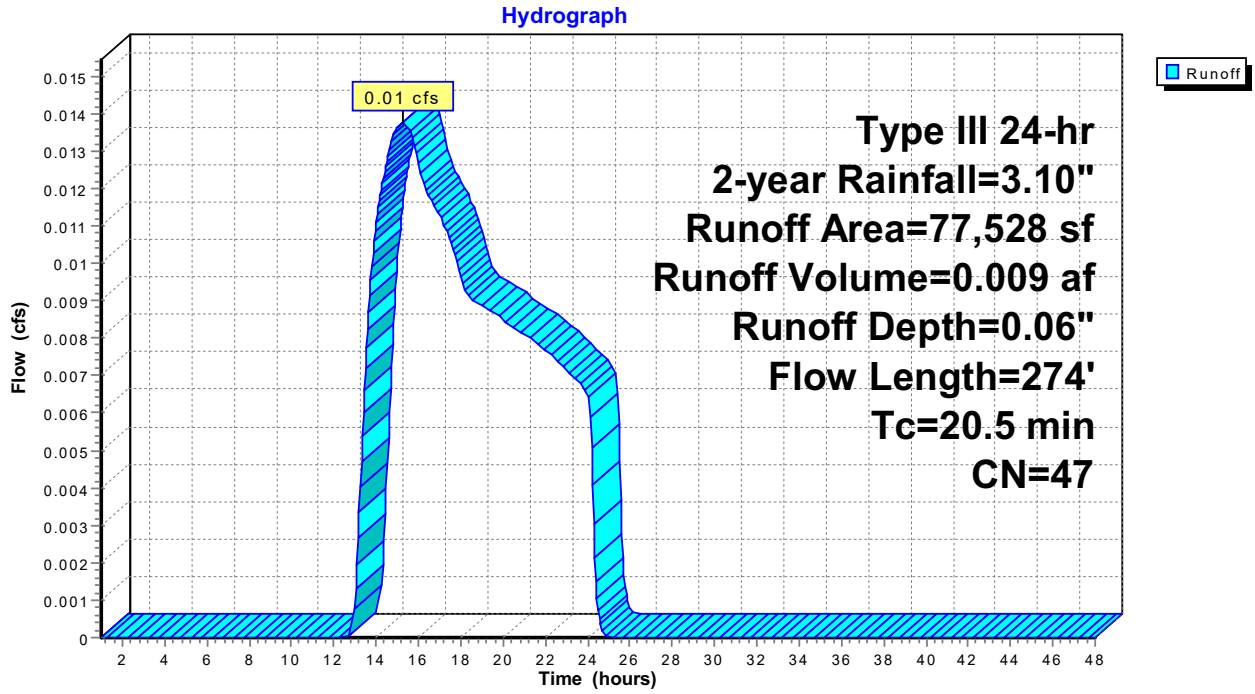
Runoff = 0.01 cfs @ 15.23 hrs, Volume= 0.009 af, Depth= 0.06"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
	49,772	30	Woods, Good, HSG A
	17,107	77	Woods, Good, HSG D
*	10,649	77	Woods, Good, HSG D
	77,528	47	Weighted Average
	77,528		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	100	0.0300	0.09		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.27"
2.4	174	0.0600	1.22		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
20.5	274	Total			

Subcatchment 4N: SC 4



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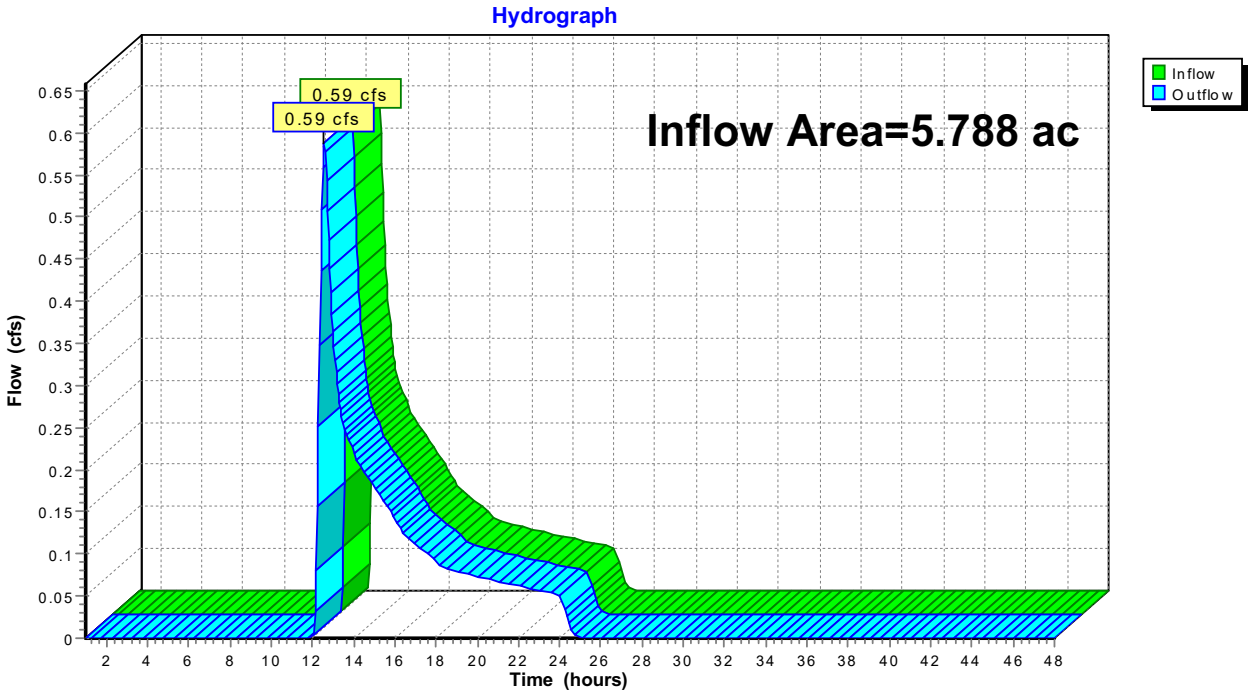
Summary for Reach 1: POI #1 - LAMBERT/WASH INTERSECTION

Inflow Area = 5.788 ac, 17.50% Impervious, Inflow Depth = 0.28" for 2-year event
Inflow = 0.59 cfs @ 12.58 hrs, Volume= 0.135 af
Outflow = 0.59 cfs @ 12.58 hrs, Volume= 0.135 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach 1: POI #1 - LAMBERT/WASH INTERSECTION



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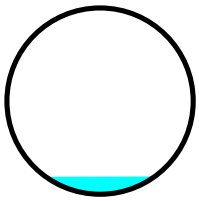
Summary for Reach 1R: N. DITCH CB OUTLET

Inflow Area = 1.831 ac, 26.86% Impervious, Inflow Depth = 0.22" for 2-year event
Inflow = 0.13 cfs @ 12.55 hrs, Volume= 0.034 af
Outflow = 0.13 cfs @ 12.55 hrs, Volume= 0.034 af, Atten = 0%, Lag = 0.4 min

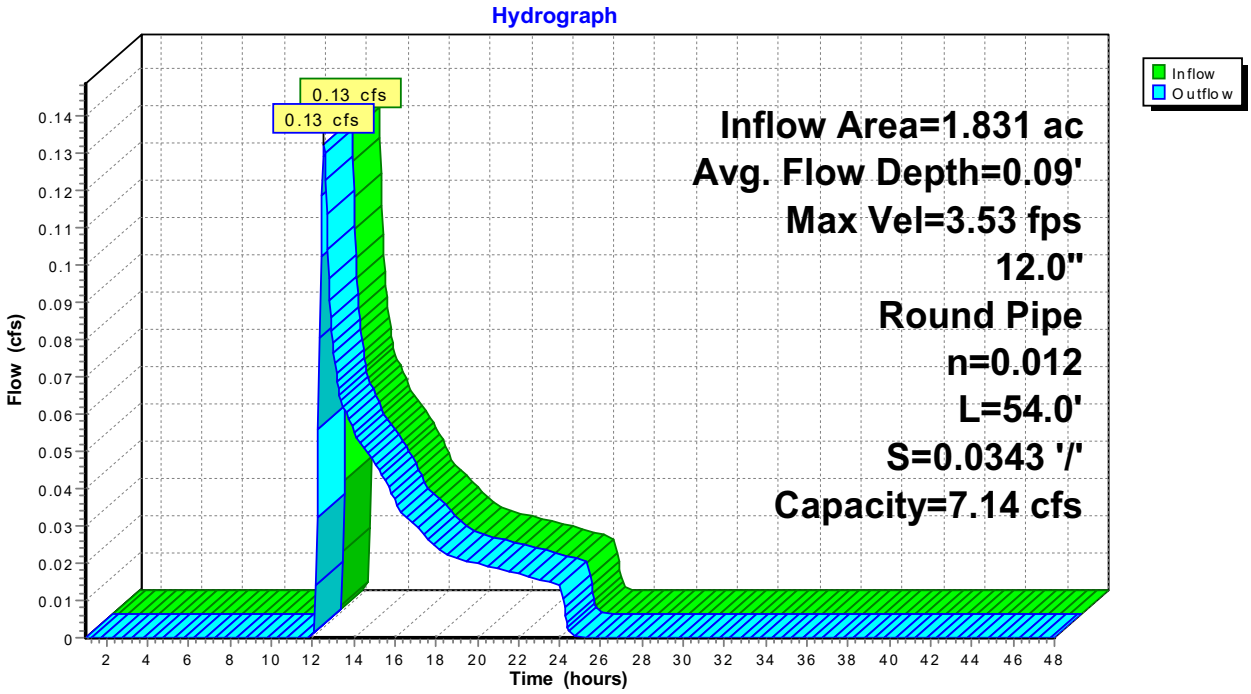
Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Max. Velocity= 3.53 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.18 fps, Avg. Travel Time= 0.4 min

Peak Storage= 2 cf @ 12.55 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.14 cfs

12.0" Round Pipe
n= 0.012
Length= 54.0' Slope= 0.0343 '/'
Inlet Invert= 87.63', Outlet Invert= 85.78'



Reach 1R: N. DITCH CB OUTLET



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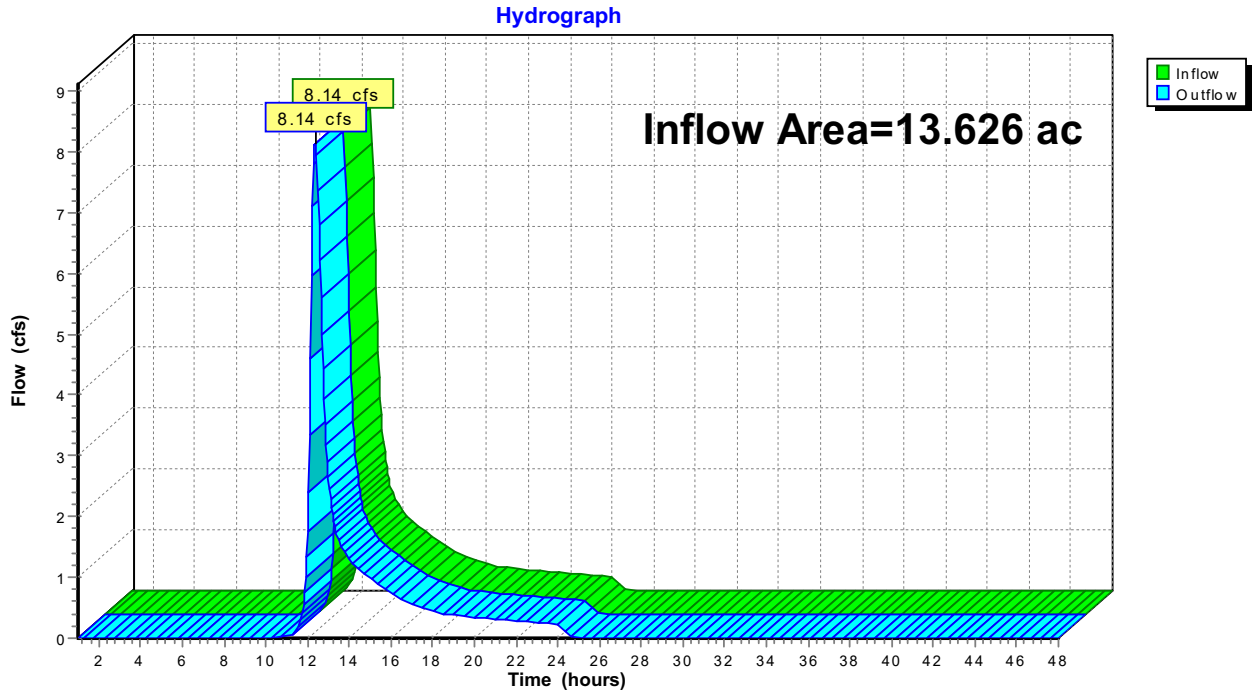
Summary for Reach 2: POI #2 - LAMBERT CROSS CULVERT

Inflow Area = 13.626 ac, 6.24% Impervious, Inflow Depth = 0.91" for 2-year event
Inflow = 8.14 cfs @ 12.37 hrs, Volume= 1.036 af
Outflow = 8.14 cfs @ 12.37 hrs, Volume= 1.036 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach 2: POI #2 - LAMBERT CROSS CULVERT



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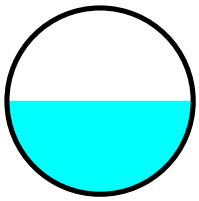
Summary for Reach 2R: WASH. CROSS CULVERT

Inflow Area = 2.208 ac, 20.90% Impervious, Inflow Depth = 1.14" for 2-year event
Inflow = 2.03 cfs @ 12.26 hrs, Volume= 0.210 af
Outflow = 2.02 cfs @ 12.27 hrs, Volume= 0.210 af, Atten = 0%, Lag = 0.6 min

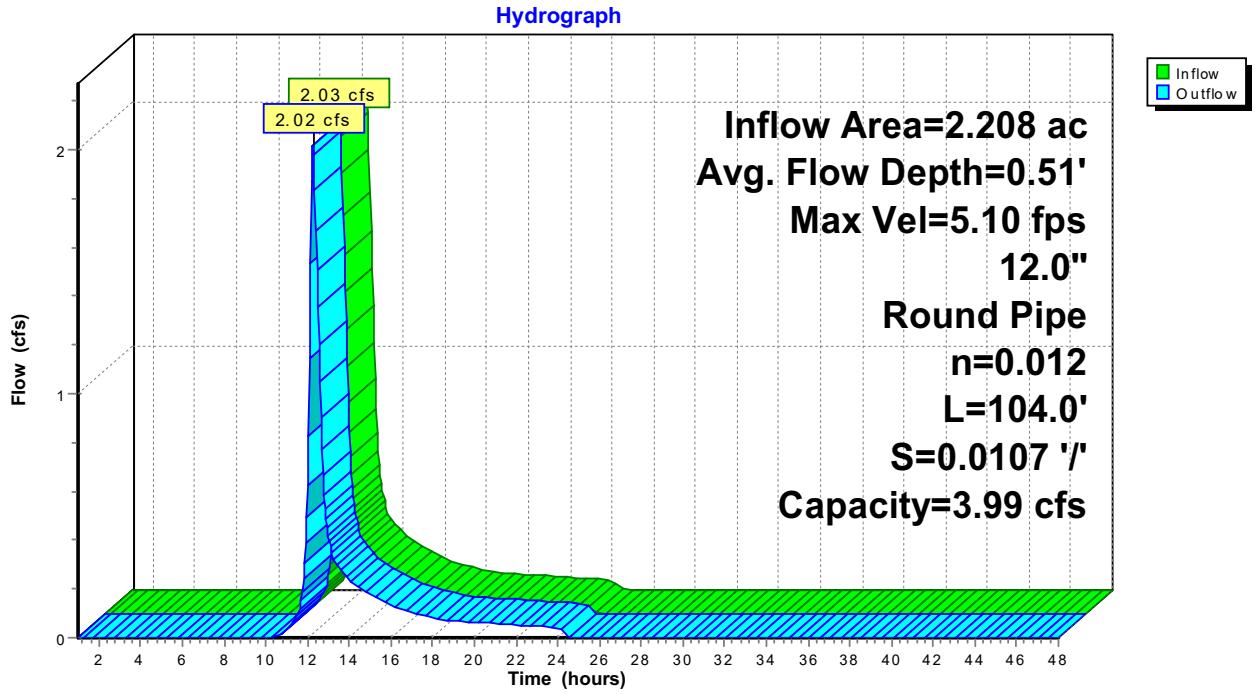
Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Max. Velocity= 5.10 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.15 fps, Avg. Travel Time= 0.8 min

Peak Storage= 41 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.51'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.99 cfs

12.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 104.0' Slope= 0.0107 '/'
Inlet Invert= 113.80', Outlet Invert= 112.69'



Reach 2R: WASH. CROSS CULVERT



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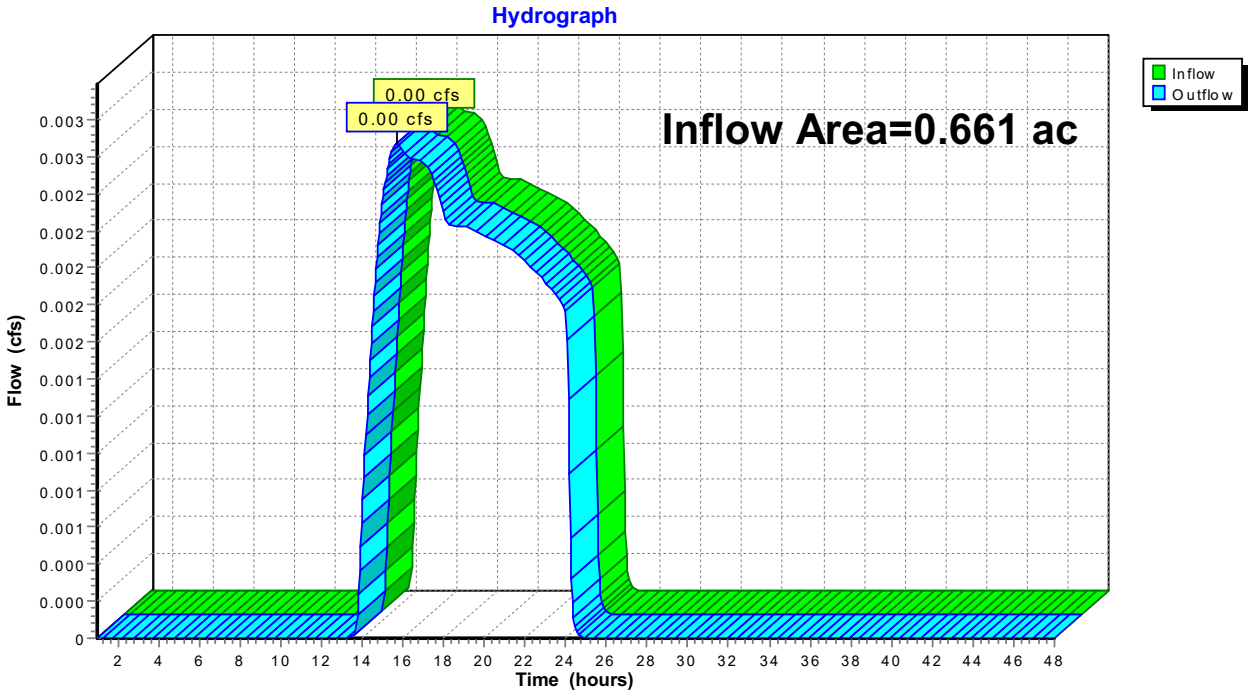
Summary for Reach 3: POI #3 - FALMOUTH WETLANDS

Inflow Area = 0.661 ac, 0.00% Impervious, Inflow Depth = 0.03" for 2-year event
Inflow = 0.00 cfs @ 15.75 hrs, Volume= 0.002 af
Outflow = 0.00 cfs @ 15.75 hrs, Volume= 0.002 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach 3: POI #3 - FALMOUTH WETLANDS



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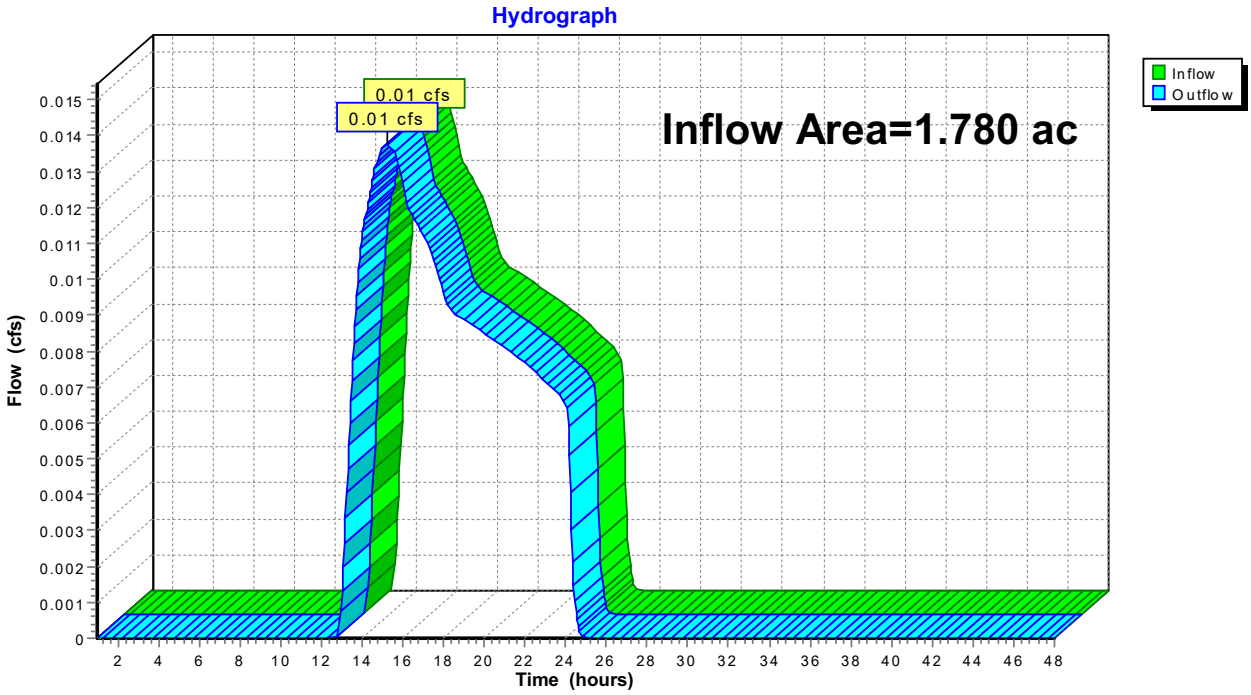
Summary for Reach 4: POI #4 - N STREAM

Inflow Area = 1.780 ac, 0.00% Impervious, Inflow Depth = 0.06" for 2-year event
Inflow = 0.01 cfs @ 15.23 hrs, Volume= 0.009 af
Outflow = 0.01 cfs @ 15.23 hrs, Volume= 0.009 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach 4: POI #4 - N STREAM



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Summary for Subcatchment 1 N: SC 1 N

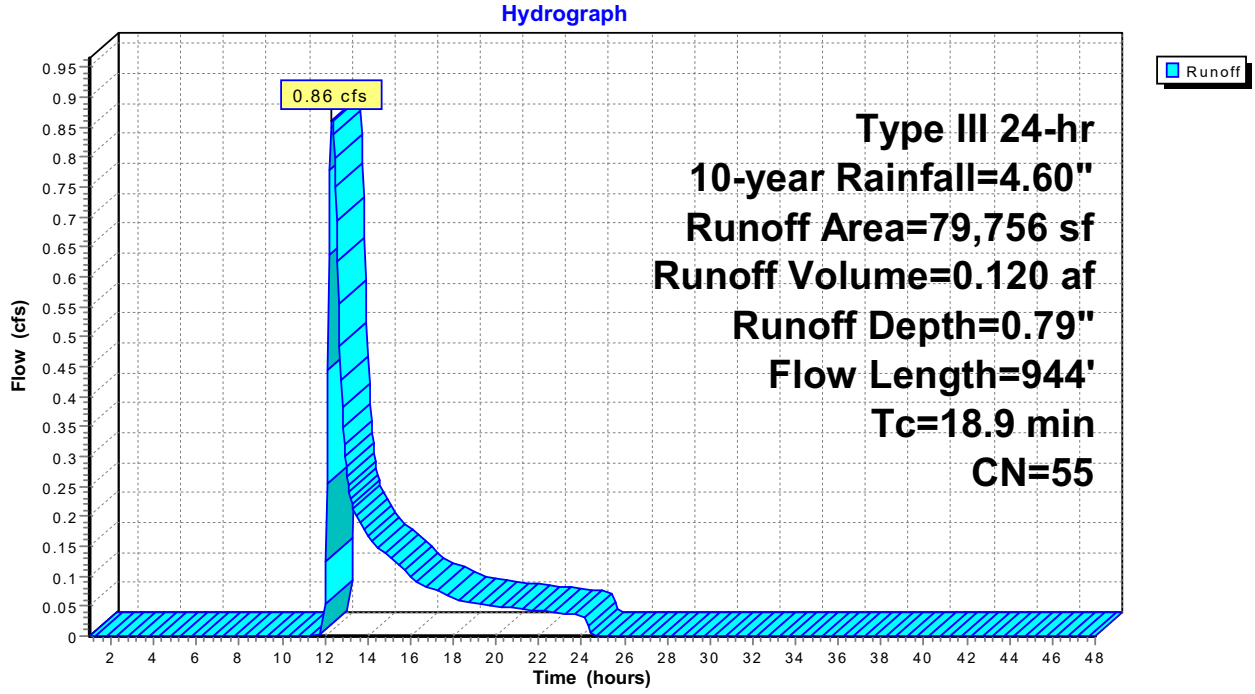
Runoff = 0.86 cfs @ 12.34 hrs, Volume= 0.120 af, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	13,977	39	Roadside ditch and shrubs, HSG A
*	21,422	98	Paved ROW and gravel shoulder
	35,717	30	Woods, Good, HSG A
	5,802	77	Woods, Good, HSG D
*	2,838	80	Roadside ditch and shrubs, HSG D
	79,756	55	Weighted Average
	58,334		73.14% Pervious Area
	21,422		26.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0500	0.11		**Sheet Flow, Sheet Flow (A to B)** Woods: Light underbrush n= 0.400 P2= 3.27"
1.6	106	0.0500	1.12		**Shallow Concentrated Flow, SCF (B TO C)** Woodland Kv= 5.0 fps
2.6	738	0.0310	4.64	17.83	**Trap/Vee/Rect Channel Flow, Ditch Flow (C to D)** Bot.W=2.00' D=0.80' Z= 2.5 & 4.5'/' Top.W=7.60' n= 0.035 Earth, dense weeds
18.9	944	Total			

Subcatchment 1 N: SC 1 N



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Summary for Subcatchment 1S: SC 1 S

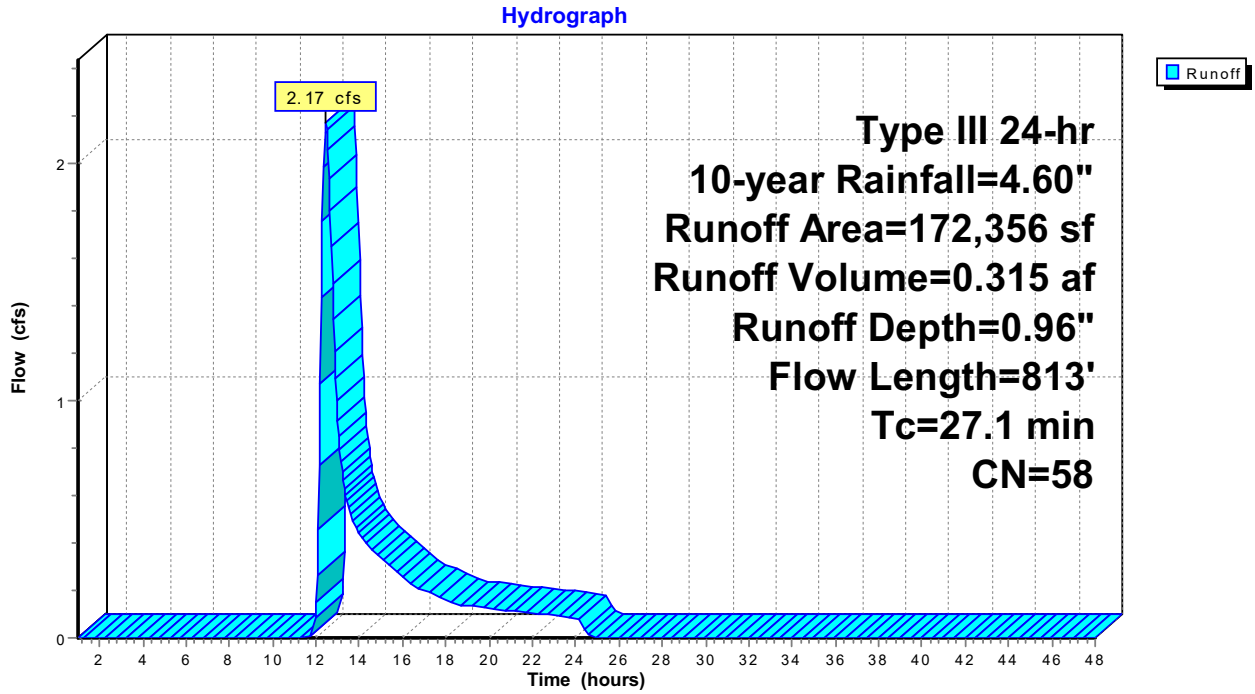
Runoff = 2.17 cfs @ 12.46 hrs, Volume= 0.315 af, Depth= 0.96"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
	72,886	30	Woods, Good, HSG A
*	61,363	77	Woods, Good, HSG D
*	1,387	98	Roofs, HSG A
*	2,490	77	Wetland pocket, assumed HSG D
*	8,584	39	Roadside ditch, HSG A
*	4,340	80	Roadside ditch, HSG D
*	21,306	98	Paved ROW and gravel shoulder
	172,356	58	Weighted Average
	149,663		86.83% Pervious Area
	22,693		13.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	100	0.0300	0.09		**Sheet Flow, Sheet flow (A to B)**
					Woods: Light under brush n= 0.400 P2= 3.27"
9.0	713	0.0700	1.32		**Shallow Concentrated Flow, SCF (B to C)**
					Woodland Kv= 5.0 fps
27.1	813	Total			

Subcatchment 1S: SC 1 S



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Summary for Subcatchment 2N: SC 2 N

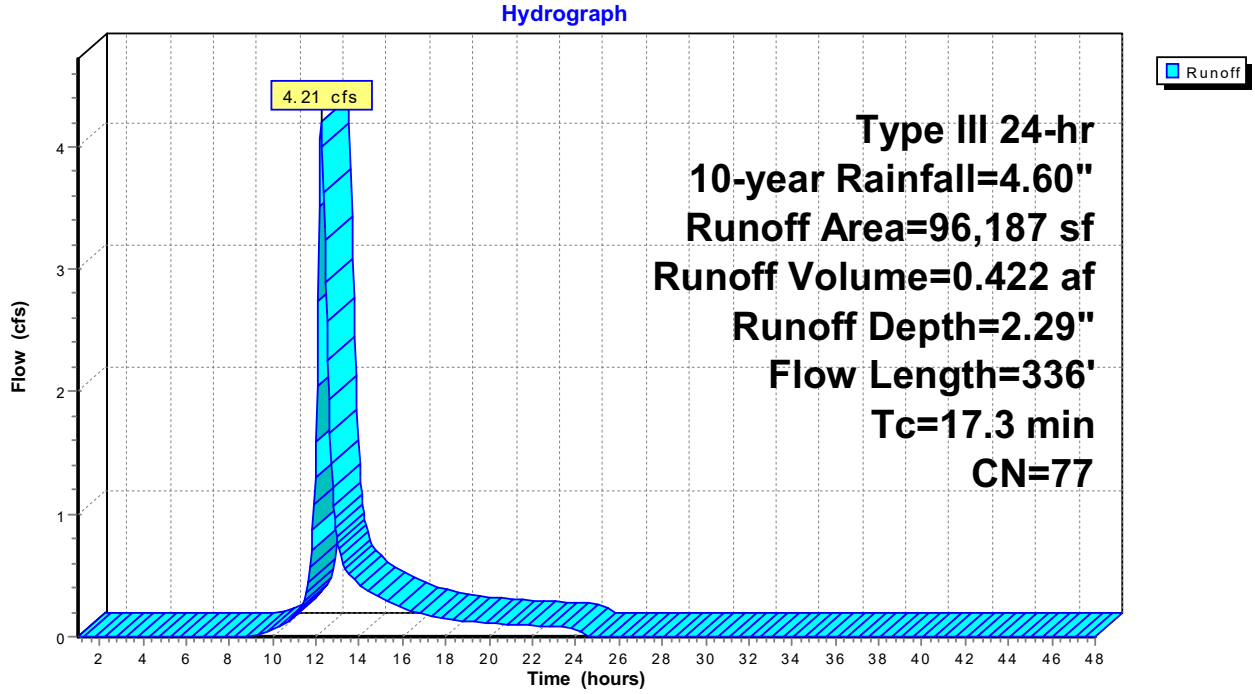
Runoff = 4.21 cfs @ 12.25 hrs, Volume= 0.422 af, Depth= 2.29"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
	11,790	30	Woods, Good, HSG A
	35,555	77	Woods, Good, HSG D
*	5,690	80	Roads sideslope HSG D
*	12,892	98	Paved ROW and gravel shoulder
*	7,208	98	Rooftops and driveways
*	23,052	80	Lawns HSG D
	96,187	77	Weighted Average
	76,087		79.10% Pervious Area
	20,100		20.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0500	0.11		**Sheet Flow, Sheet Flow (A TO B)**
					Woods: Light underbrush n= 0.400 P2= 3.27"
2.6	236	0.0100	1.50		**Shallow Concentrated Flow, Wetlands**
					Grassed Waterway Kv= 15.0 fps
17.3	336	Total			

Subcatchment 2N: SC 2 N



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Summary for Subcatchment 2S: SC 2 S

Runoff = 15.03 cfs @ 12.37 hrs, Volume= 1.803 af, Depth= 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
	5,912	30	Woods, Good, HSG A
	30,826	39	>75% Grass cover, Good, HSG A
*	3,896	98	Roofs/driveways/patios (HSG A)
	24,173	55	Woods, Good, HSG B
	6,557	70	Woods, Good, HSG C
	146,595	70	Woods, Good, HSG C
	247,584	77	Woods, Good, HSG D
	10,866	80	>75% Grass cover, Good, HSG D
*	3,503	98	Roofs/driveways/patios (HSG D)
*	7,726	98	Wash. paved ROW and gravel shoulder
*	7,931	80	Roadside ditch, HSG D
*	1,794	98	Aubrun, paved ROW
	497,363	72	Weighted Average
	480,444		96.60% Pervious Area
	16,919		3.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.4	100	0.0700	0.07		**Sheet Flow, Sheet Flow (A to B)**
					Woods: Dense underbrush n= 0.800 P2= 3.27"
0.7	170	0.0700	3.97		**Shallow Concentrated Flow, SCF (B TO C)**
					Grassed Waterway Kv= 15.0 fps
2.6	565	0.0350	3.56	3.92	**Channel Flow, Stream**
					Area= 1.1 sf Perim= 3.0' r= 0.37'
					n= 0.040 Winding stream, pools & shoals
25.7	835	Total			

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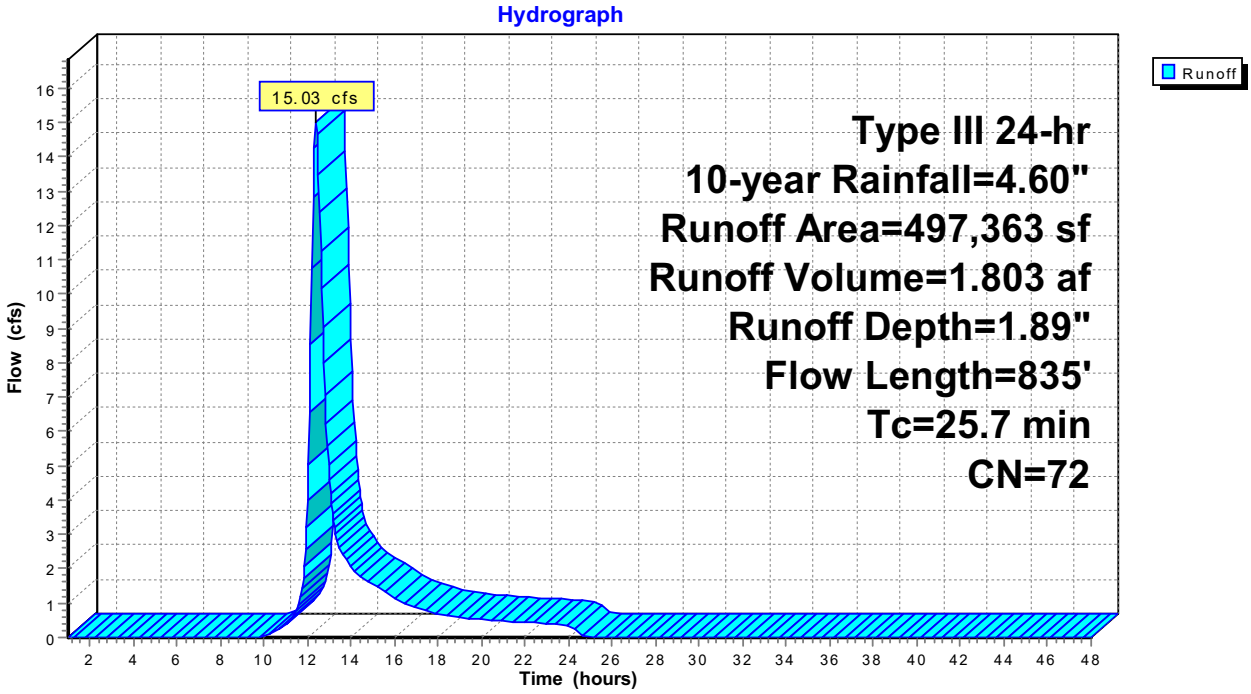
Subcatchment 2S: SC 2 S



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Summary for Subcatchment 3N: SC 3

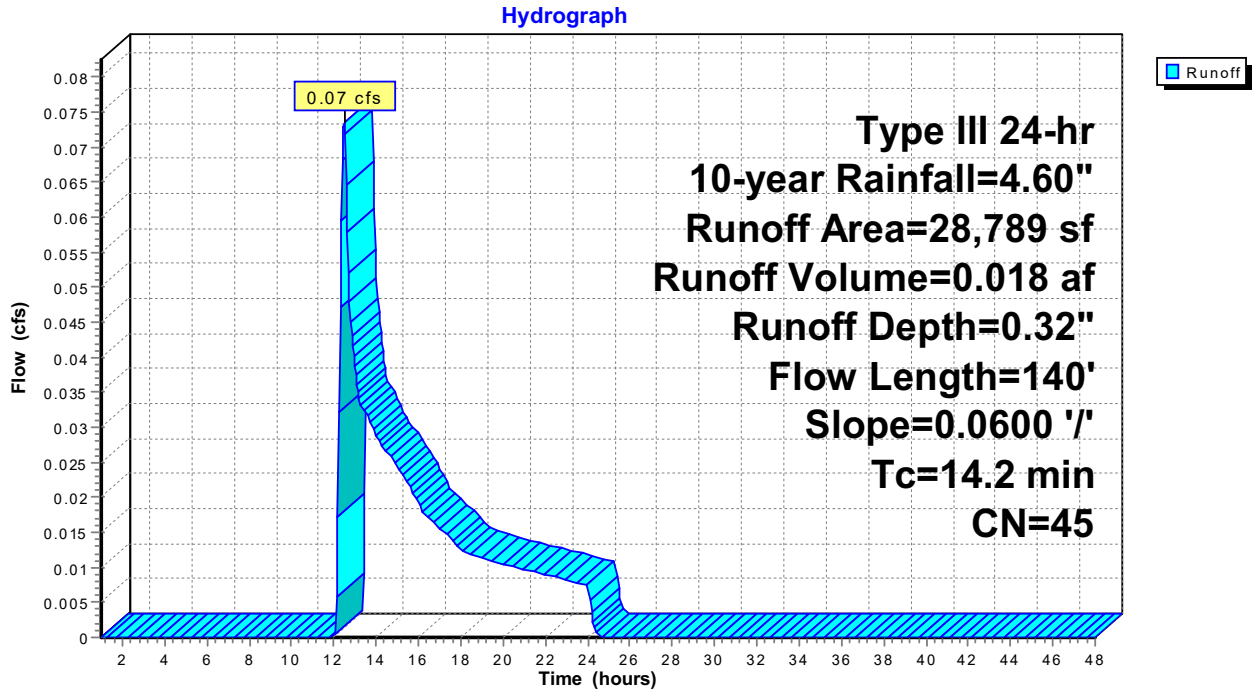
Runoff = 0.07 cfs @ 12.48 hrs, Volume= 0.018 af, Depth= 0.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
19,623	30	Woods, Good, HSG A
9,166	77	Woods, Good, HSG D
28,789	45	Weighted Average
28,789		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0600	0.12		**Sheet Flow, A-B**
					Woods: Light underbrush n= 0.400 P2= 3.27"
0.5	40	0.0600	1.22		**Shallow Concentrated Flow, B-C**
					Woodland Kv= 5.0 fps
14.2	140	Total			

Subcatchment 3N: SC 3



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Summary for Subcatchment 4N: SC 4

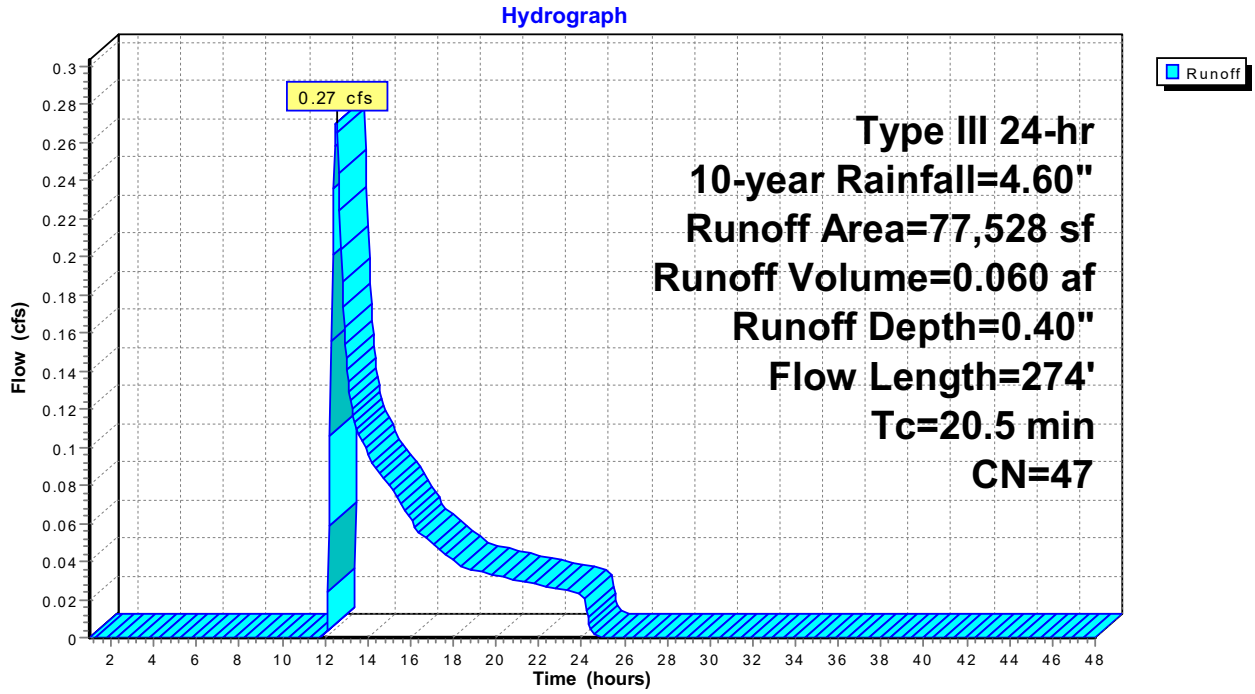
Runoff = 0.27 cfs @ 12.53 hrs, Volume= 0.060 af, Depth= 0.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
	49,772	30	Woods, Good, HSG A
	17,107	77	Woods, Good, HSG D
*	10,649	77	Woods, Good, HSG D
	77,528	47	Weighted Average
	77,528		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	100	0.0300	0.09		**Sheet Flow, A-B**
					Woods: Light underbrush n= 0.400 P2= 3.27"
2.4	174	0.0600	1.22		**Shallow Concentrated Flow, B-C**
					Woodland Kv= 5.0 fps
20.5	274	Total			

Subcatchment 4N: SC 4



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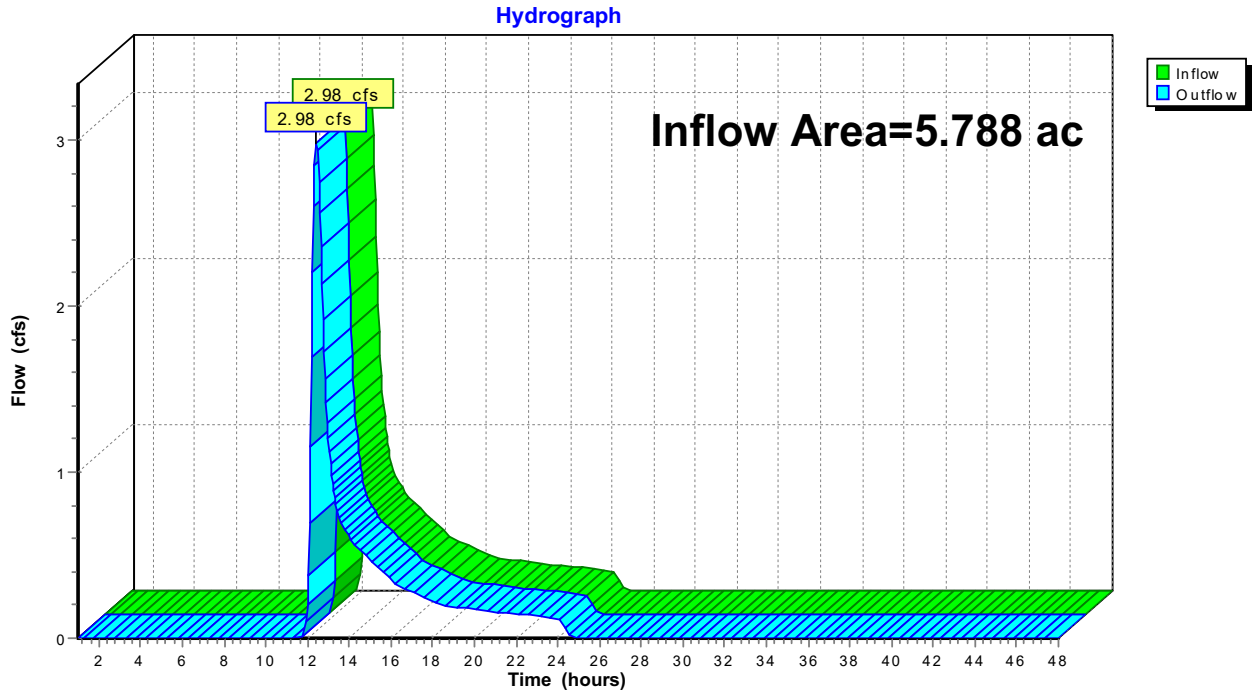
Summary for Reach 1: POI #1 - LAMBERT/WASH INTERSECTION

Inflow Area = 5.788 ac, 17.50% Impervious, Inflow Depth = 0.90" for 10-year event
Inflow = 2.98 cfs @ 12.43 hrs, Volume= 0.435 af
Outflow = 2.98 cfs @ 12.43 hrs, Volume= 0.435 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach 1: POI #1 - LAMBERT/WASH INTERSECTION



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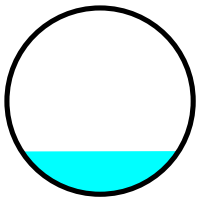
Summary for Reach 1R: N. DITCH CB OUTLET

Inflow Area = 1.831 ac, 26.86% Impervious, Inflow Depth = 0.79" for 10-year event
Inflow = 0.86 cfs @ 12.34 hrs, Volume= 0.120 af
Outflow = 0.86 cfs @ 12.35 hrs, Volume= 0.120 af, Atten = 0%, Lag = 0.3 min

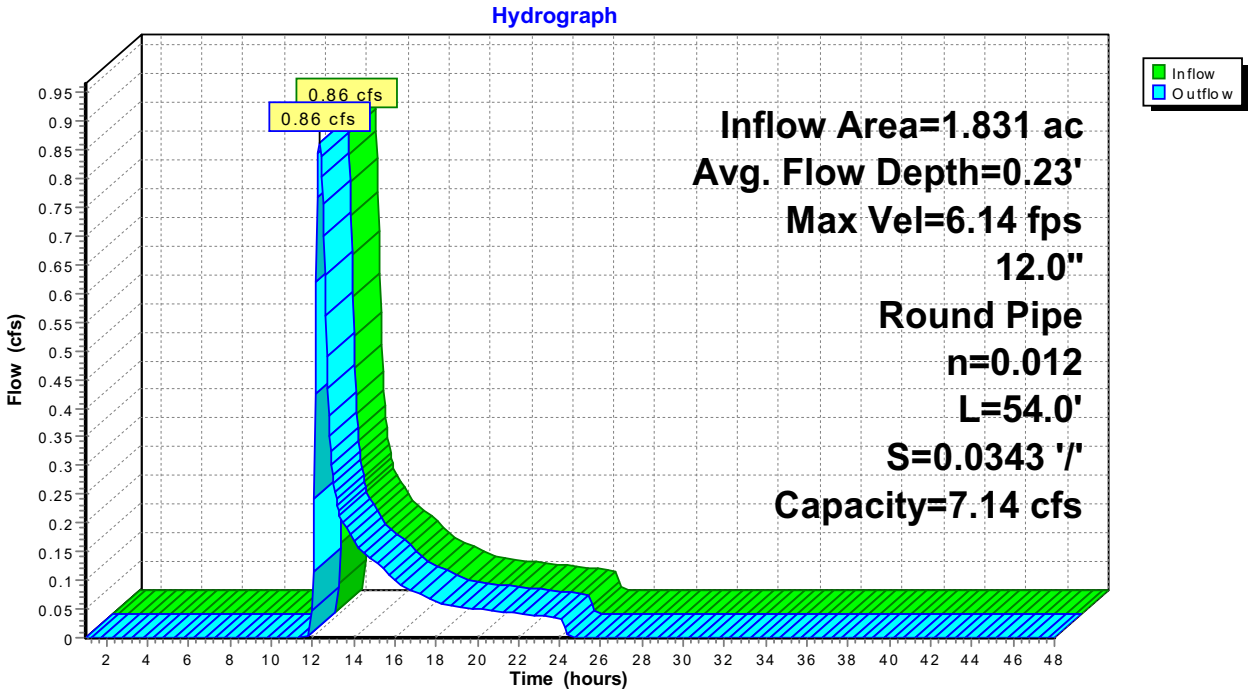
Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Max. Velocity= 6.14 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.00 fps, Avg. Travel Time= 0.3 min

Peak Storage= 8 cf @ 12.34 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.14 cfs

12.0" Round Pipe
n= 0.012
Length= 54.0' Slope= 0.0343 '/'
Inlet Invert= 87.63', Outlet Invert= 85.78'



Reach 1R: N. DITCH CB OUTLET



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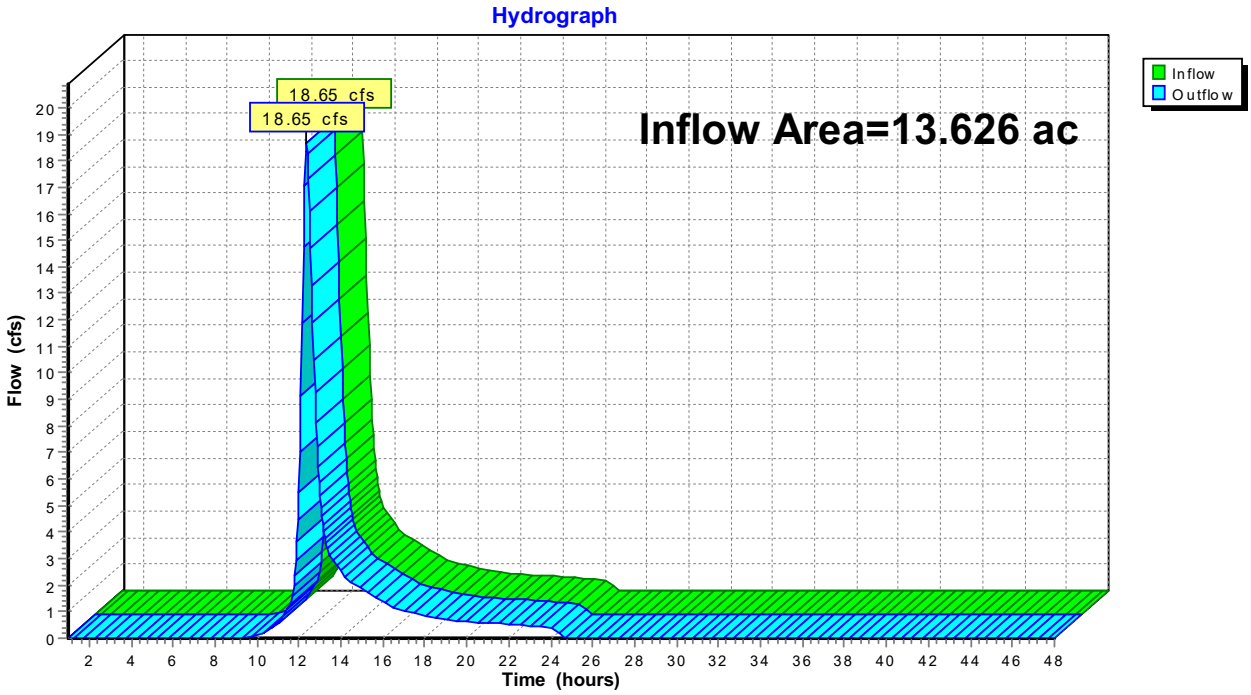
Summary for Reach 2: POI #2 - LAMBERT CROSS CULVERT

Inflow Area = 13.626 ac, 6.24% Impervious, Inflow Depth = 1.96" for 10-year event
Inflow = 18.65 cfs @ 12.35 hrs, Volume= 2.224 af
Outflow = 18.65 cfs @ 12.35 hrs, Volume= 2.224 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach 2: POI #2 - LAMBERT CROSS CULVERT



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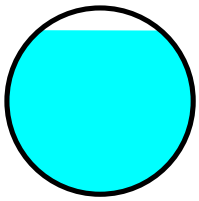
Summary for Reach 2R: WASH. CROSS CULVERT

Inflow Area = 2.208 ac, 20.90% Impervious, Inflow Depth = 2.29" for 10-year event
Inflow = 4.21 cfs @ 12.25 hrs, Volume= 0.422 af
Outflow = 4.19 cfs @ 12.26 hrs, Volume= 0.422 af, Atten= 0%, Lag= 0.7 min

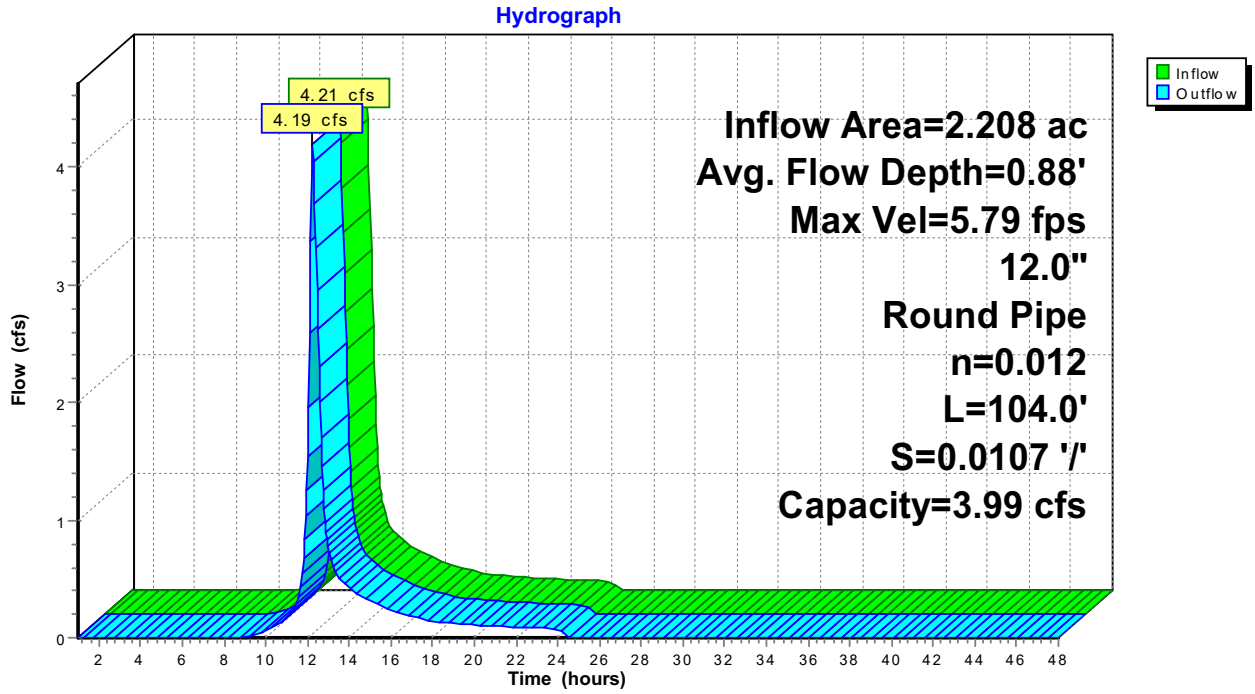
Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.79 fps, Min. Travel Time= 0.3 min
Avg. Velocity= 2.51 fps, Avg. Travel Time= 0.7 min

Peak Storage= 76 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.88'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.99 cfs

12.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 104.0' Slope= 0.0107 '/'
Inlet Invert= 113.80', Outlet Invert= 112.69'



Reach 2R: WASH. CROSS CULVERT



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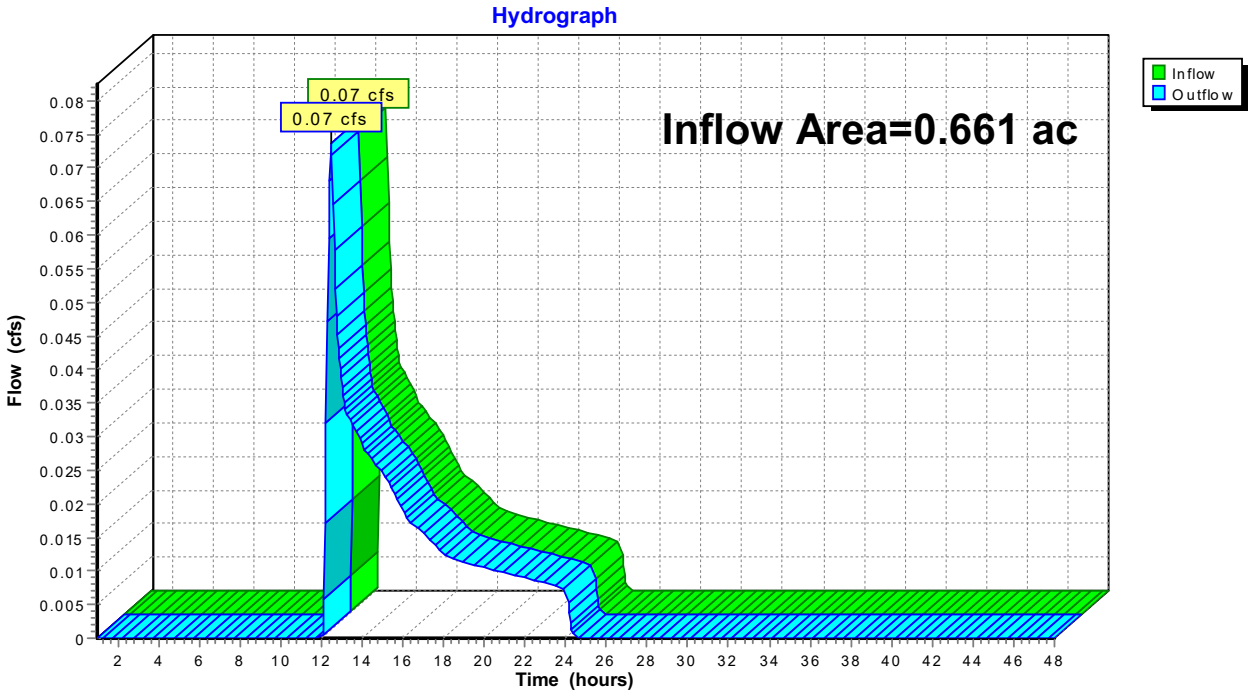
Summary for Reach 3: POI #3 - FALMOUTH WETLANDS

Inflow Area = 0.661 ac, 0.00% Impervious, Inflow Depth = 0.32" for 10-year event
Inflow = 0.07 cfs @ 12.48 hrs, Volume= 0.018 af
Outflow = 0.07 cfs @ 12.48 hrs, Volume= 0.018 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach 3: POI #3 - FALMOUTH WETLANDS



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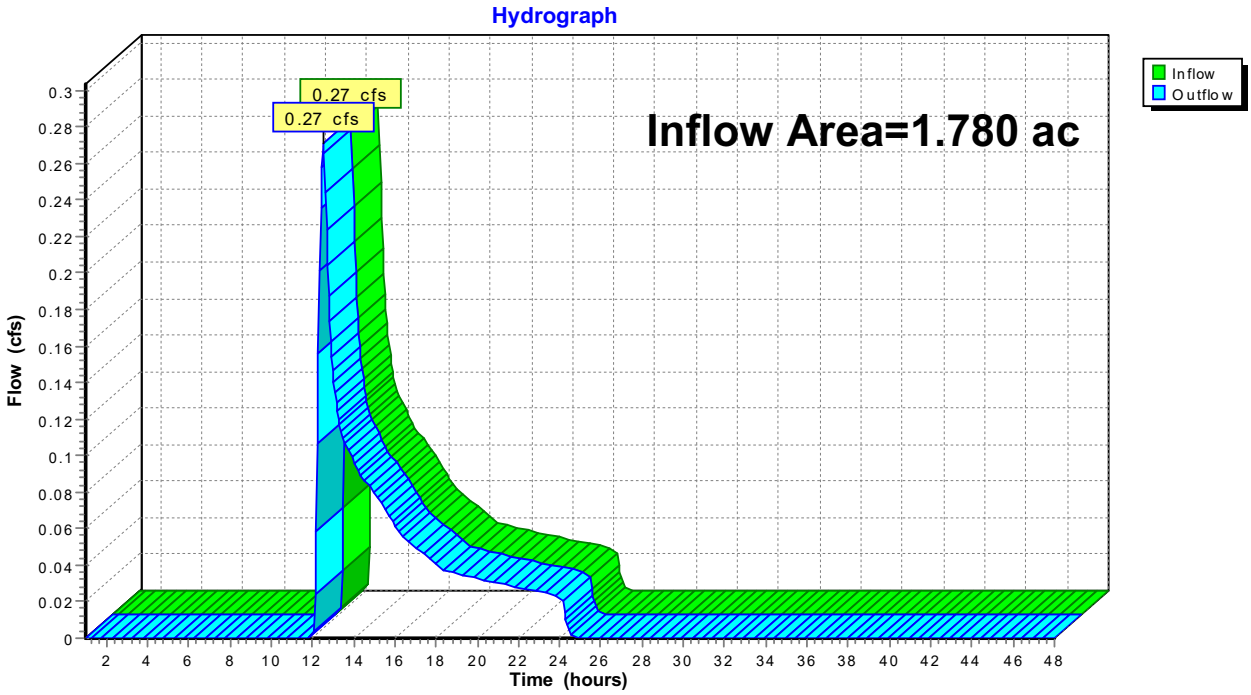
Summary for Reach 4: POI #4 - N STREAM

Inflow Area = 1.780 ac, 0.00% Impervious, Inflow Depth = 0.40" for 10-year event
Inflow = 0.27 cfs @ 12.53 hrs, Volume= 0.060 af
Outflow = 0.27 cfs @ 12.53 hrs, Volume= 0.060 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach 4: POI #4 - N STREAM



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Summary for Subcatchment 1 N: SC 1 N

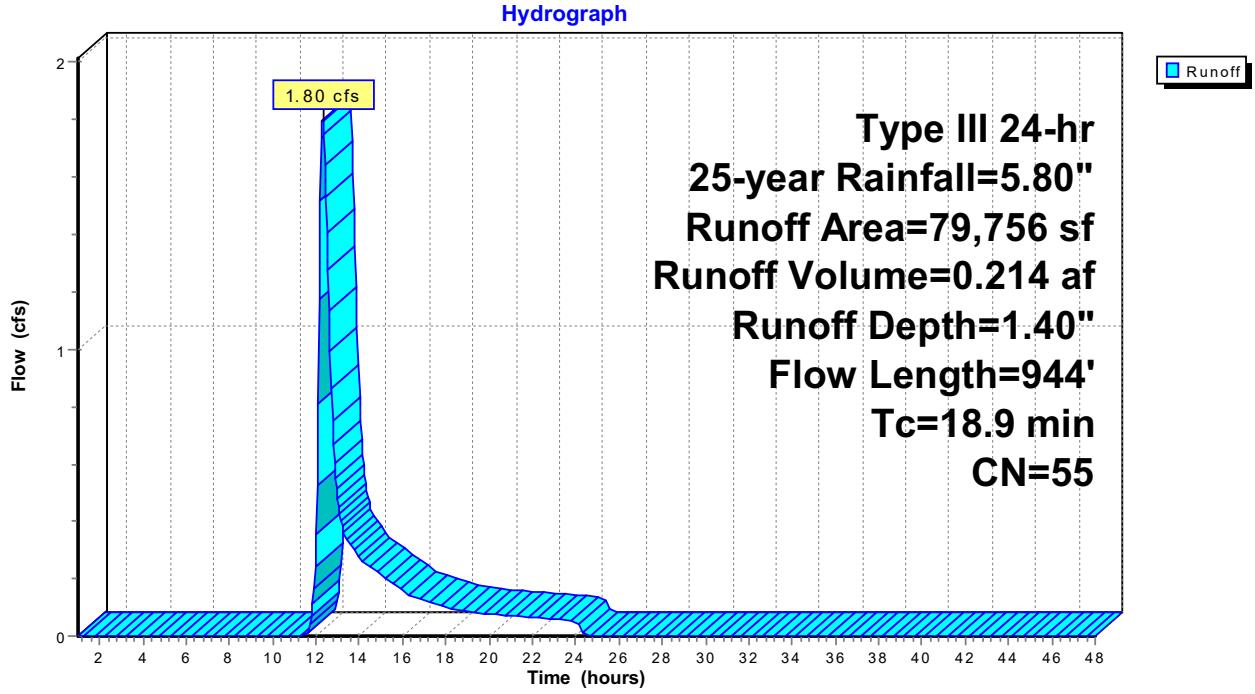
Runoff = 1.80 cfs @ 12.30 hrs, Volume= 0.214 af, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	13,977	39	Roadside ditch and shrubs, HSG A
*	21,422	98	Paved ROW and gravel shoulder
	35,717	30	Woods, Good, HSG A
	5,802	77	Woods, Good, HSG D
*	2,838	80	Roadside ditch and shrubs, HSG D
	79,756	55	Weighted Average
	58,334		73.14% Pervious Area
	21,422		26.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0500	0.11		**Sheet Flow, Sheet Flow (A to B)** Woods: Light underbrush n= 0.400 P2= 3.27"
1.6	106	0.0500	1.12		**Shallow Concentrated Flow, SCF (B TO C)** Woodland Kv= 5.0 fps
2.6	738	0.0310	4.64	17.83	**Trap/Vee/Rect Channel Flow, Ditch Flow (C to D)** Bot.W=2.00' D=0.80' Z= 2.5 & 4.5'/' Top.W=7.60' n= 0.035 Earth, dense weeds
18.9	944	Total			

Subcatchment 1 N: SC 1 N



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Summary for Subcatchment 1S: SC 1 S

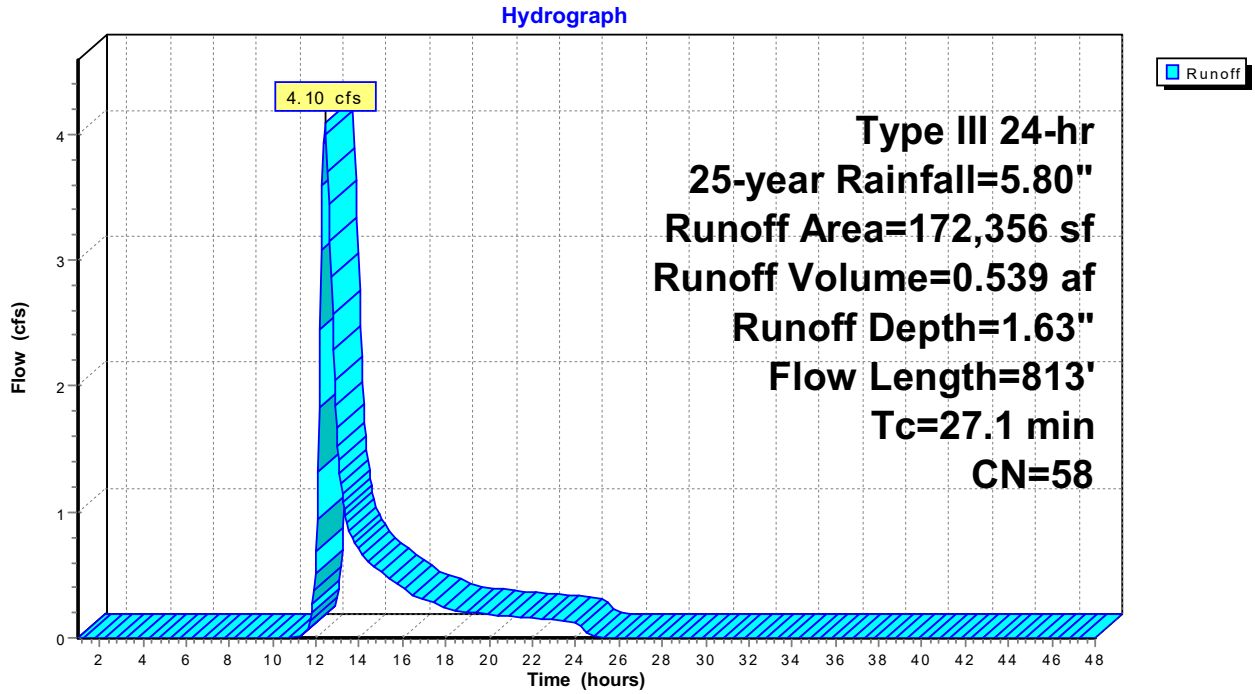
Runoff = 4.10 cfs @ 12.42 hrs, Volume= 0.539 af, Depth= 1.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
	72,886	30	Woods, Good, HSG A
*	61,363	77	Woods, Good, HSG D
*	1,387	98	Roofs, HSG A
*	2,490	77	Wetland pocket, assumed HSG D
*	8,584	39	Roadside ditch, HSG A
*	4,340	80	Roadside ditch, HSG D
*	21,306	98	Paved ROW and gravel shoulder
	172,356	58	Weighted Average
	149,663		86.83% Pervious Area
	22,693		13.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	100	0.0300	0.09		**Sheet Flow, Sheet flow (A to B)**
					Woods: Light under brush n= 0.400 P2= 3.27"
9.0	713	0.0700	1.32		**Shallow Concentrated Flow, SCF (B to C)**
					Woodland Kv= 5.0 fps
27.1	813	Total			

Subcatchment 1S: SC 1 S



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Summary for Subcatchment 2N: SC 2 N

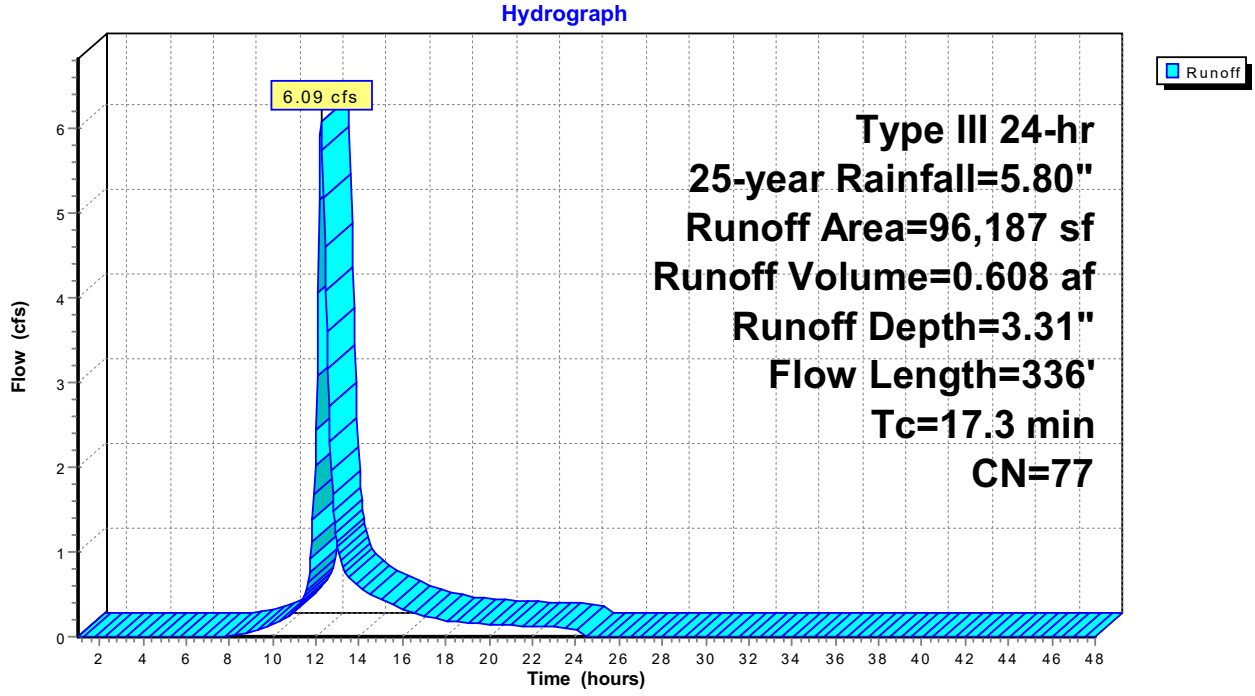
Runoff = 6.09 cfs @ 12.24 hrs, Volume= 0.608 af, Depth= 3.31"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
	11,790	30	Woods, Good, HSG A
	35,555	77	Woods, Good, HSG D
*	5,690	80	Roads sideslope HSG D
*	12,892	98	Paved ROW and gravel shoulder
*	7,208	98	Rooftops and driveways
*	23,052	80	Lawns HSG D
	96,187	77	Weighted Average
	76,087		79.10% Pervious Area
	20,100		20.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0500	0.11		**Sheet Flow, Sheet Flow (A TO B)**
					Woods: Light underbrush n= 0.400 P2= 3.27"
2.6	236	0.0100	1.50		**Shallow Concentrated Flow, Wetlands**
					Grassed Waterway Kv= 15.0 fps
17.3	336	Total			

Subcatchment 2N: SC 2 N



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Summary for Subcatchment 2S: SC 2 S

Runoff = 22.81 cfs @ 12.37 hrs, Volume= 2.693 af, Depth= 2.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
	5,912	30	Woods, Good, HSG A
	30,826	39	>75% Grass cover, Good, HSG A
*	3,896	98	Roofs/driveways/patios (HSG A)
	24,173	55	Woods, Good, HSG B
	6,557	70	Woods, Good, HSG C
	146,595	70	Woods, Good, HSG C
	247,584	77	Woods, Good, HSG D
	10,866	80	>75% Grass cover, Good, HSG D
*	3,503	98	Roofs/driveways/patios (HSG D)
*	7,726	98	Wash. paved ROW and gravel shoulder
*	7,931	80	Roadside ditch, HSG D
*	1,794	98	Auburn, paved ROW
	497,363	72	Weighted Average
	480,444		96.60% Pervious Area
	16,919		3.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.4	100	0.0700	0.07		**Sheet Flow, Sheet Flow (A to B)**
					Woods: Dense underbrush n= 0.800 P2= 3.27"
0.7	170	0.0700	3.97		**Shallow Concentrated Flow, SCF (B TO C)**
					Grassed Waterway Kv= 15.0 fps
2.6	565	0.0350	3.56	3.92	**Channel Flow, Stream**
					Area= 1.1 sf Perim= 3.0' r= 0.37'
					n= 0.040 Winding stream, pools & shoals
25.7	835	Total			

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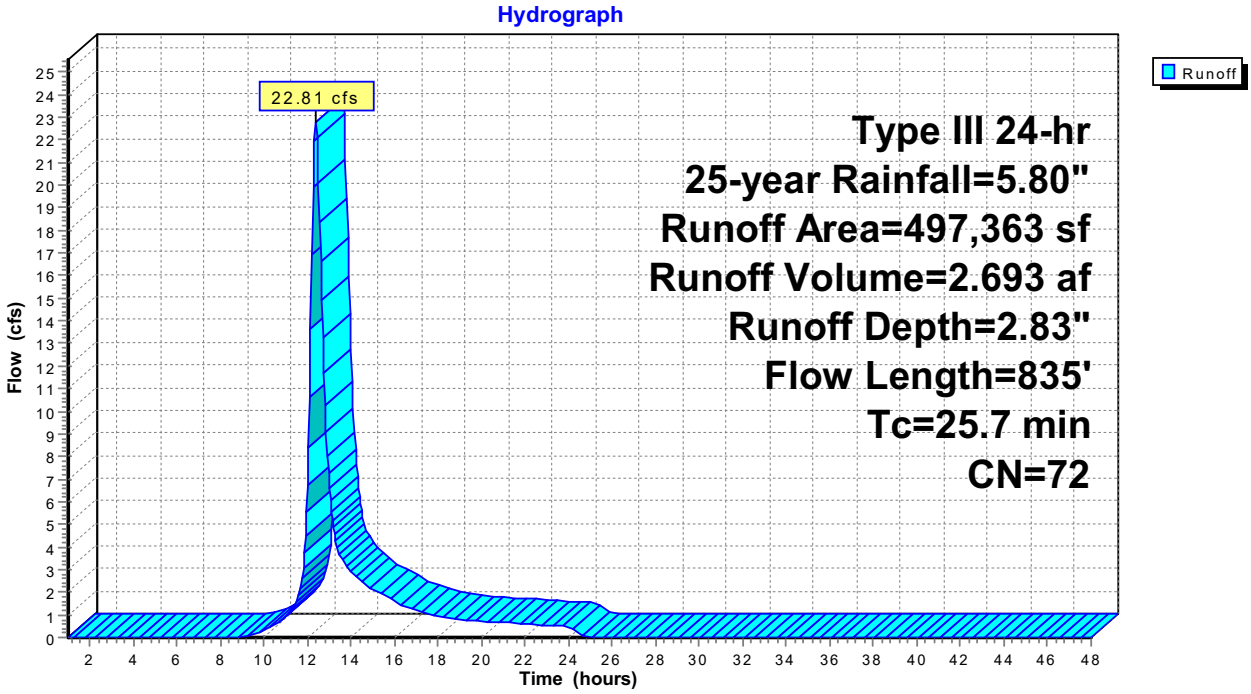
Subcatchment 2S: SC 2 S



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Summary for Subcatchment 3N: SC 3

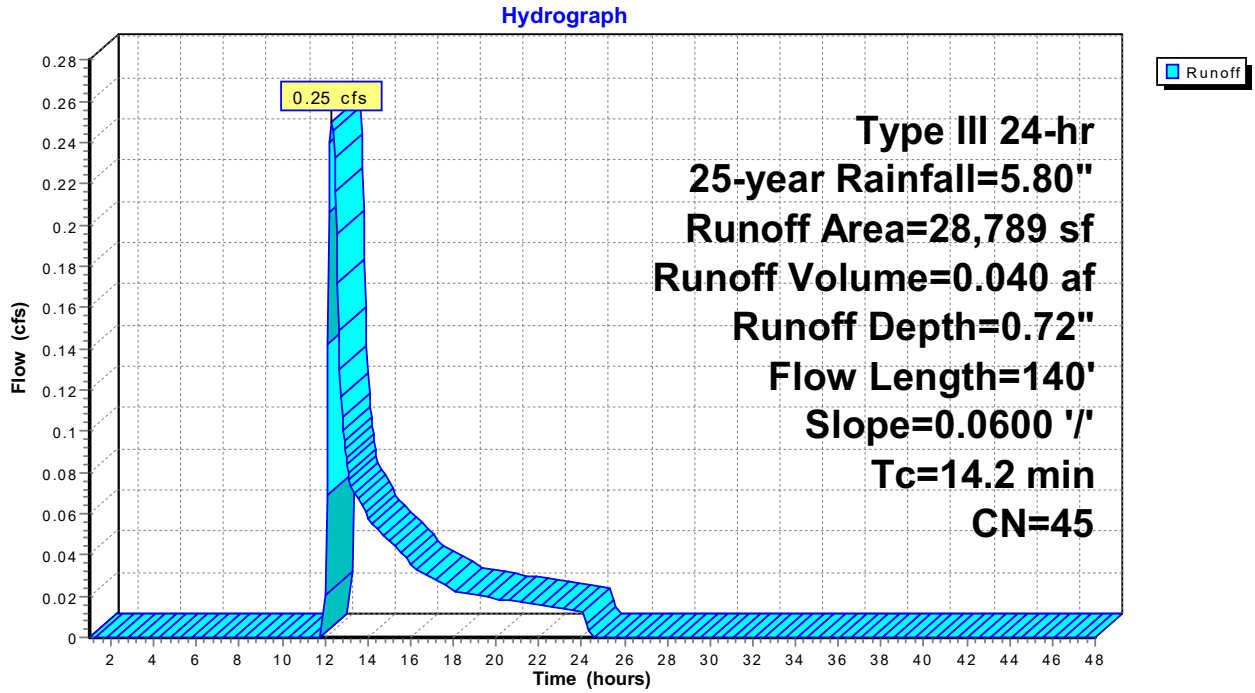
Runoff = 0.25 cfs @ 12.32 hrs, Volume= 0.040 af, Depth= 0.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
19,623	30	Woods, Good, HSG A
9,166	77	Woods, Good, HSG D
28,789	45	Weighted Average
28,789		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0600	0.12		**Sheet Flow, A-B**
					Woods: Light underbrush n= 0.400 P2= 3.27"
0.5	40	0.0600	1.22		**Shallow Concentrated Flow, B-C**
					Woodland Kv= 5.0 fps
14.2	140	Total			

Subcatchment 3N: SC 3



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Summary for Subcatchment 4N: SC 4

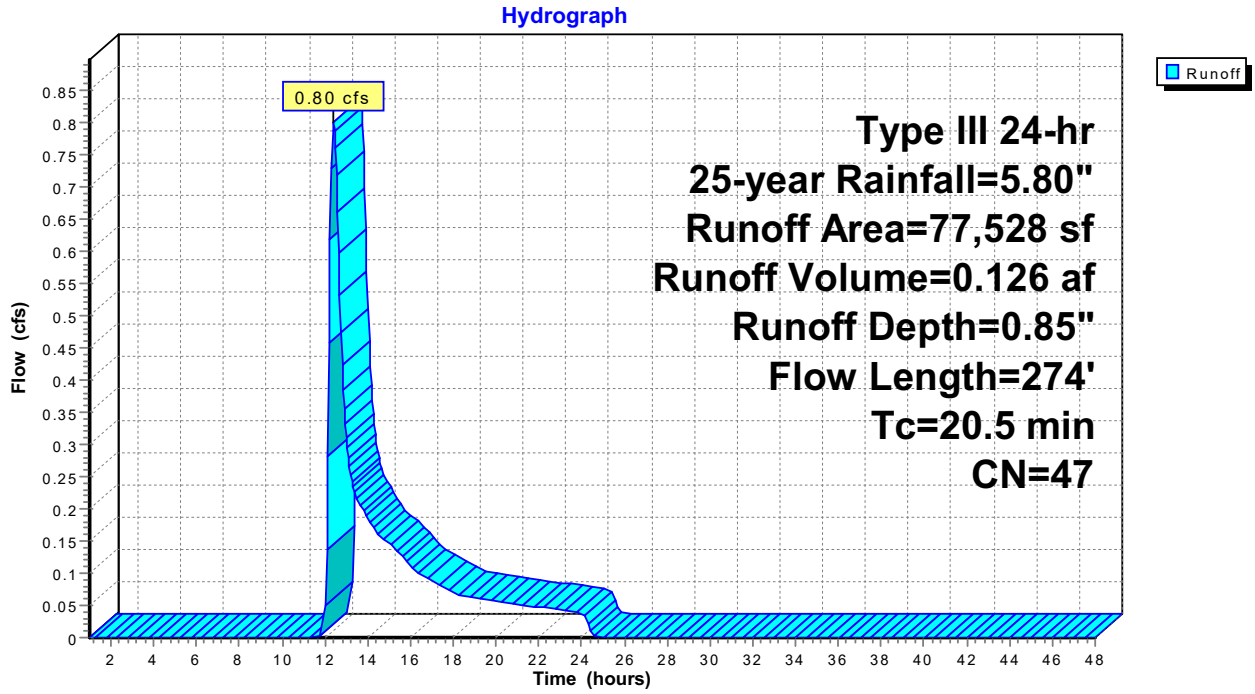
Runoff = 0.80 cfs @ 12.40 hrs, Volume= 0.126 af, Depth= 0.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
	49,772	30	Woods, Good, HSG A
	17,107	77	Woods, Good, HSG D
*	10,649	77	Woods, Good, HSG D
	77,528	47	Weighted Average
	77,528		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	100	0.0300	0.09		**Sheet Flow, A-B**
					Woods: Light underbrush n=0.400 P2= 3.27"
2.4	174	0.0600	1.22		**Shallow Concentrated Flow, B-C**
					Woodland Kv= 5.0 fps
20.5	274	Total			

Subcatchment 4N: SC 4



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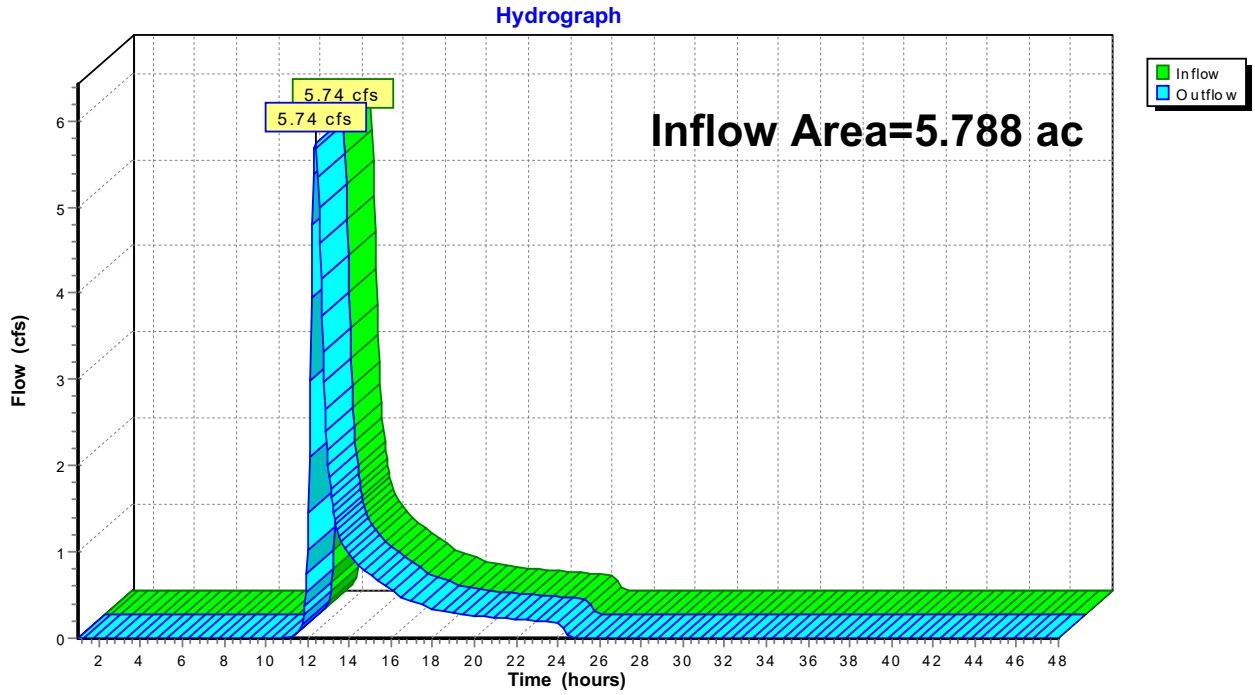
Summary for Reach 1: POI #1 - LAMBERT/WASH INTERSECTION

Inflow Area = 5.788 ac, 17.50% Impervious, Inflow Depth = 1.56" for 25-year event
Inflow = 5.74 cfs @ 12.39 hrs, Volume= 0.753 af
Outflow = 5.74 cfs @ 12.39 hrs, Volume= 0.753 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach 1: POI #1 - LAMBERT/WASH INTERSECTION



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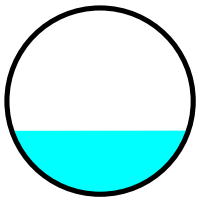
Summary for Reach 1R: N. DITCH CB OUTLET

Inflow Area = 1.831 ac, 26.86% Impervious, Inflow Depth = 1.40" for 25-year event
Inflow = 1.80 cfs @ 12.30 hrs, Volume= 0.214 af
Outflow = 1.80 cfs @ 12.31 hrs, Volume= 0.214 af, Atten = 0%, Lag = 0.2 min

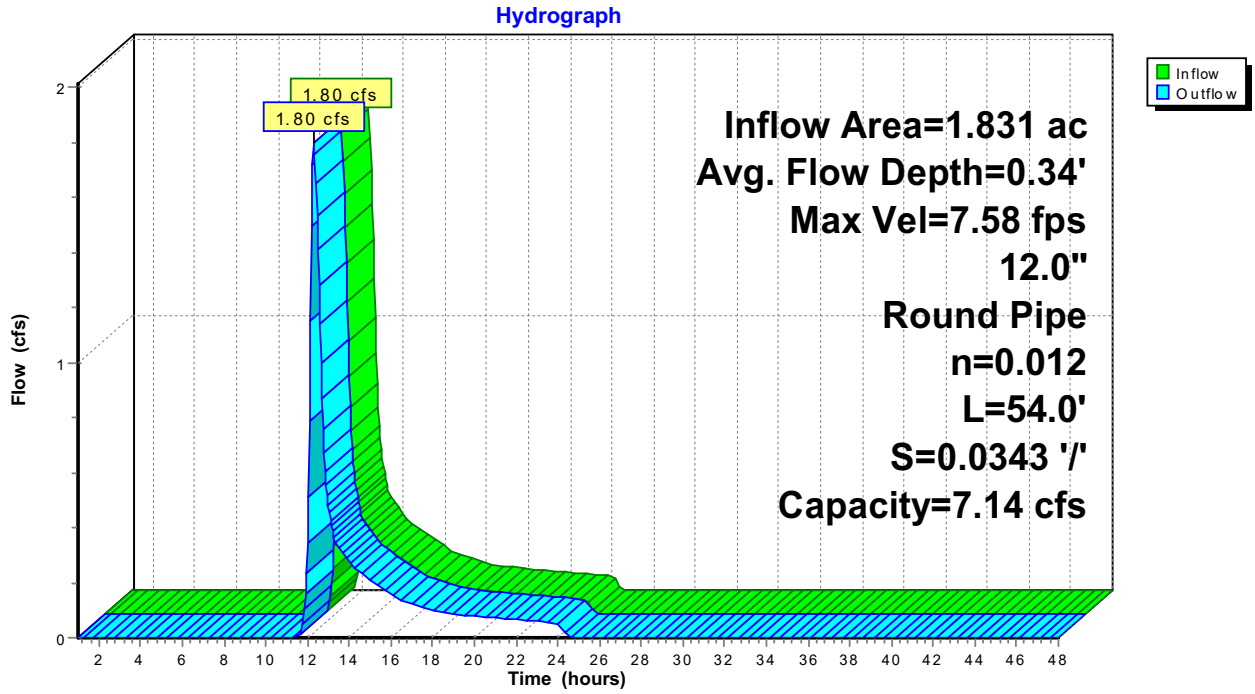
Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Max. Velocity= 7.58 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.44 fps, Avg. Travel Time= 0.3 min

Peak Storage= 13 cf @ 12.30 hrs
Average Depth at Peak Storage= 0.34'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.14 cfs

12.0" Round Pipe
n= 0.012
Length= 54.0' Slope= 0.0343 '/'
Inlet Invert= 87.63', Outlet Invert= 85.78'



Reach 1R: N. DITCH CB OUTLET



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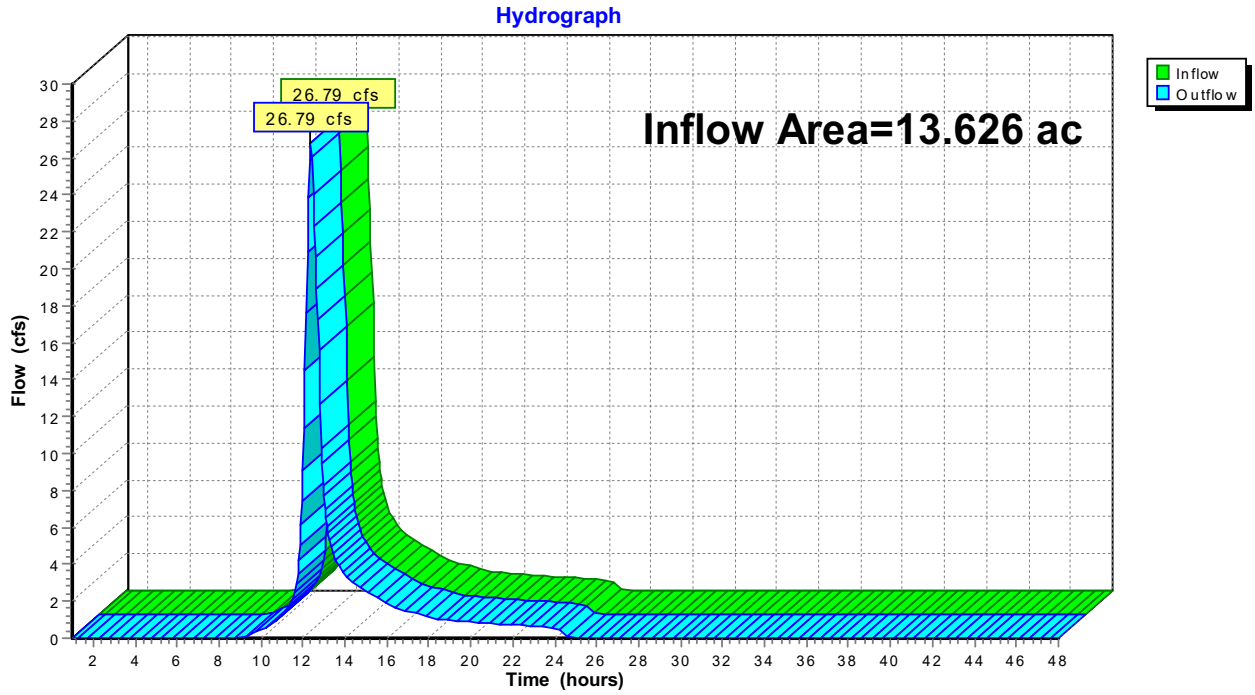
Summary for Reach 2: POI #2 - LAMBERT CROSS CULVERT

Inflow Area = 13.626 ac, 6.24% Impervious, Inflow Depth = 2.91" for 25-year event
Inflow = 26.79 cfs @ 12.37 hrs, Volume= 3.301 af
Outflow = 26.79 cfs @ 12.37 hrs, Volume= 3.301 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach 2: POI #2 - LAMBERT CROSS CULVERT



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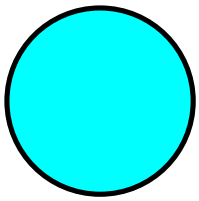
Summary for Reach 2R: WASH. CROSS CULVERT

Inflow Area = 2.208 ac, 20.90% Impervious, Inflow Depth = 3.31" for 25-year event
Inflow = 6.09 cfs @ 12.24 hrs, Volume= 0.608 af
Outflow = 3.99 cfs @ 12.20 hrs, Volume= 0.608 af, Atten = 35%, Lag = 0.0 min

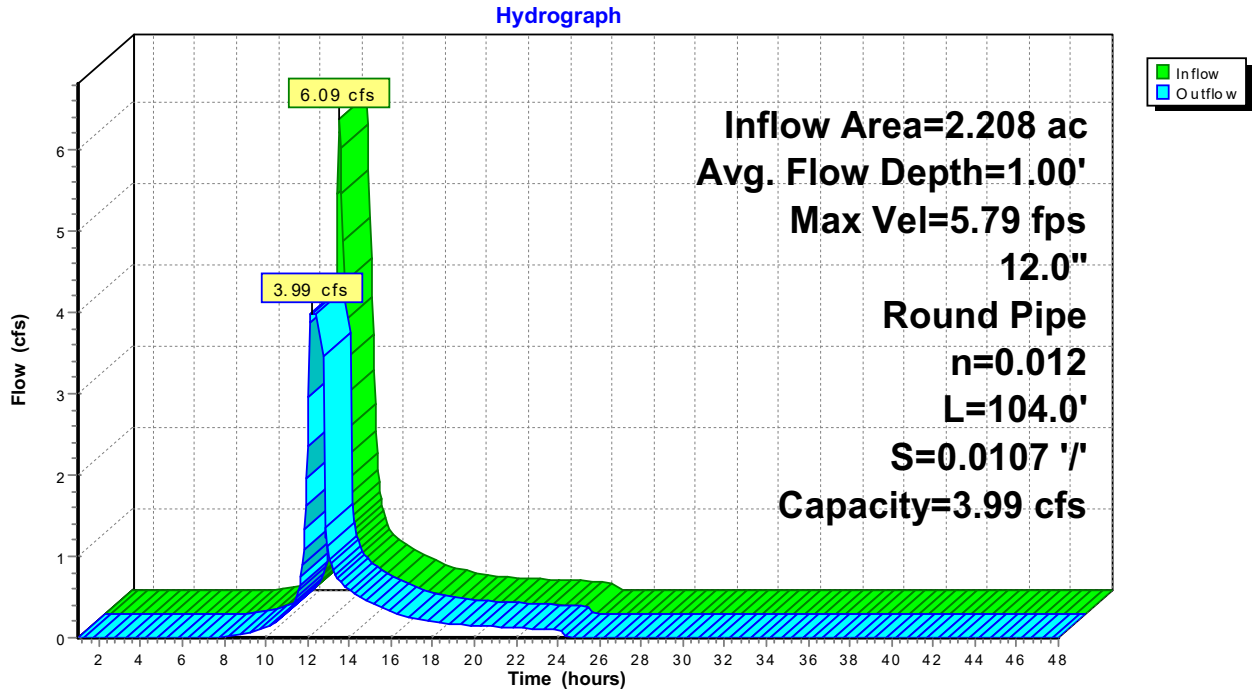
Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Max. Velocity= 5.79 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.68 fps, Avg. Travel Time= 0.6 min

Peak Storage= 82 cf @ 12.15 hrs
Average Depth at Peak Storage= 1.00'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.99 cfs

12.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 104.0' Slope= 0.0107 '/'
Inlet Invert= 113.80', Outlet Invert= 112.69'



Reach 2R: WASH. CROSS CULVERT



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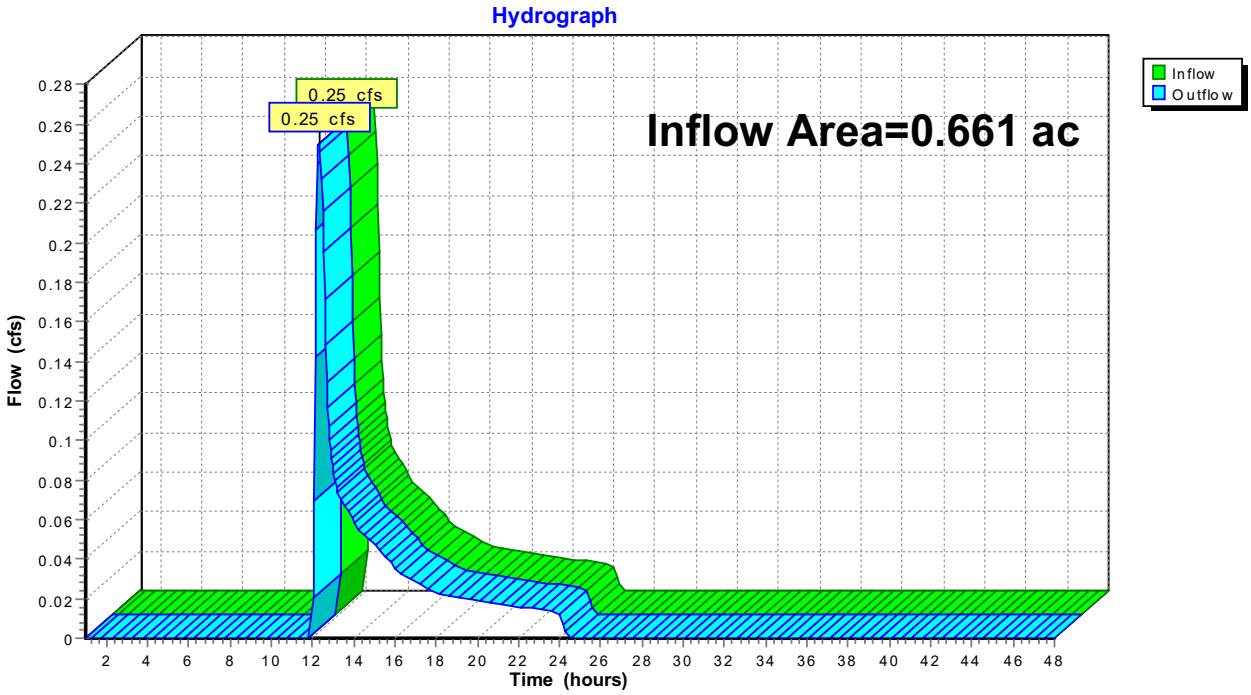
Summary for Reach 3: POI #3 - FALMOUTH WETLANDS

Inflow Area = 0.661 ac, 0.00% Impervious, Inflow Depth = 0.72" for 25-year event
Inflow = 0.25 cfs @ 12.32 hrs, Volume= 0.040 af
Outflow = 0.25 cfs @ 12.32 hrs, Volume= 0.040 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach 3: POI #3 - FALMOUTH WETLANDS



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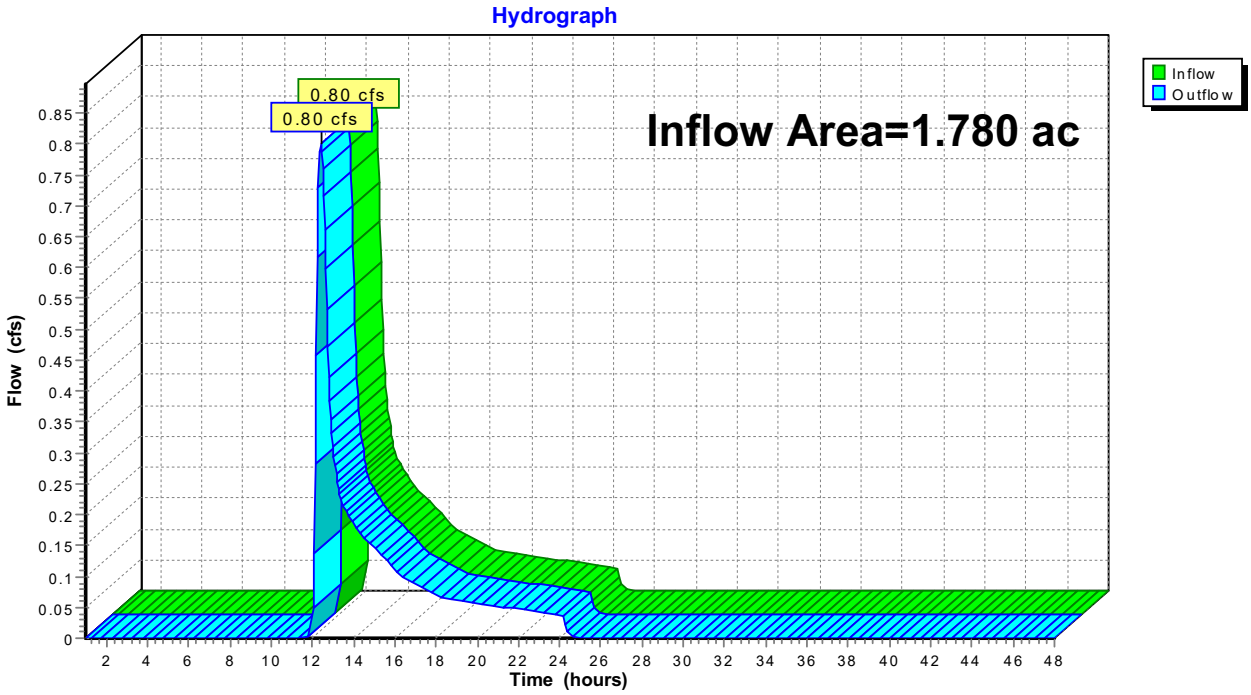
Summary for Reach 4: POI #4 - N STREAM

Inflow Area = 1.780 ac, 0.00% Impervious, Inflow Depth = 0.85" for 25-year event
Inflow = 0.80 cfs @ 12.40 hrs, Volume= 0.126 af
Outflow = 0.80 cfs @ 12.40 hrs, Volume= 0.126 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach 4: POI #4 - N STREAM



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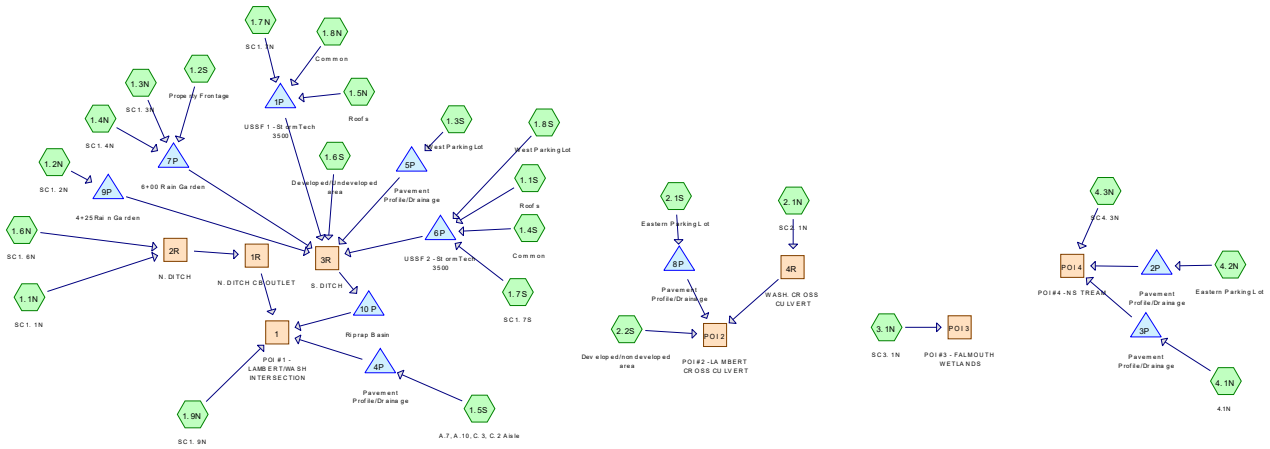

Subcat Reach Pond Link

Routing Diagram for 1145_POST-new

Prepared by HP Inc., Printed 12/23/2022

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.020	98	5' pavers/s.mews (1.5S)
0.034	98	8' multiuse new imperv (2.2S)
1.167	39	>75% Grass cover, Good, HSG A (1.3S, 1.4S, 1.8S, 2.2S)
0.692	80	>75% Grass cover, Good, HSG D (1.2S, 1.4S, 1.5S, 2.1S, 2.2S, 4.3N)
0.008	98	A.2 patios (1.2N)
0.017	98	A.9/A.10 rear patios (1.7S)
0.045	98	Curb & Pavement (4.1N)
0.005	98	Curbing (2.1S)
0.013	98	Curved Patio (1.5S)
0.053	98	Front Patios (1.5S)
0.016	80	Grass Pavers (1.5S)
0.010	80	Grass pavers (1.4N, 1.6S)
0.543	98	IMPERV (1.5N)
0.123	39	Landscaped/open space (1.6S)
0.019	80	Landscaping Aubur n St (2.2S)
0.141	80	Landscaping/HSG D (1.6S)
0.001	39	Landscaping/esplanade (1.9N)
0.047	39	Landscaping/lawn, HSG A (1.3N)
0.065	80	Landscaping/open space (2.1N)
0.108	39	Landscaping/open space, HSG A (1.1N, 4.2N)
0.030	39	Landscaping/openspace/raingarden/HSG A (1.4N)
0.058	39	Landscaping/roadsided itch (1.1N)
0.046	39	Landscaping/slope, HSG A (4.3N)
0.076	80	Landscaping/slope, HSG D (3.1N)
0.083	39	Landscaping/swale, HSG A (3.1N)
0.247	39	Lawn/landscaping, HSG A (4.1N)
0.080	80	Lawn/landscaping, HSG D (1.7S)
0.069	39	Lawn/landscaping/HSG A (1.2N)
0.071	39	Lawn/lanscaping/ditch, HSG A (1.7N)
0.489	80	Lawns/landscaping, HSG D (2.1N)
0.055	98	Long Patio (1.5S)
0.065	98	N sidewalk (2.1N)
0.333	39	Open space, landscaping, HSG A (1.8N)
0.150	98	Parking lot (4.2N)
0.149	98	Patios (1.3N, 1.5S, 1.6S, 4.1N)
0.014	98	Paved Walkway (4.1N)
0.096	98	Paved driveaisle (2.1S)
0.059	98	Paved walkway (1.8N)
0.001	98	Paver walkway (1.4N)
0.030	98	Porous Horizontal (2.1S)
0.120	98	Porous Pavement (4.1N)
0.026	98	Porous Vertical (2.1S)
0.056	98	Porous pavement (4.2N)
0.006	98	Rear Patio (1.4S)
0.012	98	Rear walkway/patio (2.1S)
0.171	80	Road sideslope (2.1N)

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Area Listing (all nodes) (continued)

Area (acres)	CN	Description (subcatchment-numbers)
0.094	39	Roadside ditch and shrubs, HSG A (1.1N)
0.183	80	Roadside ditch/slope (2.2S)
0.662	98	Roofs (1.1S)
0.089	98	Roofs/driveways/patios (HSG A) (2.2S)
0.080	98	Roofs/driveways/patios (HSG D) (2.2S)
0.010	98	Rooftop (2.1N)
0.156	98	Rooftop and driveway (2.1N)
0.135	98	Sidewalk (1.1N, 1.2S, 2.2S, 4.2N)
0.044	98	Sidewalk/driveway (1.3N)
0.010	98	Sidewalks (1.5S)
0.105	39	Slope behind patios, HSG A (2.2S)
0.003	98	Solid Waste Location (4.1N)
0.000	98	Transformer (1.5S)
0.007	98	Unconnected roofs, HSG A (1.6S)
0.008	98	Walkway (1.7S)
0.020	98	Walkway/patio (2.1S)
0.577	98	Wash Ave (1.2N, 1.3N, 1.6N, 1.9N, 2.2S)
0.133	39	Wash Ave ditch (1.6S)
0.099	98	Wash. Ave (1.2S)
0.207	98	Wash. Ave and S. Conc apron (2.1N)
0.356	98	Washington ave, cross walks (1.6S)
1.734	30	Woods, Good, HSG A (1.1N, 1.6S, 2.1N, 3.1N, 4.3N)
0.555	55	Woods, Good, HSG B (2.2S)
3.516	70	Woods, Good, HSG C (2.2S)
6.894	77	Woods, Good, HSG D (2.1N, 2.2S, 3.1N, 4.3N)
0.002	98	bus stop (1.2S)
0.027	30	crs tone (1.3S)
0.024	98	drive aisle (1.8S)
0.007	98	driveway (1.2S)
0.004	98	dumpster pad (2.1S)
0.002	80	grass pavers (1.2N)
0.010	98	patio (1.2S)
0.011	98	patios (1.8N)
0.152	98	paved drive aisle (1.3S)
0.039	98	paved walkway (1.4S)
0.001	98	pavers (1.2N)
0.138	98	porous (1.3S, 1.5S)
0.076	98	sidewalk (1.2N, 1.2S, 1.8S, 1.9N)
0.016	98	stone dust (2.2S)
0.000	98	transformer (1.8N)
0.000	98	transformer pad (4.1N)
0.025	98	walkway (1.3S)
21.931	**71**	**TOTAL AREA**

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Summary for Subcatchment 1.1N: SC 1.1N

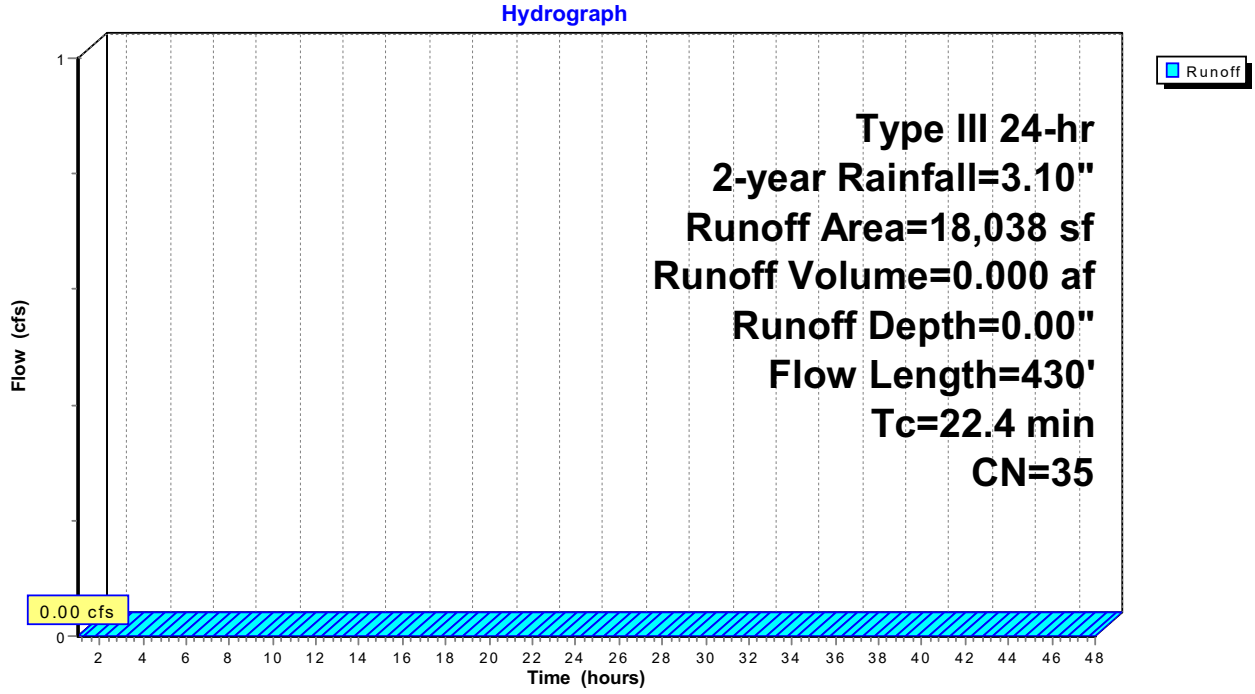
Runoff = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	4,082	39	Roadside ditch and shrubs, HSG A
	9,907	30	Woods, Good, HSG A
*	1,254	39	Landscaping/open space, HSG A
*	2,546	39	Landscaping/roadside ditch
*	249	98	Sidewalk
	18,038	35	Weighted Average
	17,789		98.62% Pervious Area
	249		1.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	70	0.0400	0.06		**Sheet Flow, SF (A to B)** Woods: Dense underbrush n=0.800 P2= 3.27"
0.1	20	0.4000	3.16		**Shallow Concentrated Flow, SCF (B to C)** Woodland Kv= 5.0 fps
1.2	340	0.0310	4.64	17.83	**Trap/Vee/Rect Channel Flow, Ditch Flow (C to D)** Bot.W=2.00' D=0.80' Z= 2.5& 4.5'/' Top.W=7.60' n= 0.035
22.4	430	Total			

Subcatchment 1.1N: SC 1.1N



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Summary for Subcatchment 1.1S: Roofs

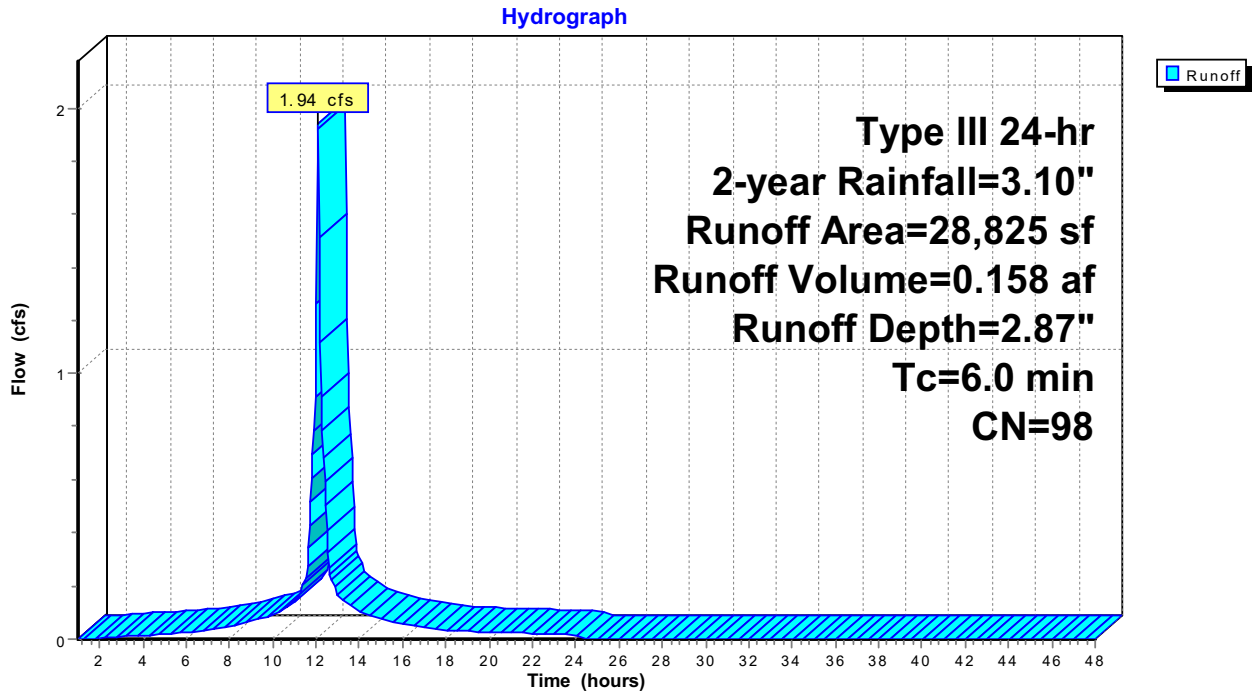
Runoff = 1.94 cfs @ 12.09 hrs, Volume= 0.158 af, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	28,825	98	Roofs
	28,825		100.00% Impervious Area

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

Subcatchment 1.1S: Roofs



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Summary for Subcatchment 1.2N: SC 1.2N

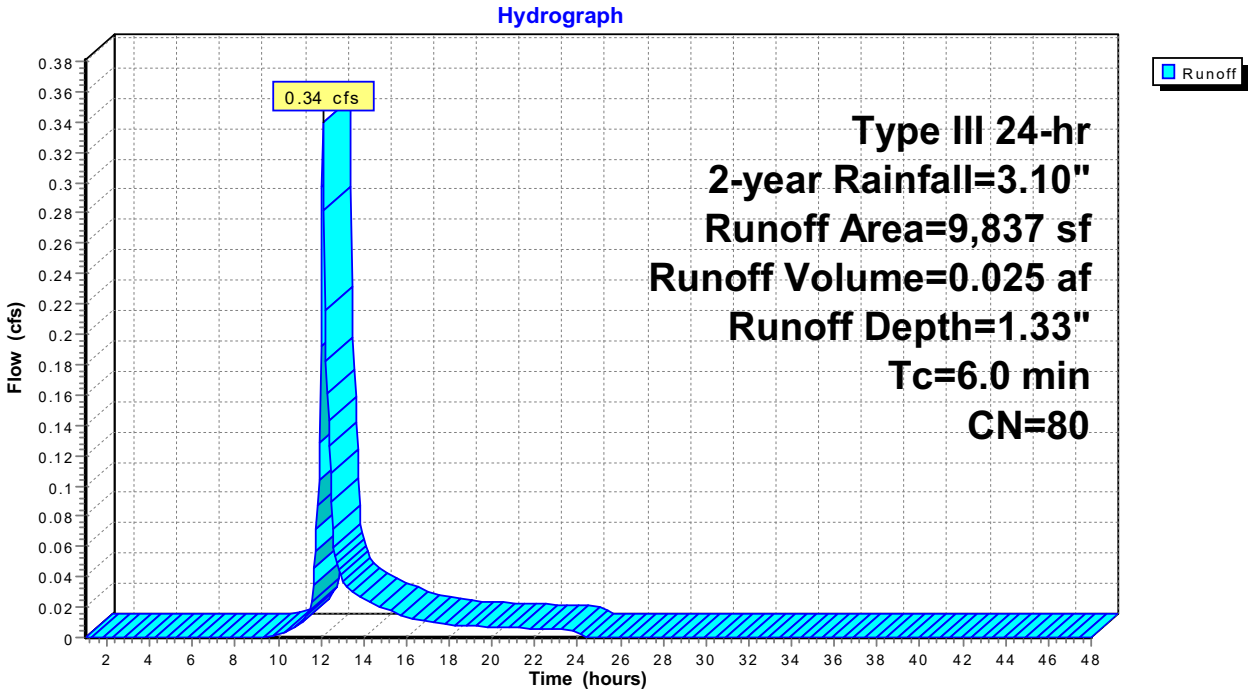
Runoff = 0.34 cfs @ 12.10 hrs, Volume= 0.025 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	3,797	98	Wash Ave
*	360	98	A.2 patios
*	2,543	98	sidewalk
*	23	98	pavers
*	99	80	grass pavers
*	3,015	39	Lawn/landscaping/HSG A
	9,837	80	Weighted Average
	3,114		31.66% Pervious Area
	6,723		68.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.2N: SC 1.2N



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Summary for Subcatchment 1.2S: Property Frontage

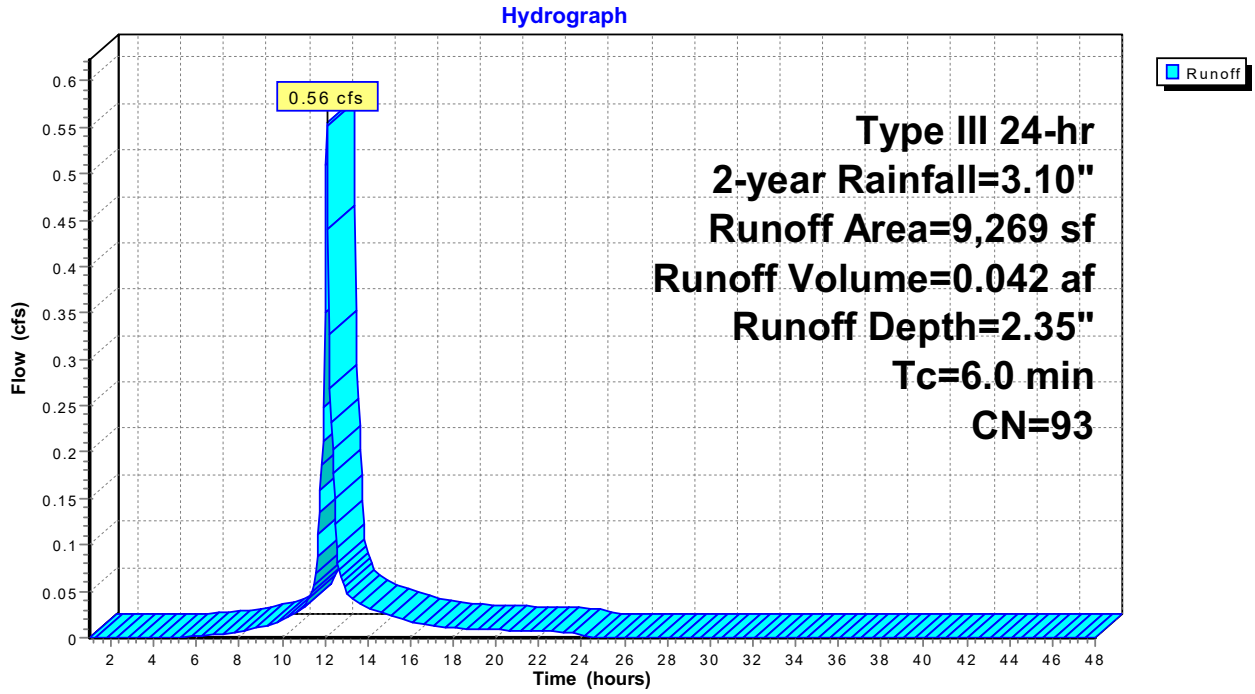
Runoff = 0.56 cfs @ 12.09 hrs, Volume= 0.042 af, Depth= 2.35"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	4,309	98	Wash. Ave
*	1,319	98	Sidewalk
*	436	98	patio
*	321	98	driveway
*	363	98	sidewalk
*	76	98	bus stop
	2,445	80	>75% Grass cover, Good, HSG D
	9,269	93	Weighted Average
	2,445		26.38% Pervious Area
	6,824		73.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.2S: Property Frontage



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Summary for Subcatchment 1.3N: SC 1.3N

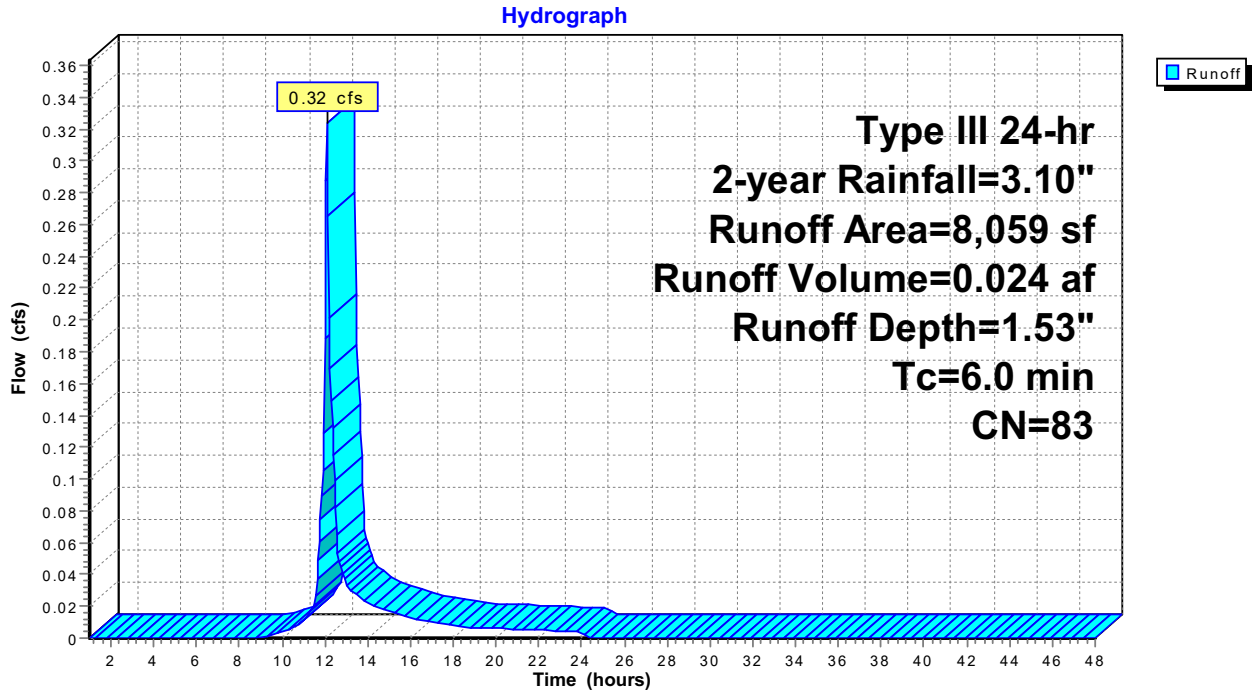
Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.024 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	3,859	98	Wash Ave
*	230	98	Patios
*	1,924	98	Sidewalk/driveway
*	2,046	39	Landscaping/lawn, HSG A
	8,059	83	Weighted Average
	2,046		25.39% Pervious Area
	6,013		74.61% Impervious Area

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

Subcatchment 1.3N: SC 1.3N



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Summary for Subcatchment 1.3S: West Parking Lot

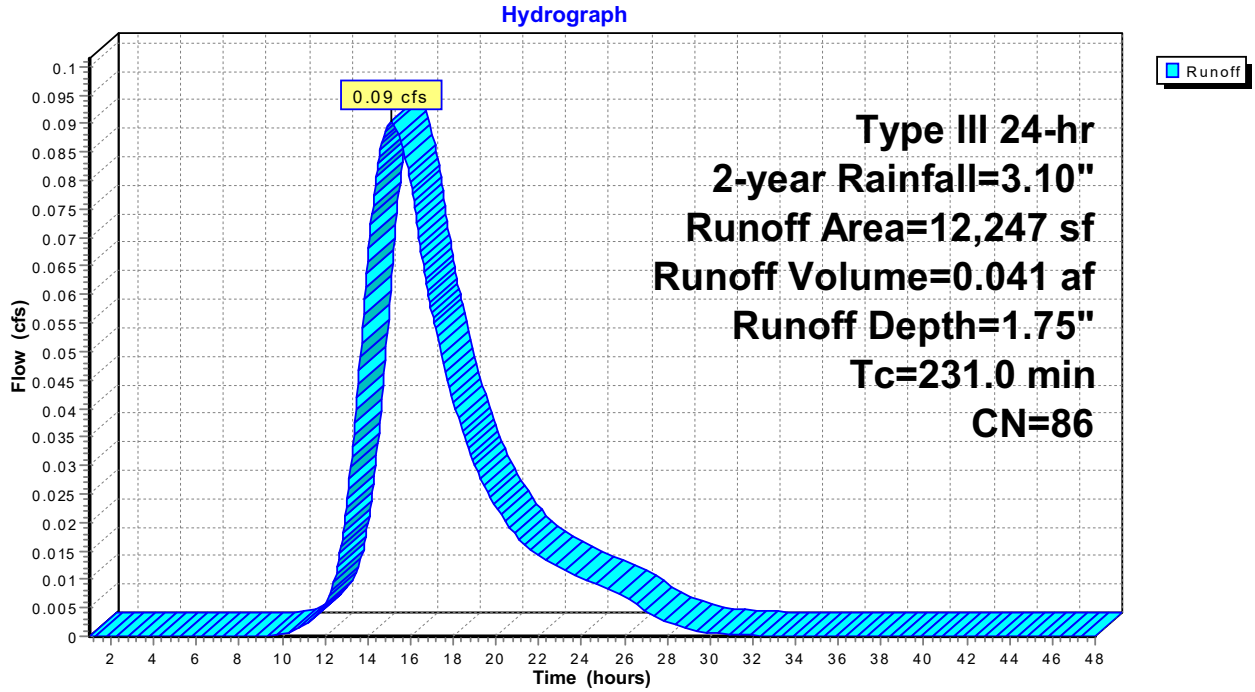
Runoff = 0.09 cfs @ 15.14 hrs, Volume= 0.041 af, Depth= 1.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	2,279	98	porous
*	6,635	98	paved drive aisle
*	1,068	98	walkway
*	1,197	30	crstone
	1,068	39	>75% Grass cover, Good, HSG A
	12,247	86	Weighted Average
	2,265		18.49% Pervious Area
	9,982		81.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
231.0					**Direct Entry, UNH**

Subcatchment 1.3S: West Parking Lot



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Summary for Subcatchment 1.4N: SC 1.4N

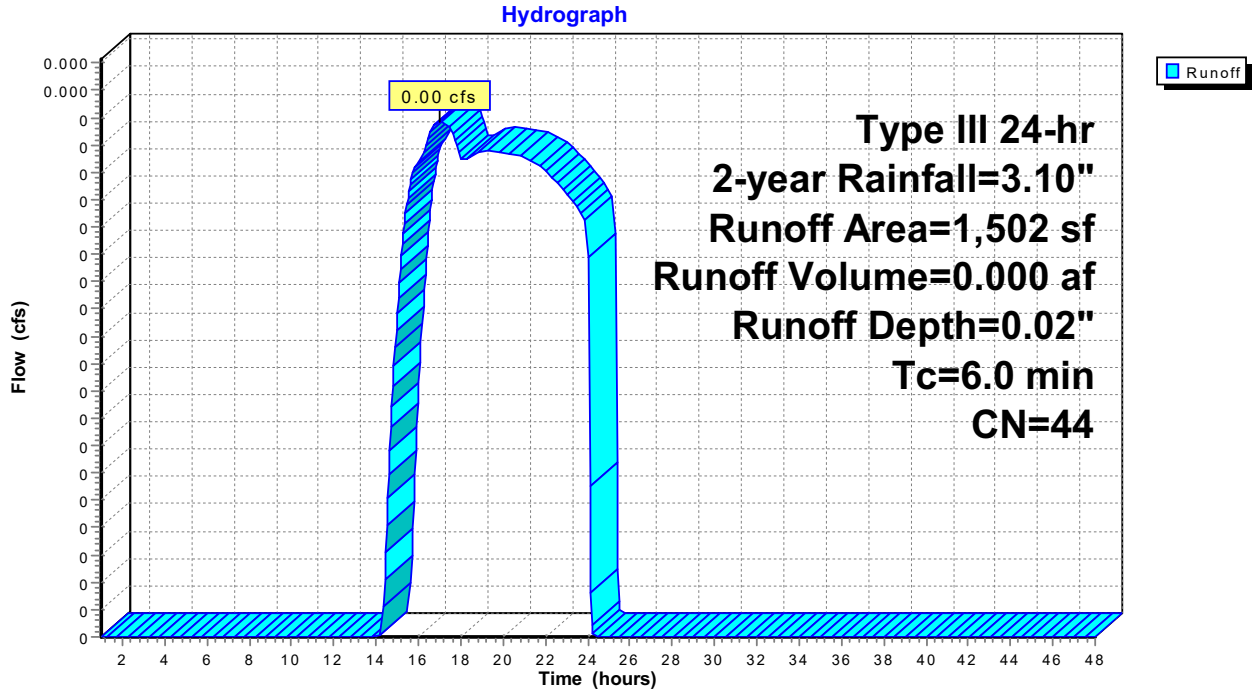
Runoff = 0.00 cfs @ 17.04 hrs, Volume= 0.000 af, Depth= 0.02"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	131	80	Grass pavers
*	45	98	Pave rwalkway
*	1,326	39	Landscaping/open space/rain garden / HSG A
	1,502	44	Weighted Average
	1,457		97.00% Pervious Area
	45		3.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.4N: SC 1.4N



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Summary for Subcatchment 1.4S: Common

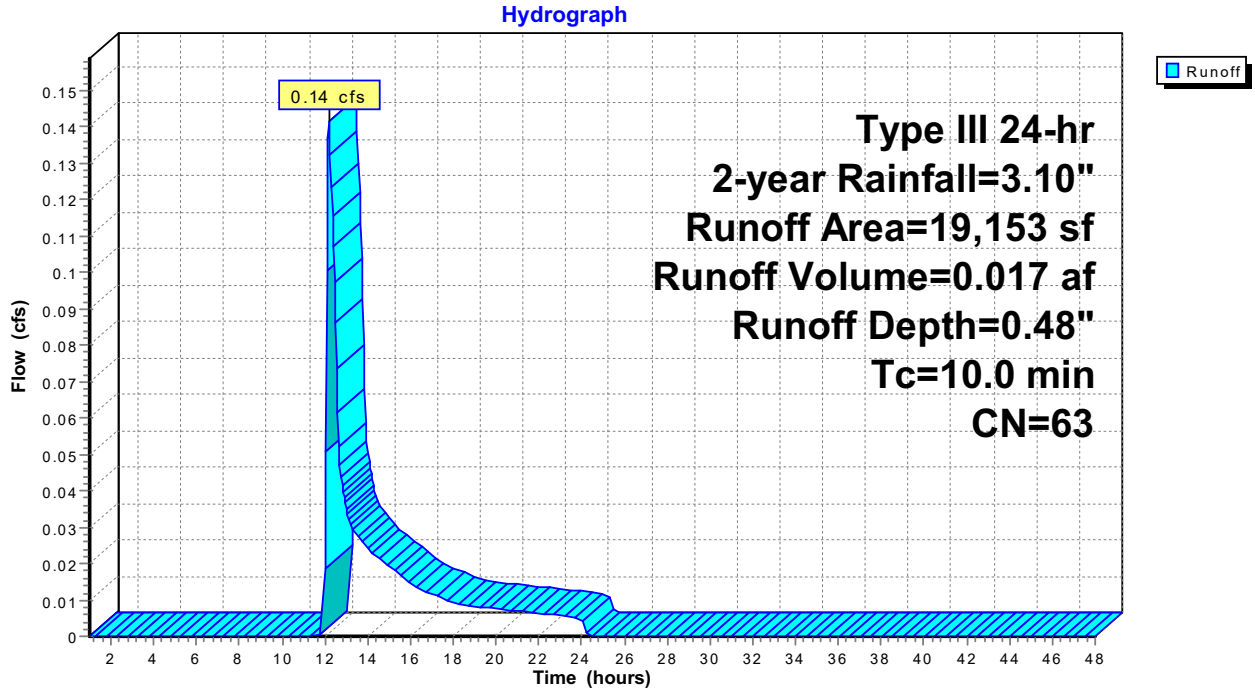
Runoff = 0.14 cfs @ 12.19 hrs, Volume= 0.017 af, Depth= 0.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	1,688	98	paved walkway
*	153	98	Rear Patio
*	112	98	Rear Patio
	8,600	39	>75% Grass cover, Good, HSG A
	8,600	80	>75% Grass cover, Good, HSG D
	19,153	63	Weighted Average
	17,200		89.80% Pervious Area
	1,953		10.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1.4S: Common



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Summary for Subcatchment 1.5N: Roofs

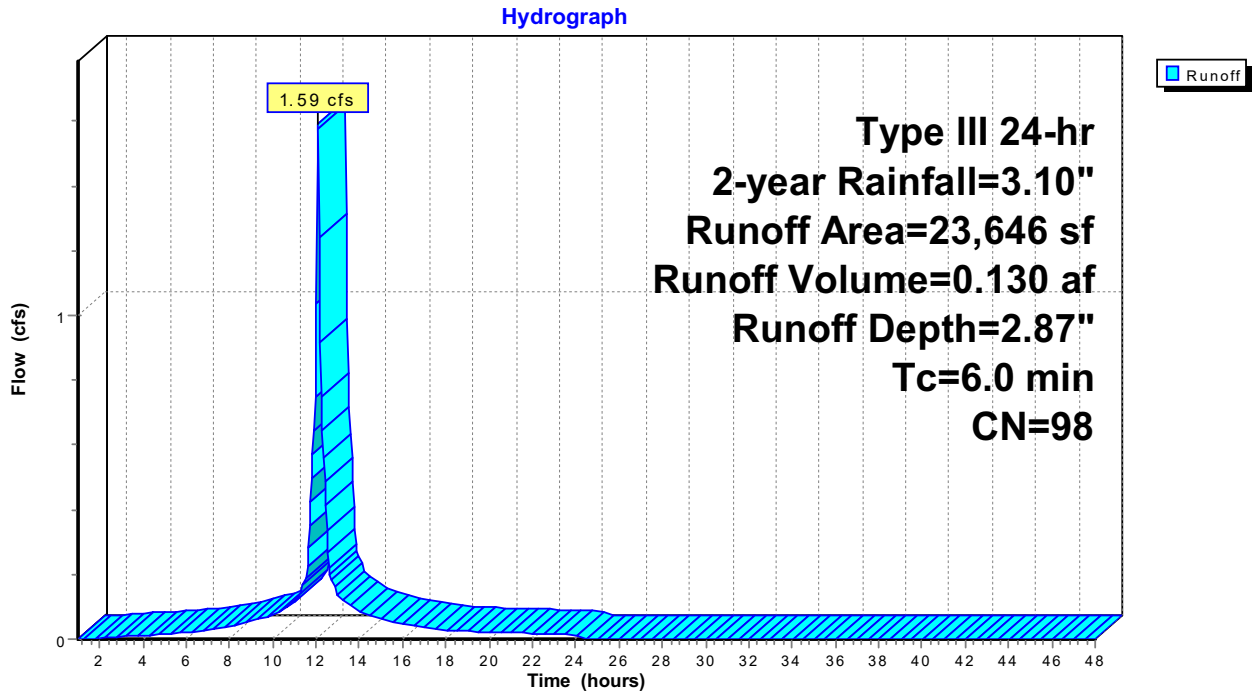
Runoff = 1.59 cfs @ 12.09 hrs, Volume= 0.130 af, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	23,646	98	IMPERV
	23,646		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.5N: Roofs



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Summary for Subcatchment 1.5S: A.7, A.10, C.3, C.2 Aisle

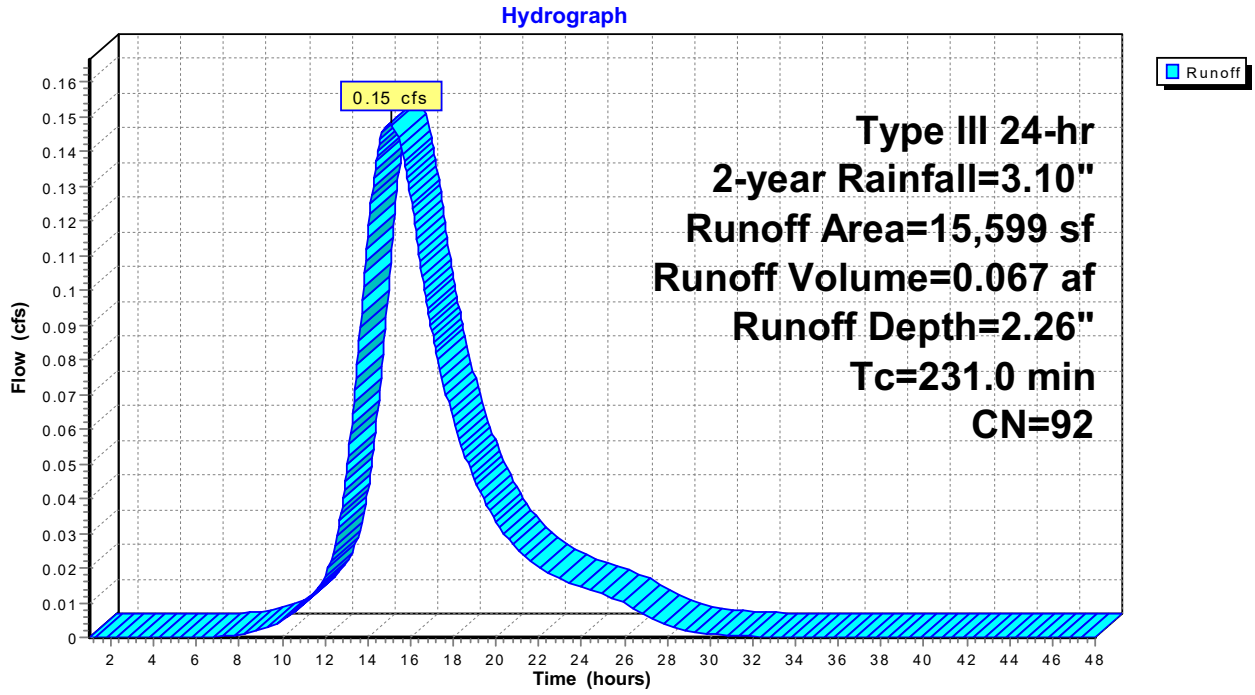
Runoff = 0.15 cfs @ 15.11 hrs, Volume= 0.067 af, Depth= 2.26"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	879	98	5' pavers/s. mews
*	3,722	98	porous
*	442	98	Front Patios
*	759	98	Front Patios
*	1,033	98	Long Patio
*	585	98	Curved Patio
*	536	98	Front Patios
*	592	98	Front Patios
*	1,360	98	Long Patio
*	679	80	Grass Pavers
*	425	98	Patios
*	16	98	Transformer
*	446	98	Sidewalks
*	4,125	80	>75% Grass cover, Good, HSG D
	15,599	92	Weighted Average
	4,804		30.80% Pervious Area
	10,795		69.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
231.0					**Direct Entry, UNH**

Subcatchment 1.5S: A.7, A.10, C.3, C.2 Aisle



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Summary for Subcatchment 1.6N: SC 1.6N

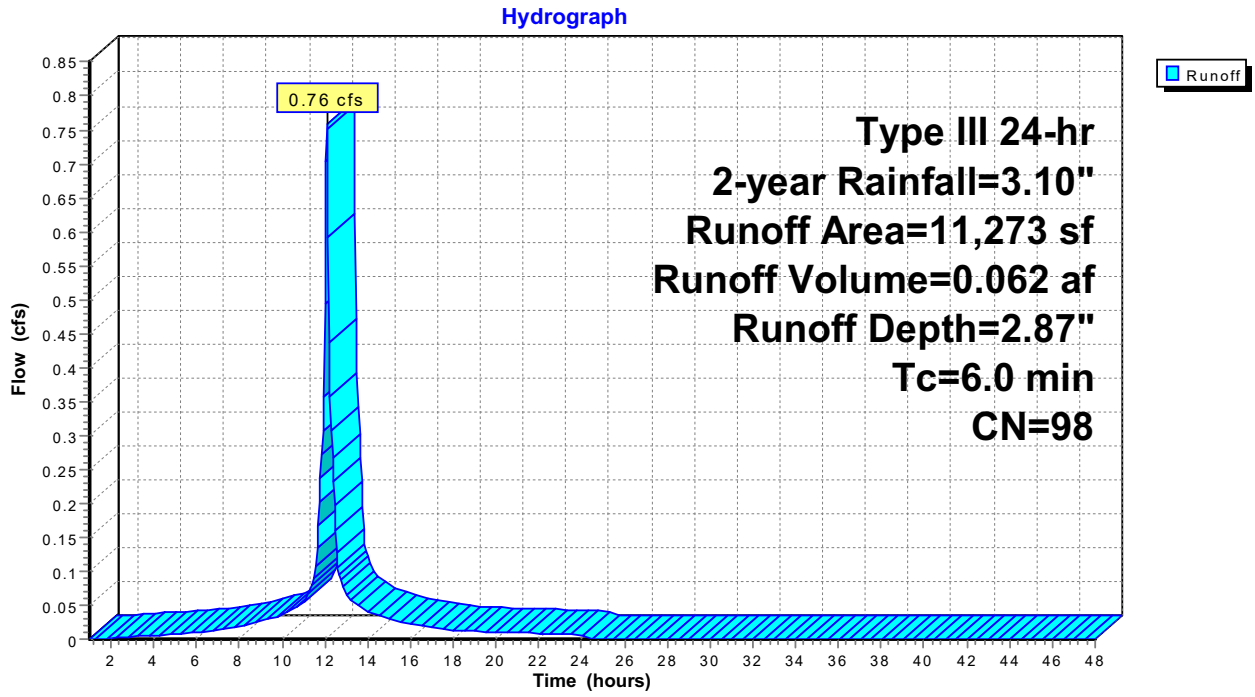
Runoff = 0.76 cfs @ 12.09 hrs, Volume= 0.062 af, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	11,273	98	Wash Ave
	11,273		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.6N: SC 1.6N



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Summary for Subcatchment 1.6S: Developed/Undeveloped area

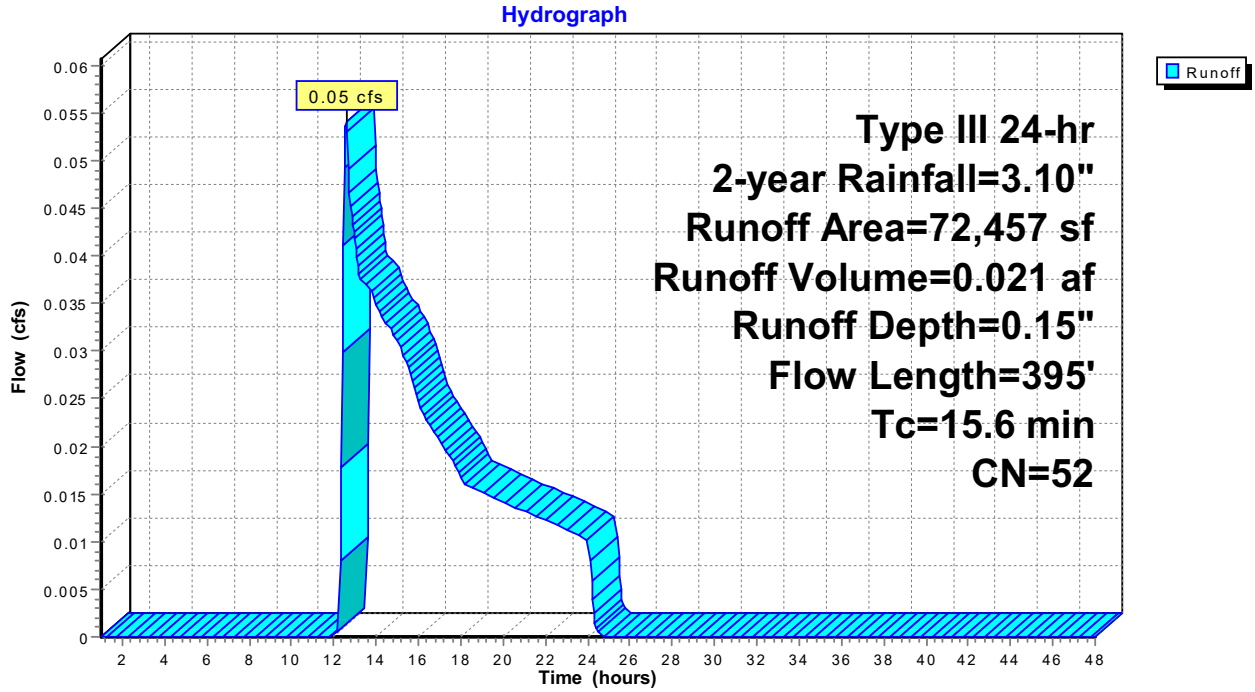
Runoff = 0.05 cfs @ 12.58 hrs, Volume= 0.021 af, Depth= 0.15"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
	37,858	30	Woods, Good, HSG A
*	5,348	39	Landscaped/open space
	311	98	Unconnected roofs, HSG A
*	5,781	39	Wash Ave ditch
*	15,509	98	Washington ave, cross walks
*	1,195	98	Patios
*	305	80	Grass pavers
*	6,150	80	Landscaping/HSG D
	72,457	52	Weighted Average
	55,442		76.52% Pervious Area
	17,015		23.48% Impervious Area
	311		1.83% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	100	0.0500	0.17		**Sheet Flow, Sheet flow (A to B)** Grass: Dense n= 0.240 P2= 3.27"
5.5	203	0.0600	0.61		**Shallow Concentrated Flow, SCF (B to C)** Forest w/ Heavy Litter Kv= 2.5 fps
0.3	92	0.0400	5.40	17.28	**Trap/Vee/Rect Channel Flow, Ditch Flow (C to D)** Bot.W=2.00' D=0.80' Z= 2.5'/' Top.W=6.00' n= 0.035
15.6	395	Total			

Subcatchment 1.6S: Developed/Undeveloped area



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Summary for Subcatchment 1.7N: SC 1.7N

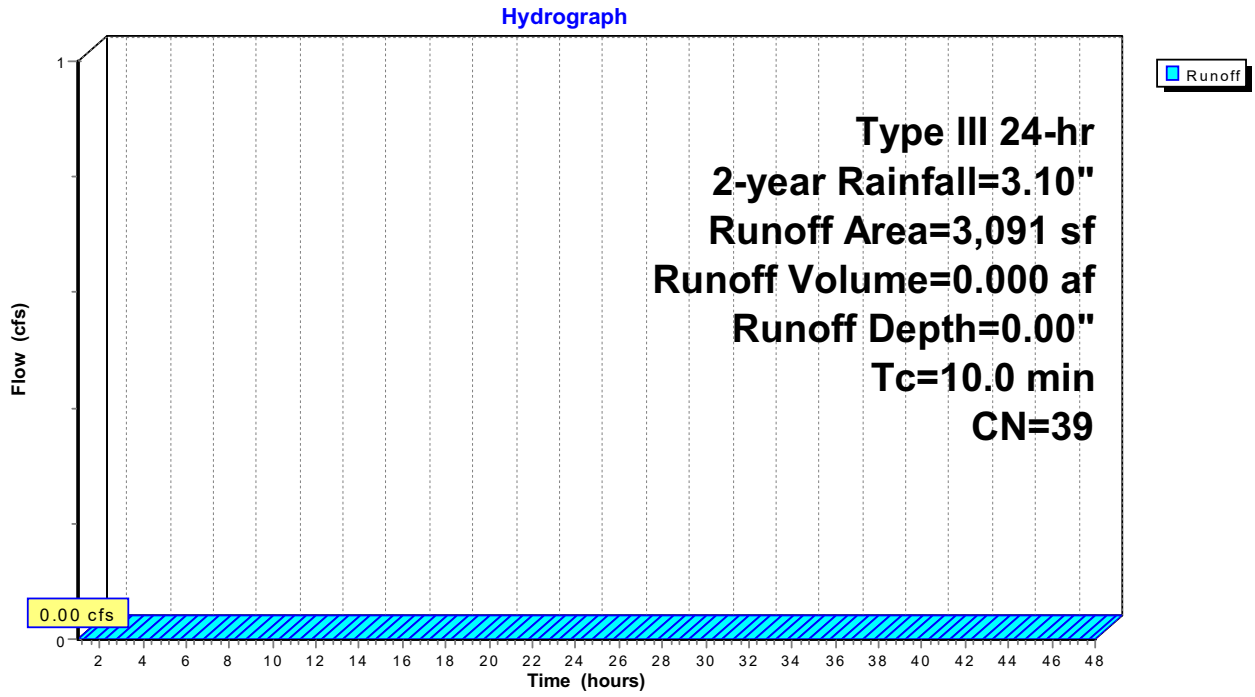
Runoff = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	3,091	39	Lawn/landscaping/ditch, HSG A
	3,091		100.00% Previous Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1.7N: SC 1.7N



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Summary for Subcatchment 1.7S: SC 1.7S

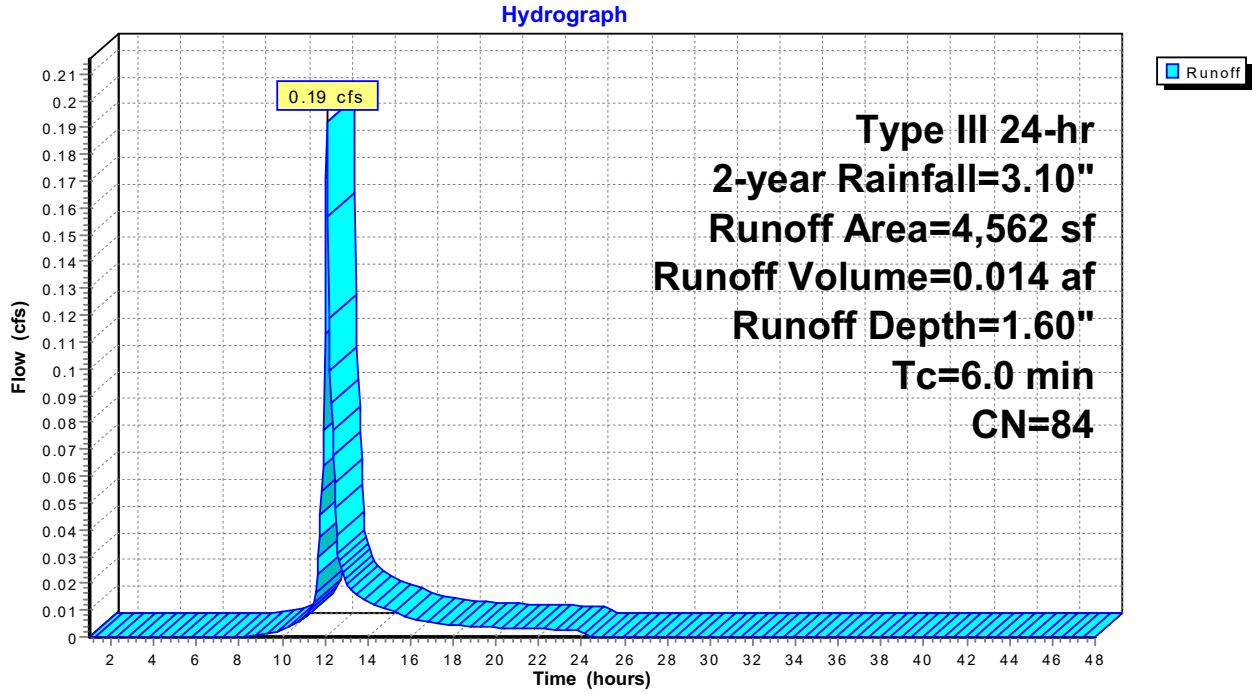
Runoff = 0.19 cfs @ 12.09 hrs, Volume= 0.014 af, Depth= 1.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	724	98	A.9/A.10 rear patios
*	356	98	Walkway
*	3,482	80	Lawn/landscaping, HSG D
	4,562	84	Weighted Average
	3,482		76.33% Pervious Area
	1,080		23.67% Impervious Area

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

Subcatchment 1.7S: SC 1.7S



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Summary for Subcatchment 1.8N: Common

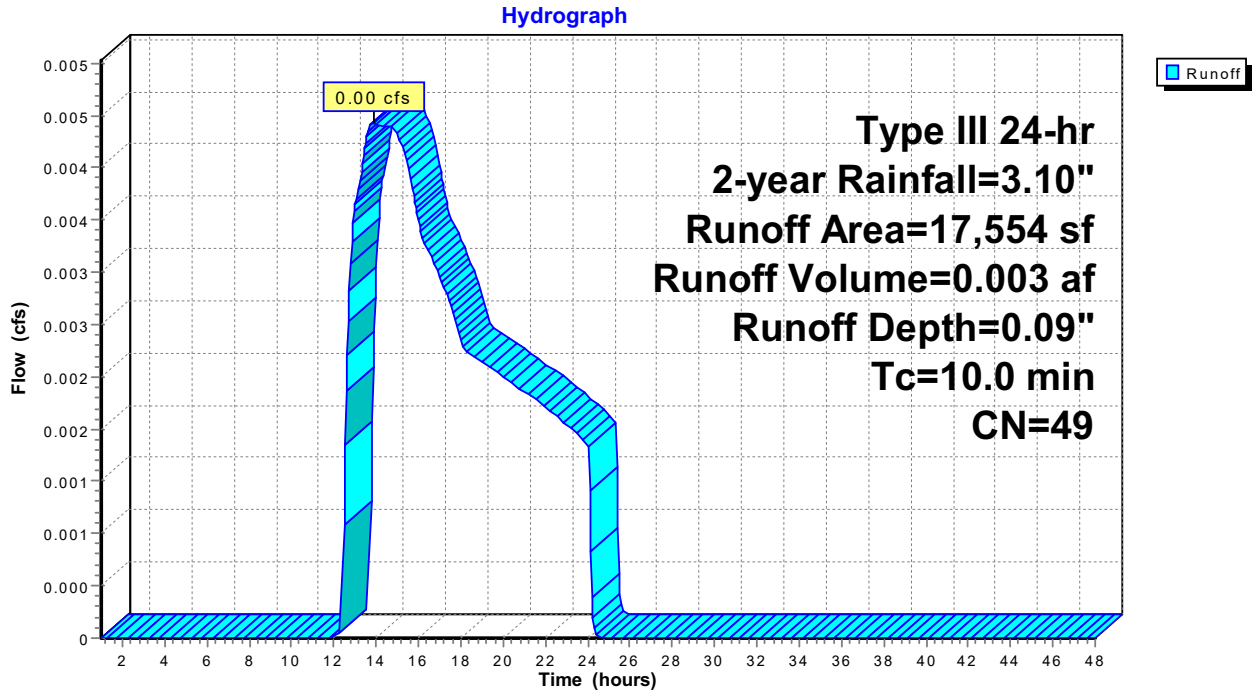
Runoff = 0.00 cfs @ 13.86 hrs, Volume= 0.003 af, Depth= 0.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	2,549	98	Paved walkway
*	472	98	patios
*	16	98	transformer
*	14,517	39	Open space, landscaping, HSG A
	17,554	49	Weighted Average
	14,517		82.70% Pervious Area
	3,037		17.30% Impervious Area

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

Subcatchment 1.8N: Common



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Summary for Subcatchment 1.8S: West Parking Lot

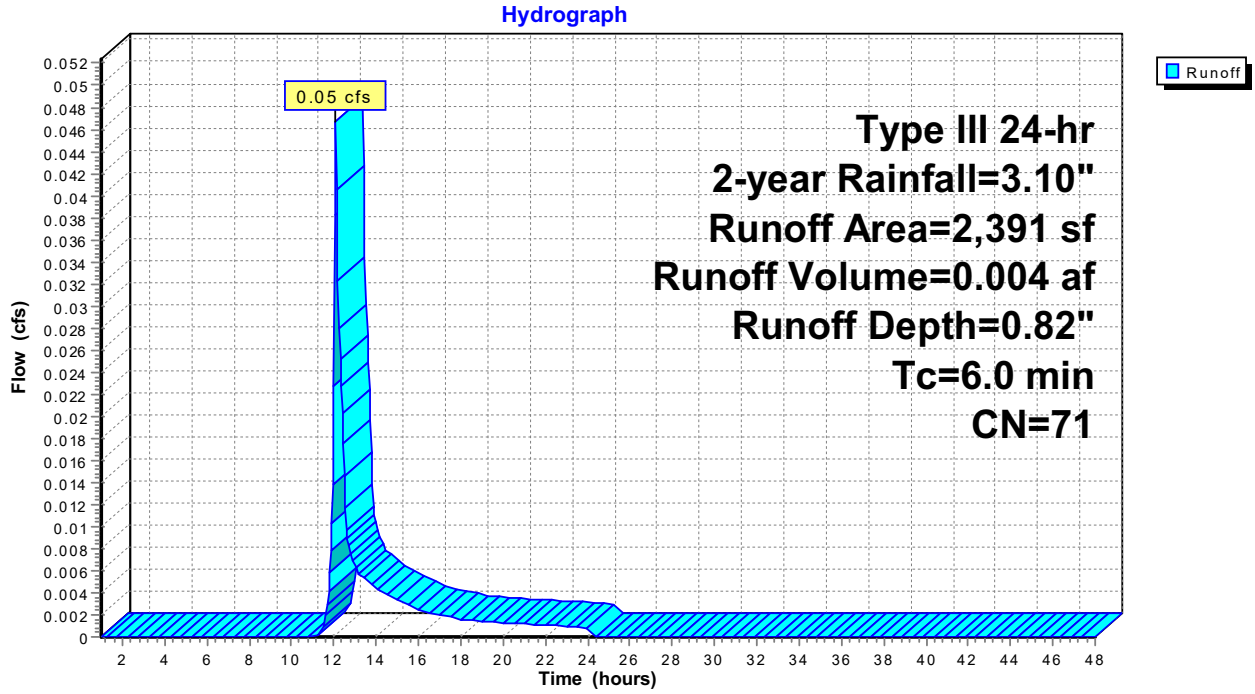
Runoff = 0.05 cfs @ 12.10 hrs, Volume= 0.004 af, Depth= 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	1,037	98	drive aisle
*	278	98	sidewalk
	1,076	39	>75% Grass cover, Good, HSG A
	2,391	71	Weighted Average
	1,076		45.00% Pervious Area
	1,315		55.00% Impervious Area

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

Subcatchment 1.8S: West Parking Lot



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Summary for Subcatchment 1.9N: SC 1.9N

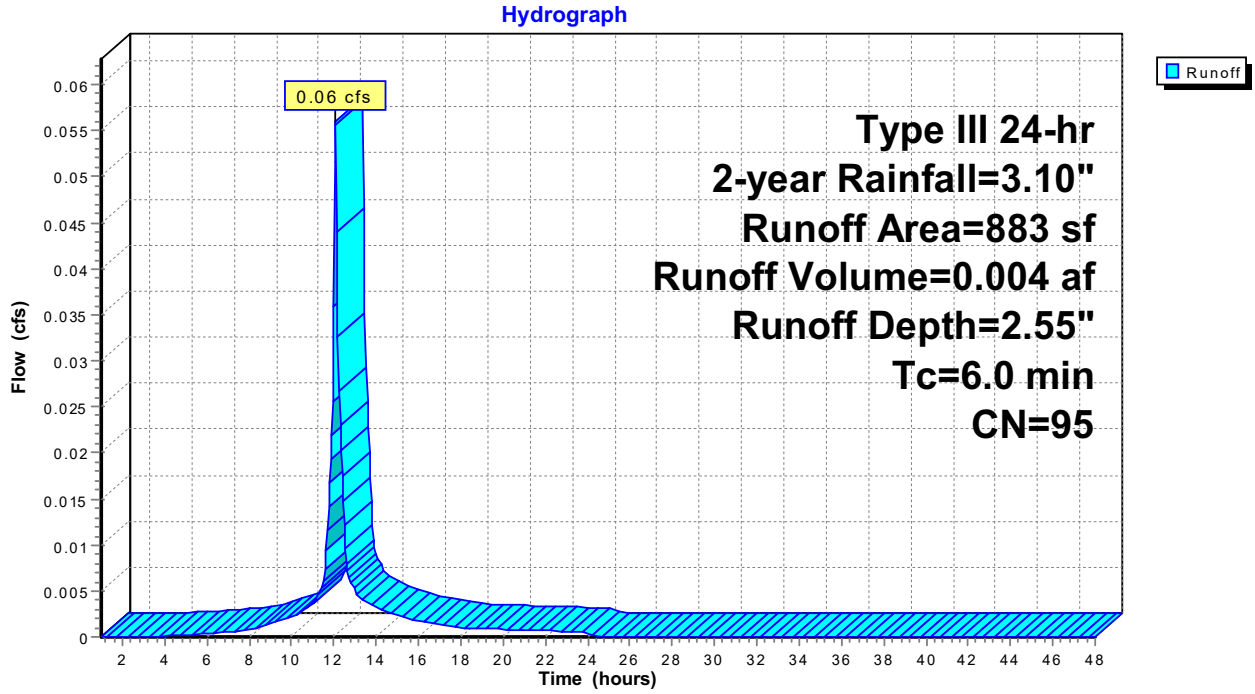
Runoff = 0.06 cfs @ 12.09 hrs, Volume= 0.004 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	710	98	Wash Ave
*	123	98	sidewalk
*	50	39	Landscaping/esplanade
	883	95	Weighted Average
	50		5.66% Pervious Area
	833		94.34% Impervious Area

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

Subcatchment 1.9N: SC 1.9N



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Summary for Subcatchment 2.1N: SC 2.1N

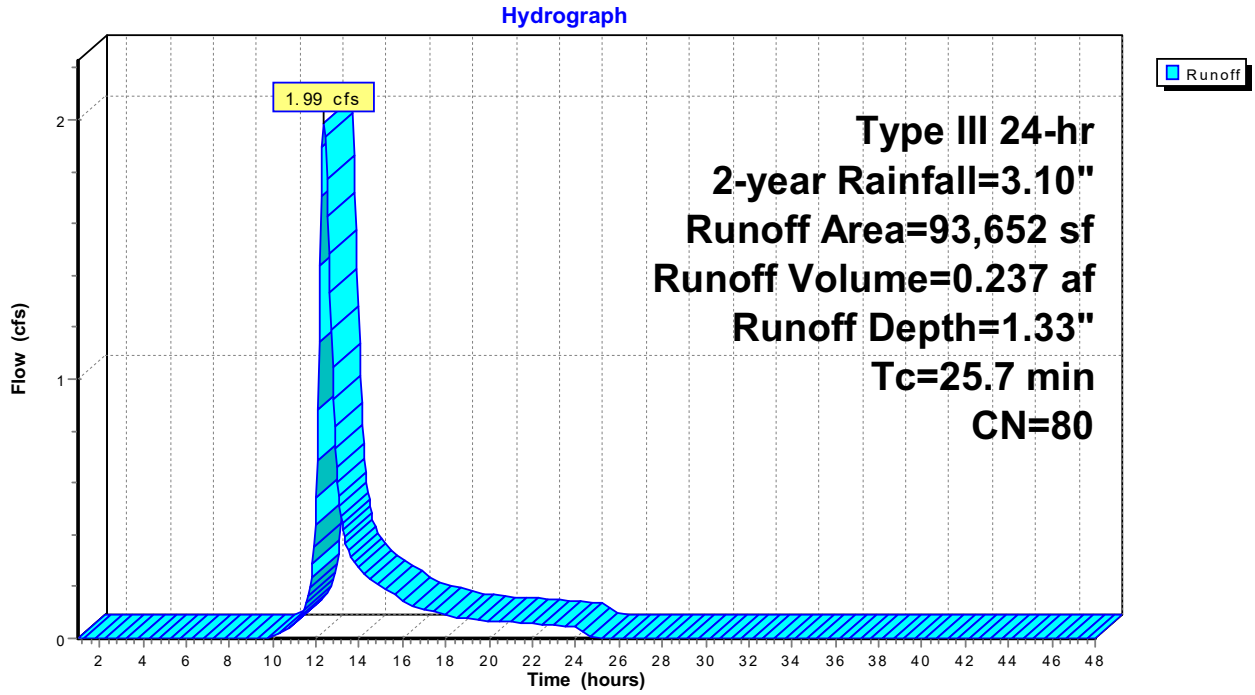
Runoff = 1.99 cfs @ 12.37 hrs, Volume= 0.237 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	7,438	80	Roads iside lope
	37,683	77	Woods, Good, HSG D
*	2,842	98	N sidewalk
*	9,017	98	Wash. Ave and S. Conc apron
*	6,794	98	Rooftop and drivew ay
*	414	98	Rooftop
*	21,315	80	Lawns/landscaping, HSG D
	5,316	30	Woods, Good, HSG A
*	2,833	80	Landscaping/open space
	93,652	80	Weighted Average
	74,585		79.64% Pervious Area
	19,067		20.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7					**Direct Entry, Direct input of pre Tc**

Subcatchment 2.1N: SC 2.1N



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Summary for Subcatchment 2.1S: Eastern Parking Lot

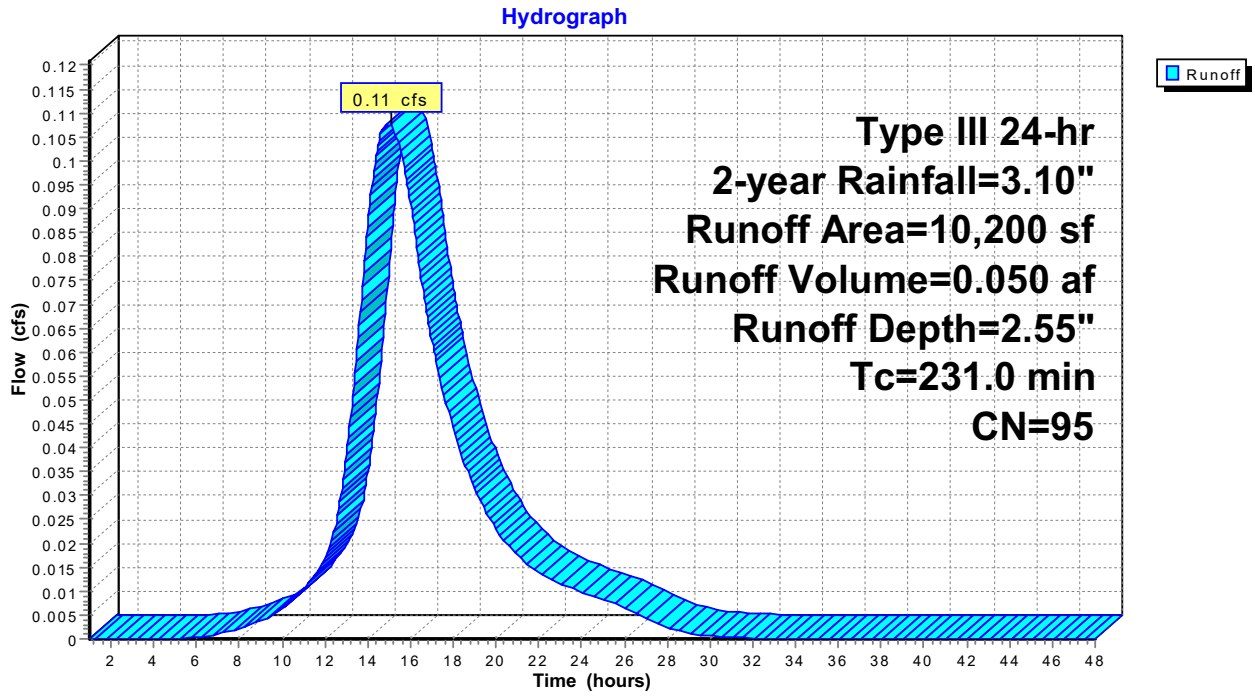
Runoff = 0.11 cfs @ 15.10 hrs, Volume= 0.050 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	1,296	98	Porous Horizontal
*	4,187	98	Paved driveaisle
*	857	98	Walkway/patio
*	501	98	Rear walkway/patio
*	180	98	dumpster pad
*	1,134	98	Porous Vertical
*	234	98	Curbing
	1,811	80	>75% Grass cover, Good, HSG D
	10,200	95	Weighted Average
	1,811		17.75% Pervious Area
	8,389		82.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
231.0					**Direct Entry, UNH**

Subcatchment 2.1S: Eastern Parking Lot



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Summary for Subcatchment 2.2S: Developed/nondeveloped area

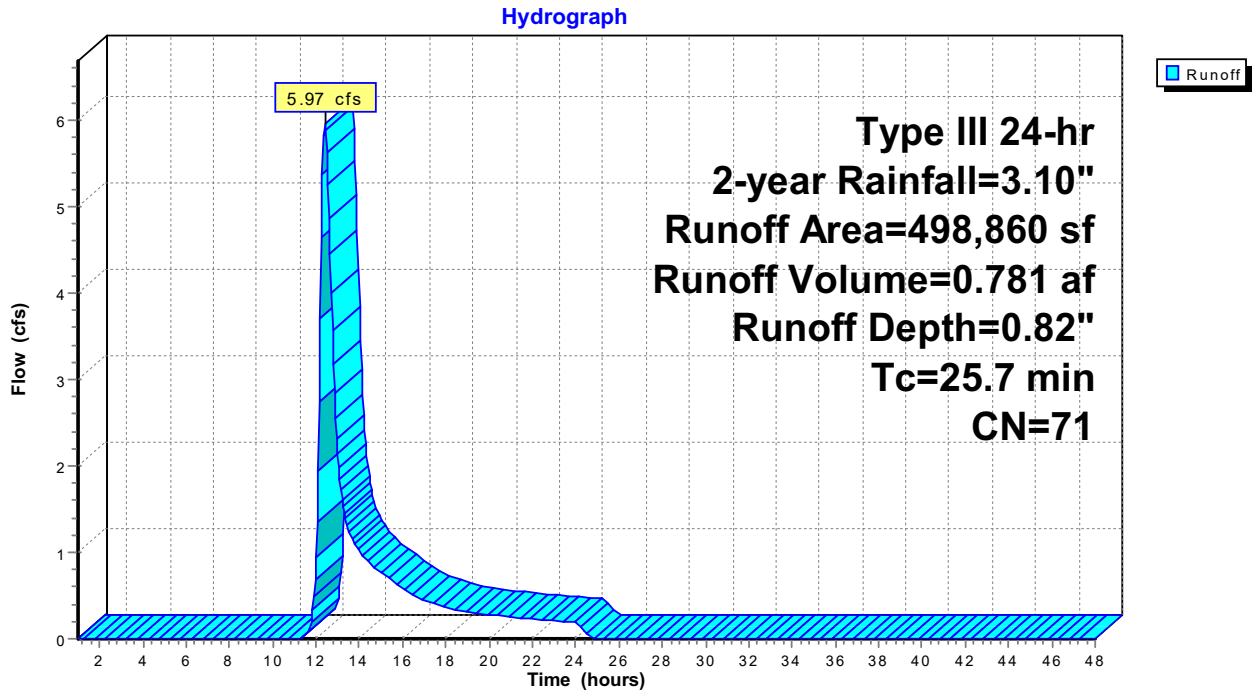
Runoff = 5.97 cfs @ 12.41 hrs, Volume= 0.781 af, Depth= 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	4,589	39	Slope behind patios, HSG A
*	30,826	39	>75% Grass cover, Good, HSG A
*	3,896	98	Roofs/driveways/patios (HSG A)
	24,173	55	Woods, Good, HSG B
	6,557	70	Woods, Good, HSG C
	146,595	70	Woods, Good, HSG C
	240,138	77	Woods, Good, HSG D
*	9,119	80	>75% Grass cover, Good, HSG D
*	3,503	98	Roofs/driveway s/patios (HSG D)
*	5,475	98	Wash Ave
*	3,729	98	Sidewalk
*	7,959	80	Roadside ditch/slope
*	820	80	Landscaping Auburn St
	9,281	39	>75% Grass cover, Good, HSG A
*	1,500	98	8' multiuse new imperv
*	700	98	stone dust
	498,860	71	Weighted Average
	480,057		96.23% Pervious Area
	18,803		3.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7					**Direct Entry, copy from pre**

Subcatchment 2.2S: Developed/nondeveloped area



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Summary for Subcatchment 3.1N: SC 3.1N

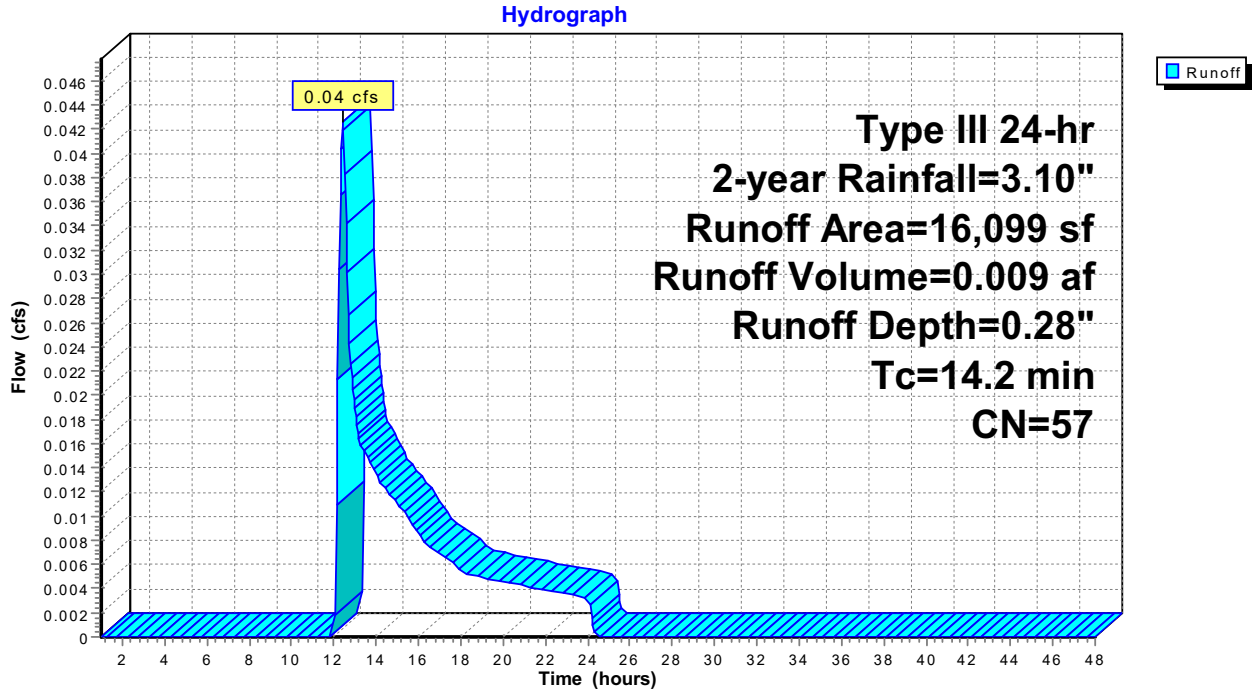
Runoff = 0.04 cfs @ 12.43 hrs, Volume= 0.009 af, Depth= 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
	4,070	30	Woods, Good, HSG A
*	3,619	39	Landscaping/swale, HSG A
	5,115	77	Woods, Good, HSG D
*	3,295	80	Landscaping/slope, HSG D
	16,099	57	Weighted Average
	16,099		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2					**Direct Entry, Direct input of pre Tc**

Subcatchment 3.1N: SC 3.1N



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Summary for Subcatchment 4.1N: 4.1N

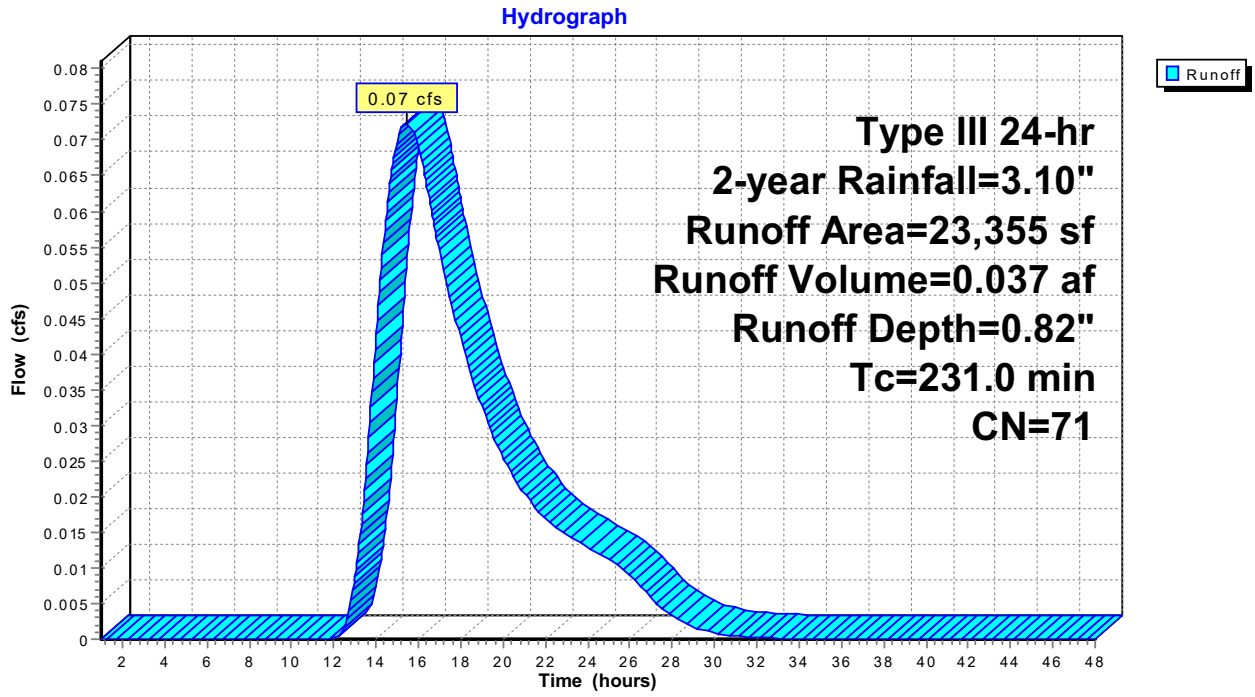
Runoff = 0.07 cfs @ 15.42 hrs, Volume= 0.037 af, Depth= 0.82"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	1,940	98	Curb & Pavement
*	5,213	98	Porous Pavement
*	2,866	98	Patios
*	612	98	Patios
*	16	98	transformer pad
*	185	98	Paved Walkway
*	394	98	Paved Walkway
*	408	98	Patios
*	655	98	Patios
*	128	98	Solid Waste Location
*	112	98	Patios
*	46	98	Paved Walkway
*	10,780	39	Lawn/landscaping, HSG A
	23,355	71	Weighted Average
	10,780		46.16% Pervious Area
	12,575		53.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
231.0					**Direct Entry, UNH**

Subcatchment 4.1N: 4.1N



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Summary for Subcatchment 4.2N: Eastern Parking Lot

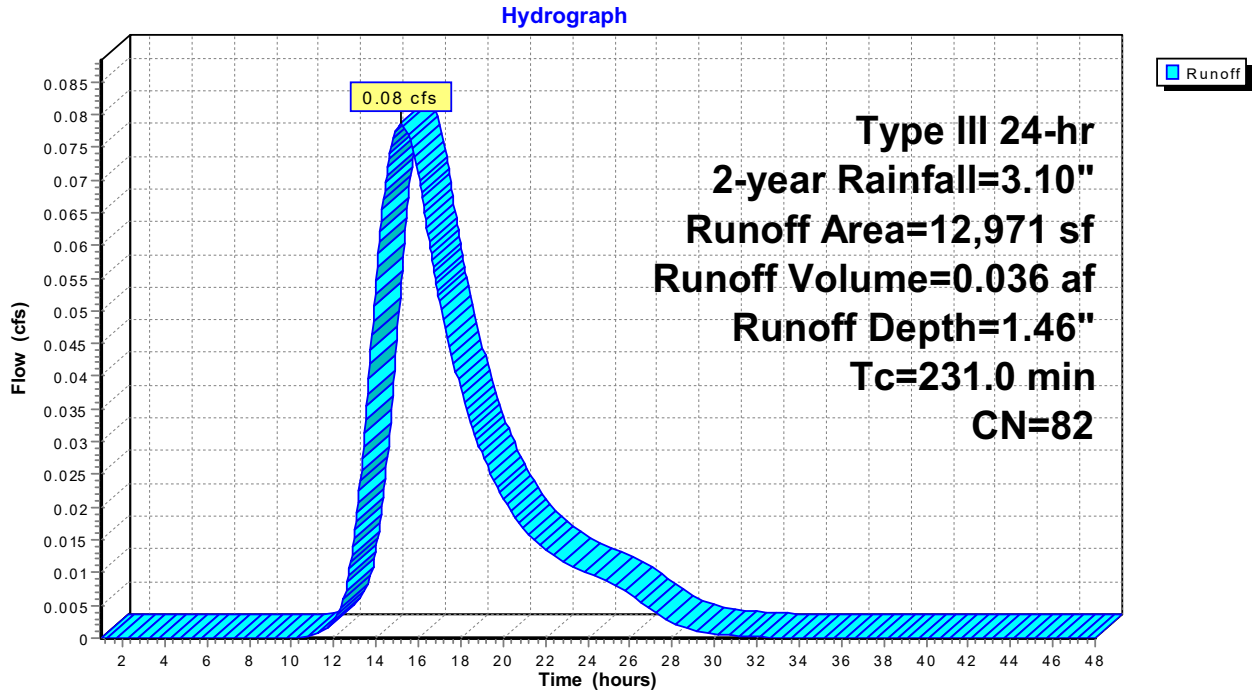
Runoff = 0.08 cfs @ 15.15 hrs, Volume= 0.036 af, Depth= 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	569	98	Sidewalk
*	2,420	98	Porous pavement
*	6,517	98	Parking lot
*	3,465	39	Landscaping/open space, HSG A
	12,971	82	Weighted Average
	3,465		26.71% Pervious Area
	9,506		73.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
231.0					**Direct Entry, UNH**

Subcatchment 4.2N: Eastern Parking Lot



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Summary for Subcatchment 4.3N: SC 4.3N

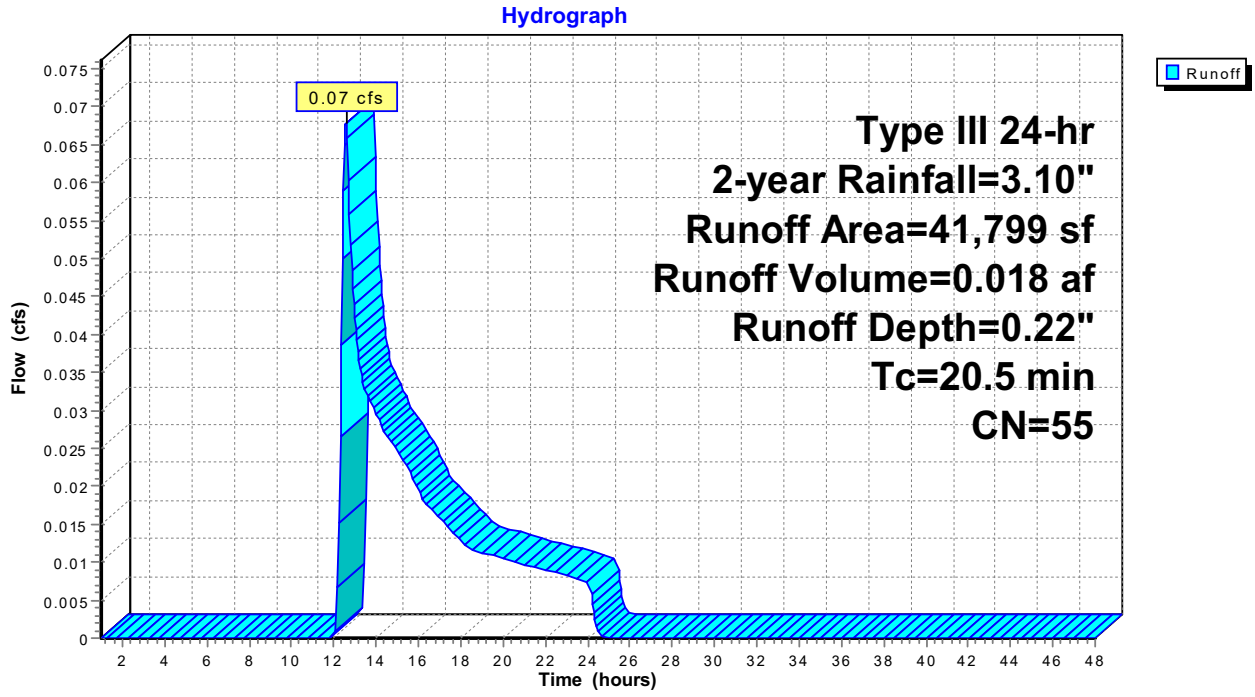
Runoff = 0.07 cfs @ 12.57 hrs, Volume= 0.018 af, Depth= 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
	4,033	80	>75% Grass cover, Good, HSG D
	6,717	77	Woods, Good, HSG D
	18,402	30	Woods, Good, HSG A
*	1,998	39	Landscaping/slope, HSG A
*	10,649	77	Woods, Good, HSG D
	41,799	55	Weighted Average
	41,799		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5					Direct Entry, copy from pre

Subcatchment 4.3N: SC 4.3N



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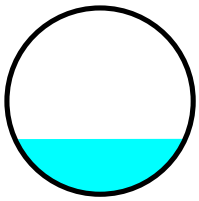
Summary for Reach 1: POI #1 - LAMBERT/WASH INTERSECTION

Inflow Area = 5.932 ac, 50.16% Impervious, Inflow Depth > 1.21" for 2-year event
Inflow = 1.35 cfs @ 12.20 hrs, Volume= 0.596 af
Outflow = 1.35 cfs @ 12.21 hrs, Volume= 0.596 af, Atten= 0%, Lag= 1.0 min

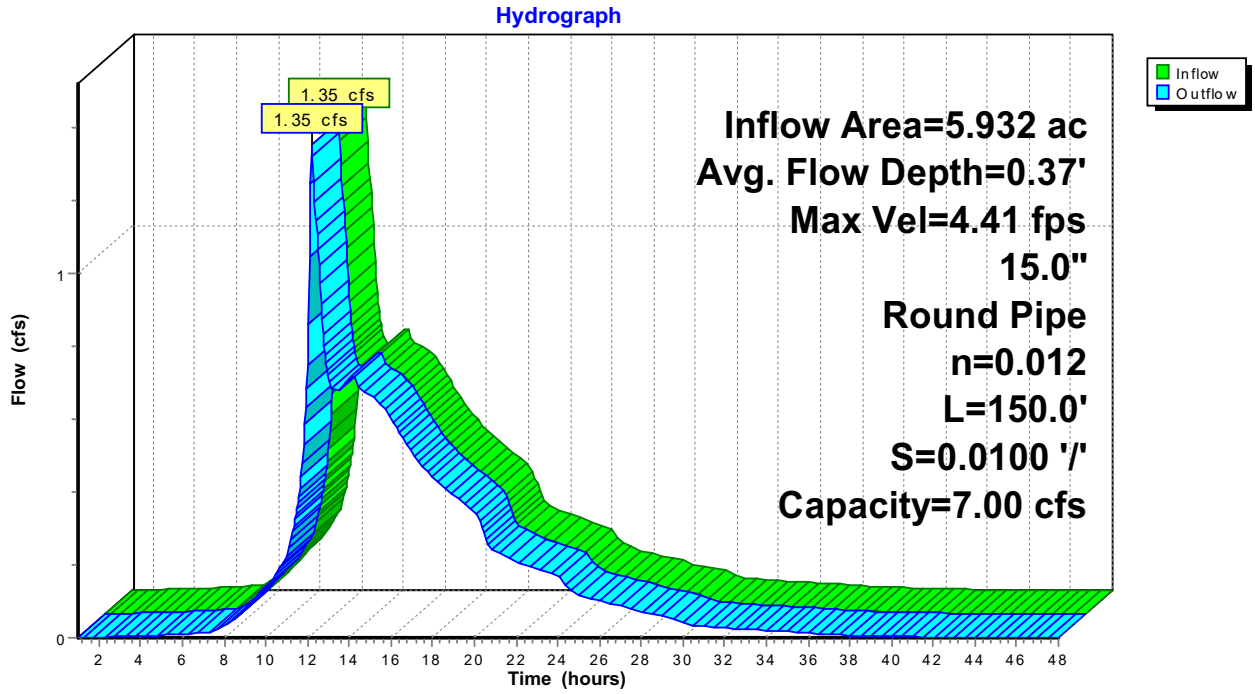
Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.41 fps, Min. Travel Time= 0.6 min
Avg. Velocity= 1.74 fps, Avg. Travel Time= 1.4 min

Peak Storage= 46 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.37'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 7.00 cfs

15.0" Round Pipe
n= 0.012 Concrete pipe, finished
Length= 150.0' Slope= 0.0100 '/'
Inlet Invert= 87.18', Outlet Invert= 85.68'



Reach 1: POI #1 - LAMBERT/WASH INTERSECTION



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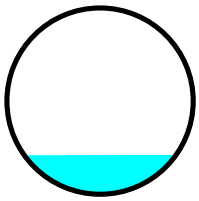
Summary for Reach 1R: N. DITCH CB OUTLET

Inflow Area = 0.673 ac, 39.31% Impervious, Inflow Depth = 1.10" for 2-year event
Inflow = 0.71 cfs @ 12.15 hrs, Volume= 0.062 af
Outflow = 0.71 cfs @ 12.15 hrs, Volume= 0.062 af, Atten= 1%, Lag= 0.2 min

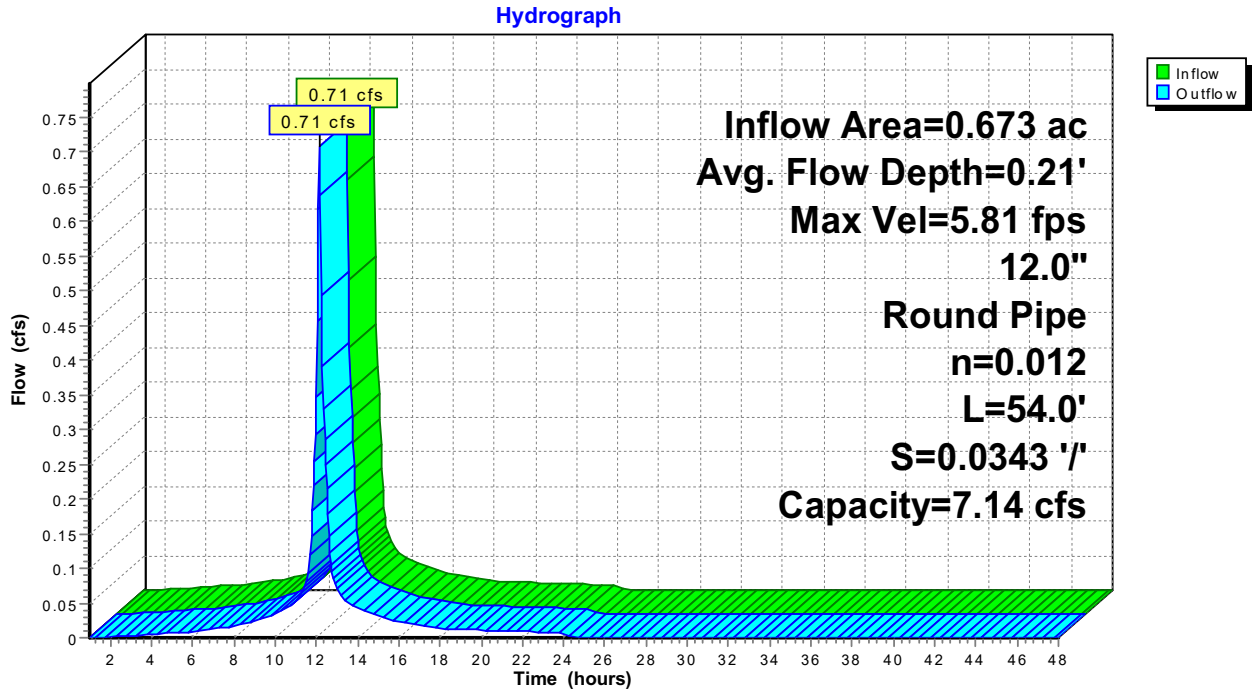
Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.81 fps, Min. Travel Time= 0.2 min
Avg. Velocity= 1.93 fps, Avg. Travel Time= 0.5 min

Peak Storage= 7 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.14 cfs

12.0" Round Pipe
n= 0.012
Length= 54.0' Slope= 0.0343 '/'
Inlet Invert= 87.63', Outlet Invert= 85.78'



Reach 1R: N. DITCH CB OUTLET



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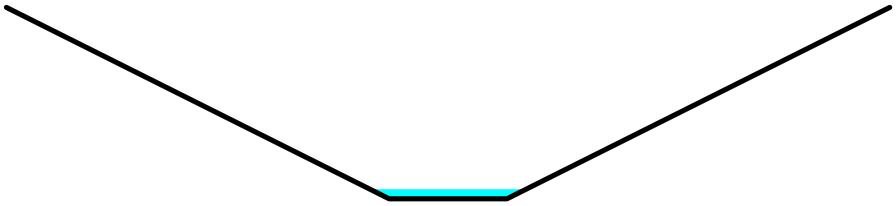
Summary for Reach 2R: N. DITCH

Inflow Area = 0.673 ac, 39.31% Impervious, Inflow Depth = 1.10" for 2-year event
Inflow = 0.76 cfs @ 12.09 hrs, Volume= 0.062 af
Outflow = 0.71 cfs @ 12.15 hrs, Volume= 0.062 af, Atten = 6%, Lag = 3.7 min

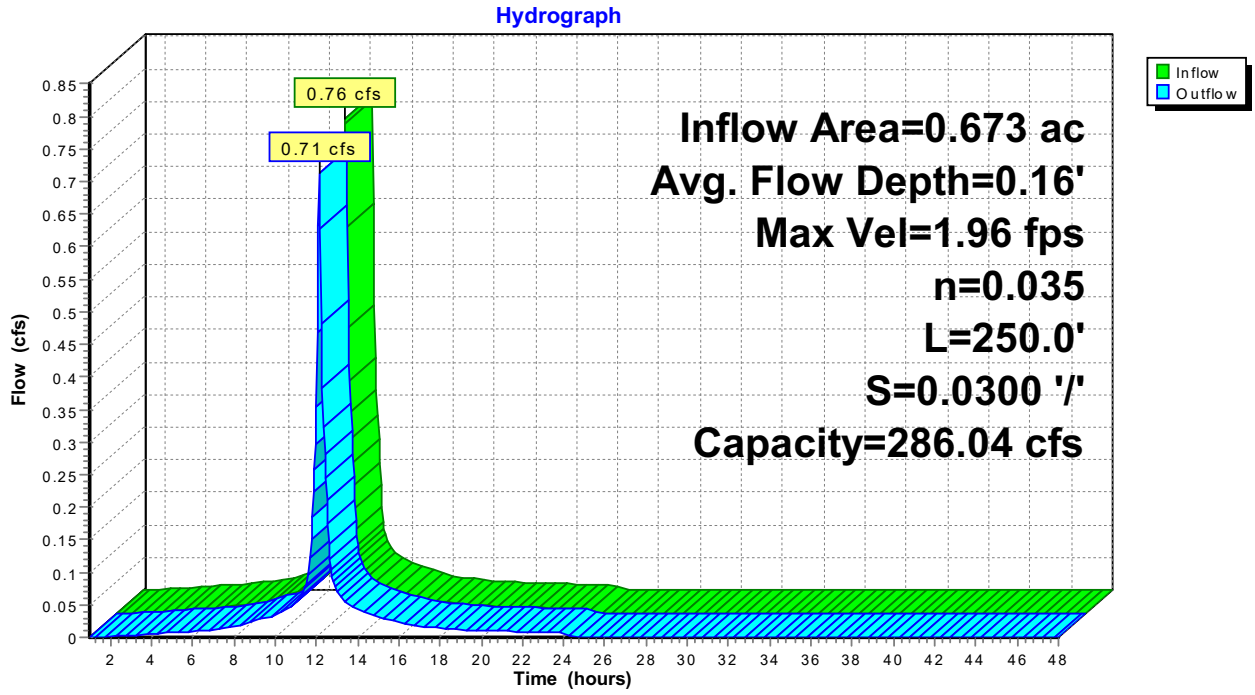
Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Max. Velocity= 1.96 fps, Min. Travel Time= 2.1 min
Avg. Velocity = 0.77 fps, Avg. Travel Time= 5.4 min

Peak Storage= 94 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.16'
Bank-Full Depth= 3.25' Flow Area= 27.6 sf, Capacity= 286.04 cfs

2.00' x 3.25' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 2.0 '/' Top Width= 15.00'
Length= 250.0' Slope= 0.0300 '/'
Inlet Invert= 107.50', Outlet Invert= 100.00'



Reach 2R: N. DITCH



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Summary for Reach 3R: S. DITCH

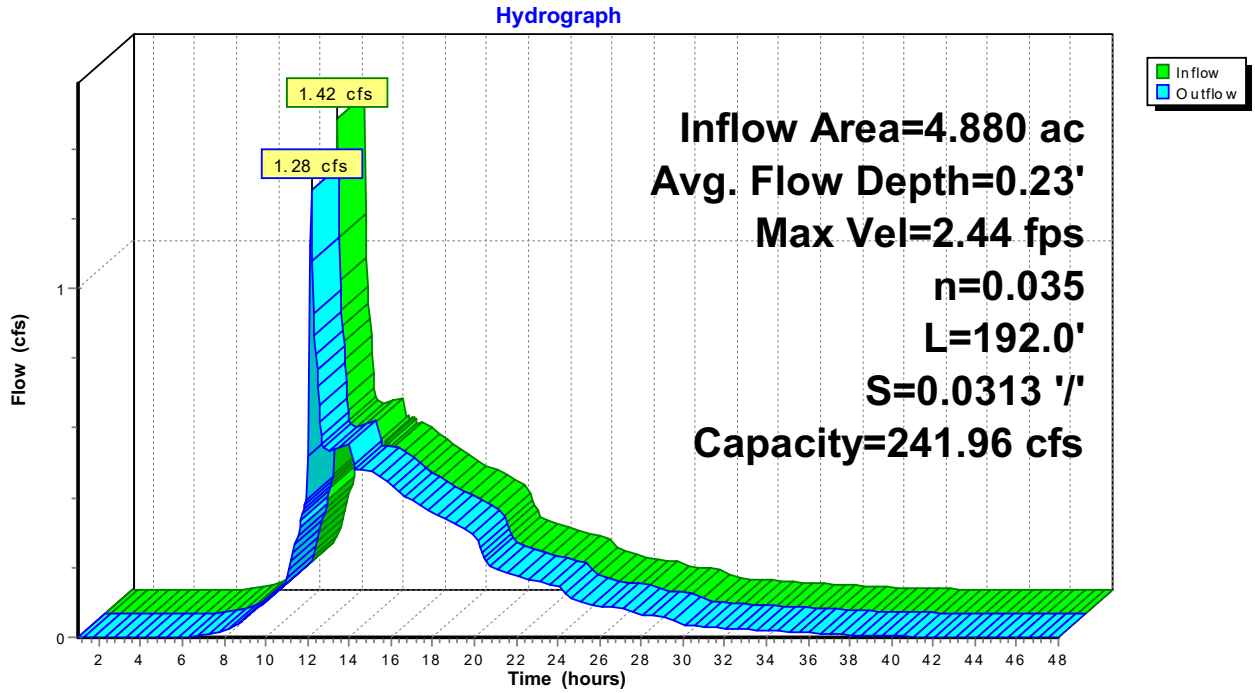
Inflow Area = 4.880 ac, 50.08% Impervious, Inflow Depth > 1.14" for 2-year event
Inflow = 1.42 cfs @ 12.15 hrs, Volume= 0.463 af
Outflow = 1.28 cfs @ 12.20 hrs, Volume= 0.463 af, Atten = 10%, Lag = 2.9 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Max. Velocity= 2.44 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 0.99 fps, Avg. Travel Time= 3.2 min

Peak Storage= 109 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 3.00' Flow Area= 24.0 sf, Capacity= 241.96 cfs

2.00' x 3.00' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 2.0 '/' Top Width= 14.00'
Length= 192.0' Slope= 0.0313 '/'
Inlet Invert= 99.00', Outlet Invert= 93.00'

Reach 3R: S. DITCH



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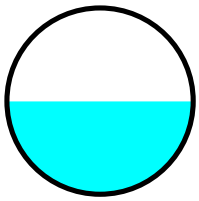
Summary for Reach 4R: WASH. CROSS CULVERT

Inflow Area = 2.150 ac, 20.36% Impervious, Inflow Depth = 1.33" for 2-year event
Inflow = 1.99 cfs @ 12.37 hrs, Volume= 0.237 af
Outflow = 1.98 cfs @ 12.38 hrs, Volume= 0.237 af, Atten = 0%, Lag = 0.7 min

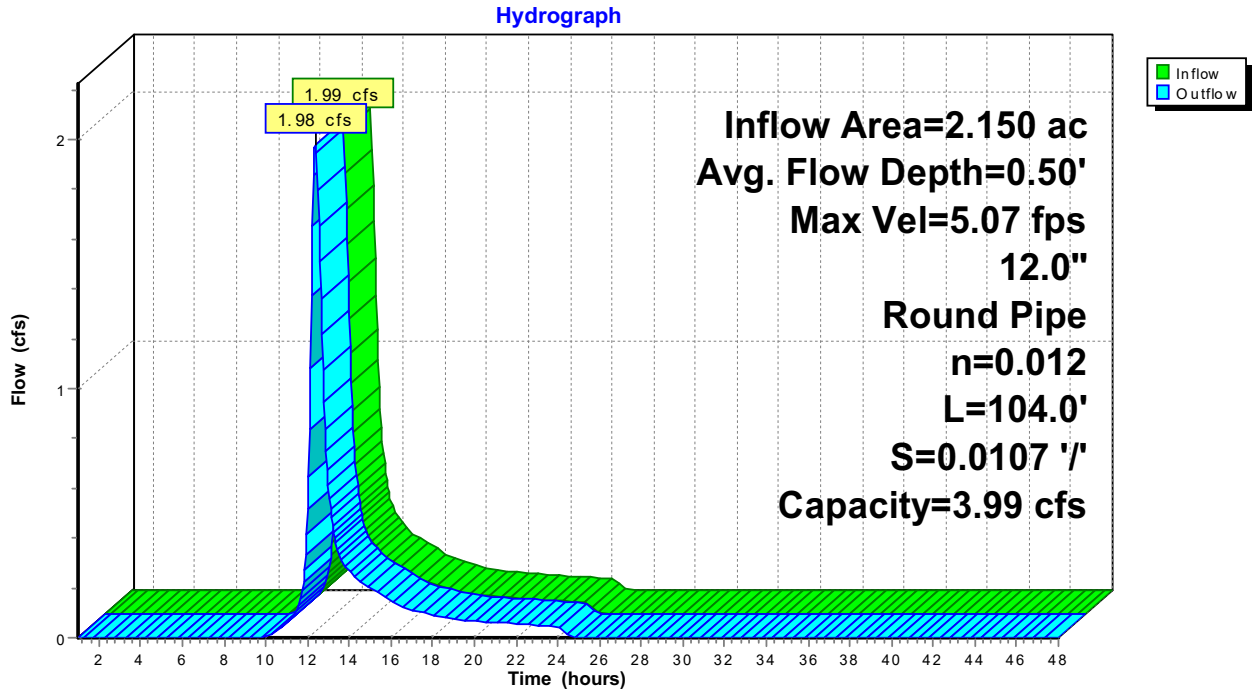
Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Max. Velocity= 5.07 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.15 fps, Avg. Travel Time= 0.8 min

Peak Storage= 41 cf @ 12.38 hrs
Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.99 cfs

12.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 104.0' Slope= 0.0107 '/'
Inlet Invert= 113.80', Outlet Invert= 112.69'



Reach 4R: WASH. CROSS CULVERT



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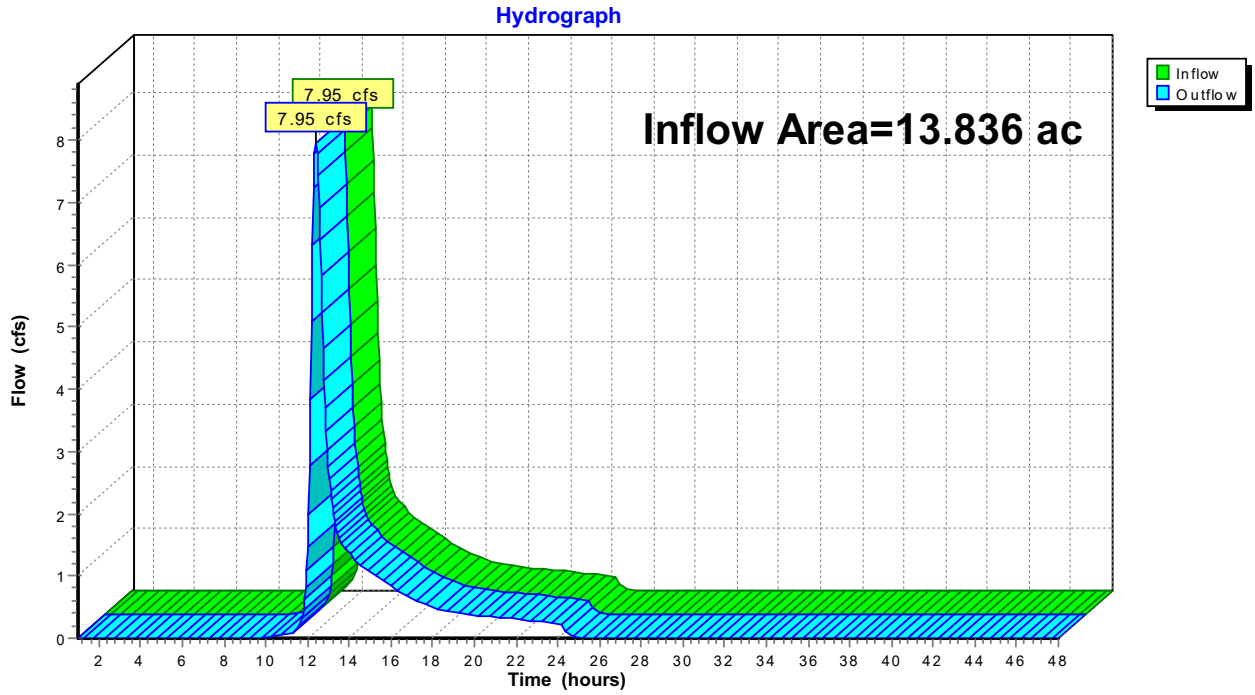
Summary for Reach POI 2: POI #2 - LAMBERT CROSS CULVERT

Inflow Area = 13.836 ac, 7.68% Impervious, Inflow Depth = 0.93" for 2-year event
Inflow = 7.95 cfs @ 12.40 hrs, Volume= 1.067 af
Outflow = 7.95 cfs @ 12.40 hrs, Volume= 1.067 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach POI 2: POI #2 - LAMBERT CROSS CULVERT



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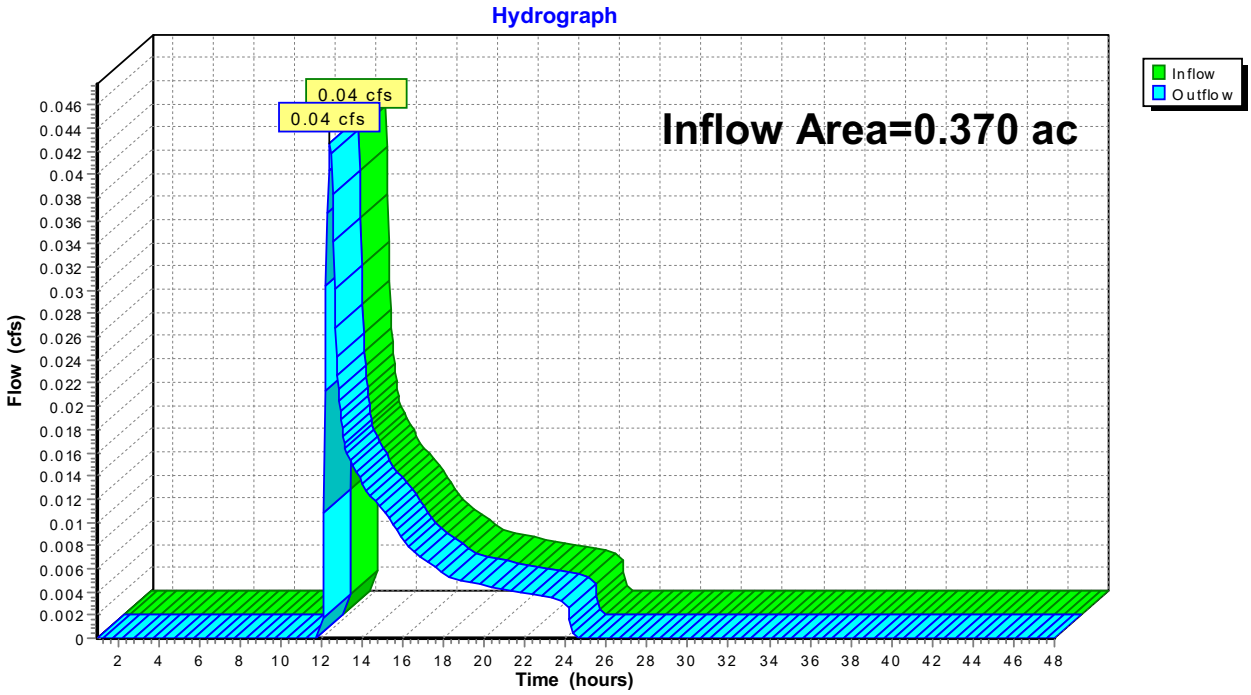
Summary for Reach POI 3: POI #3 - FALMOUTH WETLANDS

Inflow Area = 0.370 ac, 0.00% Impervious, Inflow Depth = 0.28" for 2-year event
Inflow = 0.04 cfs @ 12.43 hrs, Volume= 0.009 af
Outflow = 0.04 cfs @ 12.43 hrs, Volume= 0.009 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach POI 3: POI #3 - FALMOUTH WETLANDS



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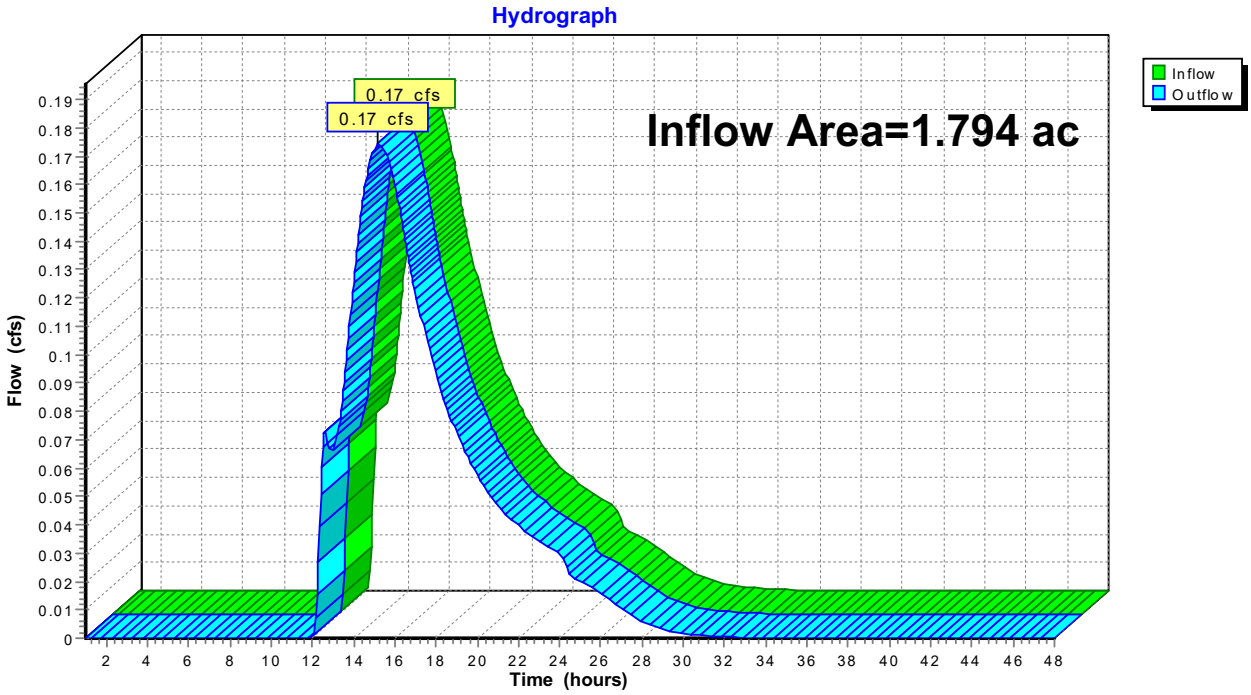
Summary for Reach POI 4: POI #4 - N STREAM

Inflow Area = 1.794 ac, 28.26% Impervious, Inflow Depth = 0.60" for 2-year event
Inflow = 0.17 cfs @ 15.18 hrs, Volume= 0.090 af
Outflow = 0.17 cfs @ 15.18 hrs, Volume= 0.090 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach POI 4: POI #4 - N STREAM



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Summary for Pond 1P: USSF 1 - StormTech 3500

Inflow Area = 1.017 ac, 60.24% Impervious, Inflow Depth = 1.57" for 2-year event
Inflow = 1.59 cfs @ 12.09 hrs, Volume= 0.133 af
Outflow = 0.08 cfs @ 14.62 hrs, Volume= 0.128 af, Atten = 95%, Lag = 151.9 min
Primary = 0.08 cfs @ 14.62 hrs, Volume= 0.128 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 106.49' @ 14.62 hrs Surf.Area= 5,880 sf Storage= 3,496 cf

Plug-Flow detention time= 520.2 min calculated for 0.128 af (97% of inflow)
Center-of-Mass det. time= 499.4 min (1,263.0 - 763.6)

Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	2,840 cf	**40.00'W x 49.00'L x 5.50'H Stone**
			10,780 cf Overall - 3,680 cf Embedded = 7,100 cf x 40.0% Voids
#2	105.25'	3,680 cf	**ADS_StormTech MC-3500 d +Cap @ 7.50' L** x 32 Inside# 1
			Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.50'L = 115.0 cf
			Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
#3	103.00'	147 cf	**40.00'W x 49.00'L x 1.50'H Sand**
			2,940 cf Overall x 5.0% Voids
#4	102.00'	779 cf	**40.00'W x 49.00'L x 1.00'H Crushed Stone**
			1,960 cf Overall - 13 cf Embedded = 1,947 cf x 40.0% Voids
#5	102.25'	13 cf	**4.0" Round Underdrain Storage** Inside #4
			L= 150.0'
		7,459 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	102.25'	**1.2" Vert. Underdrain/Orifice** C= 0.600
#2	Primary	108.02'	**6.0" Round Bypass Overflow X 2.00** L= 6.0' Ke= 0.600
			Inlet / Outlet Invert= 108.02' / 107.75' S = 0.0450 '/' Cc = 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=0.08 cfs @ 14.62 hrs HW=106.49' (Free Discharge)
1=Underdrain/Orifice (Orifice Controls 0.08 cfs @ 9.86 fps)
2=Bypass Overflow (Controls 0.00 cfs)

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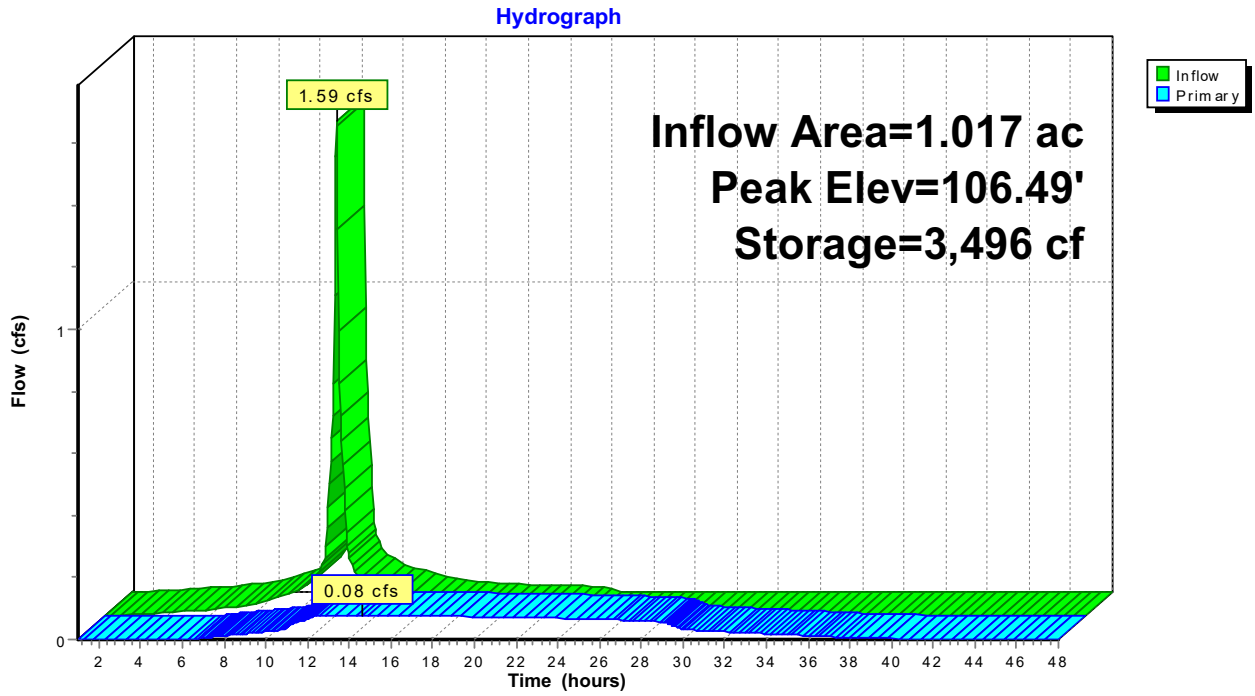
Pond 1P: USSF 1 - StormTech 3500



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Summary for Pond 2P: Pavement Profile/Drainage

Inflow Area = 0.298 ac, 73.29% Impervious, Inflow Depth = 1.46" for 2-year event
Inflow = 0.08 cfs @ 15.15 hrs, Volume= 0.036 af
Outflow = 0.08 cfs @ 15.19 hrs, Volume= 0.036 af, Atten = 0%, Lag = 2.1 min
Primary = 0.08 cfs @ 15.19 hrs, Volume= 0.036 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 107.93' @ 15.19 hrs Surf.Area= 180 sf Storage= 25 cf

Plug-Flow detention time= 12.3 min calculated for 0.036 af (99% of inflow)
Center-of-Mass det. time= 6.8 min (1,053.5 - 1,046.7)

Volume	Invert	Avail.Storage	Storage Description
#1	107.60'	147 cf	**1.33'W x 135.00'L x 2.19'H 6" Trench**
			393 cf Overall - 27 cf Embedded = 367 cf x 40.0% Voids
#2	109.79'	243 cf	**18.00'W x 135.00'L x 0.25'H 3" - 3/4" Stone**
			608 cf Overall x 40.0% Voids
#3	110.04'	122 cf	**18.00'W x 135.00'L x 1.00'H 12" - Filter MDOT Type D**
			2,430 cf Overall x 5.0% Voids
#4	111.04'	321 cf	**18.00'W x 135.00'L x 0.33'H 4" - Choker 1-1/2"**
			802 cf Overall x 40.0% Voids
#5	111.37'	160 cf	**18.00'W x 135.00'L x 0.33'H 4" - OGFC**
			802 cf Overall x 20.0% Voids
#6	107.85'	27 cf	**6.0" Round 6 SD** Inside #1
			L= 135.0'
		1,019 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	107.75'	**8.0" Round 6" Pipe**
			L= 39.0' CMP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 107.75' / 107.55' S = 0.0051 '/' Cc = 0.900
			n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.08 cfs @ 15.19 hrs HW=107.93' (Free Discharge)
↳1=6" Pipe (Barrel Controls 0.08 cfs @ 1.55 fps)

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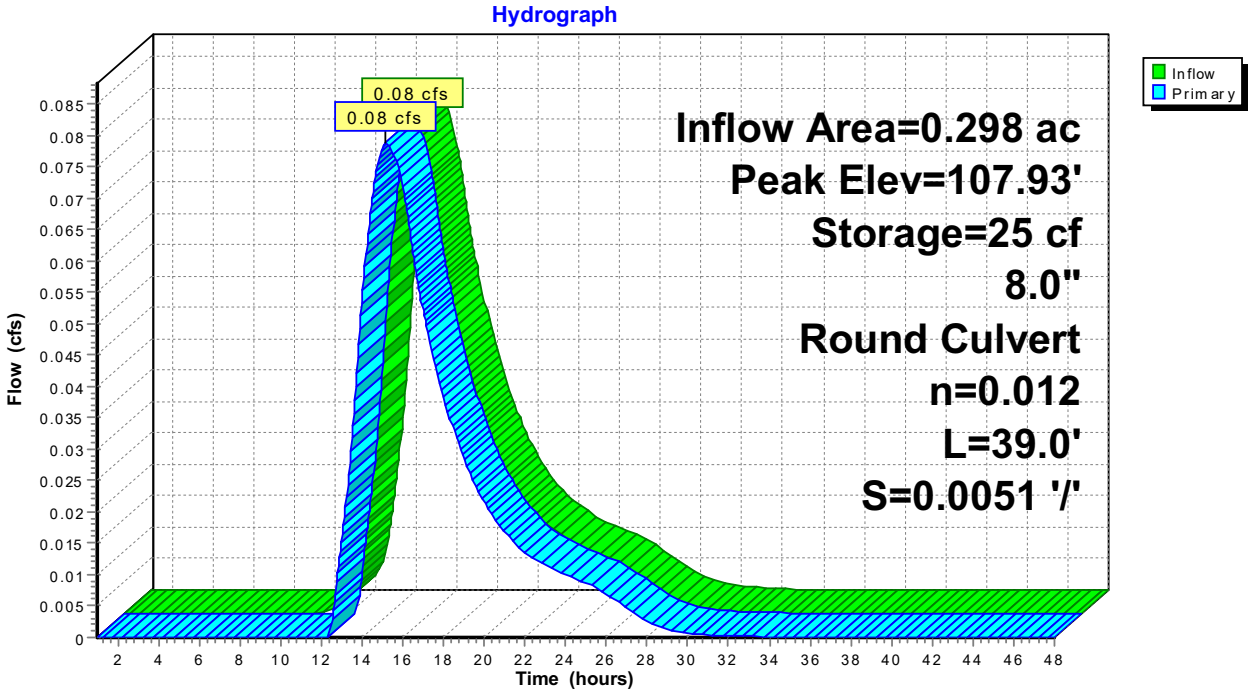
Pond 2P: Pavement Profile/Drainage



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Summary for Pond 3P: Pavement Profile/Drainage

Inflow Area = 0.536 ac, 53.84% Impervious, Inflow Depth = 0.82" for 2-year event
Inflow = 0.07 cfs @ 15.42 hrs, Volume= 0.037 af
Outflow = 0.07 cfs @ 15.42 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min
Primary = 0.07 cfs @ 15.42 hrs, Volume= 0.037 af

Routing by Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 106.81' @ 15.42 hrs Surf.Area= 625 sf Storage= 0 cf

Plug-Flow detention time= 0.0 min calculated for 0.037 af (100% of inflow)
Center-of-Mass det. time= 0.0 min (1,083.4 - 1,083.3)

Volume	Invert	Avail.Storage	Storage Description
#1	106.81'	213 cf	**1.33'W x 470.00'L x 1.00'H 6" Trench** 625 cf Overall - 92 cf Embedded = 533 cf x 40.0% Voids
#2	107.81'	517 cf	**11.00'W x 470.00'L x 0.25'H 3" - 3/4" Stone** 1,293 cf Overall x 40.0% Voids
#3	108.06'	259 cf	**11.00'W x 470.00'L x 1.00'H 12" - Filter MDOT Type D** 5,170 cf Overall x 5.0% Voids
#4	109.06'	1,034 cf	**11.00'W x 470.00'L x 0.50'H 6" - Choker 1-1/2"** 2,585 cf Overall x 40.0% Voids
#5	109.56'	341 cf	**11.00'W x 470.00'L x 0.33'H 4" - OGFC** 1,706 cf Overall x 20.0% Voids
#6	107.06'	92 cf	**6.0" Round 6 SD** Inside #1 L= 470.0'
		2,456 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	102.75'	**12.0" Round 12" Pipe** L= 46.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 102.75' / 102.50' S= 0.0054 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=5.63 cfs @ 15.42 hrs HW=106.81' (Free Discharge)
↳1=12" Pipe (Inlet Controls 5.63 cfs @ 7.17 fps)

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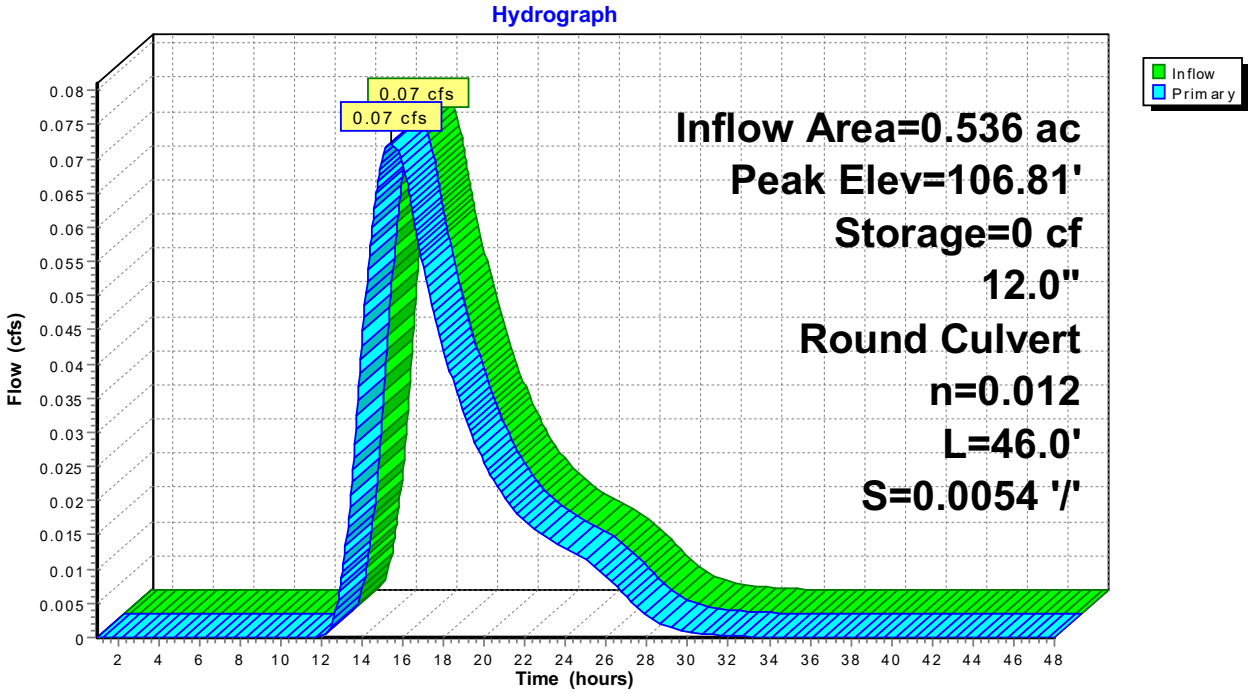
Pond 3P: Pavement Profile/Drainage



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Summary for Pond 4P: Pavement Profile/Drainage

Inflow Area = 0.358 ac, 69.20% Impervious, Inflow Depth = 2.26" for 2-year event
Inflow = 0.15 cfs @ 15.11 hrs, Volume= 0.067 af
Outflow = 0.15 cfs @ 15.12 hrs, Volume= 0.067 af, Atten= 0%, Lag= 0.1 min
Primary = 0.15 cfs @ 15.12 hrs, Volume= 0.067 af

Routing by Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 108.67' @ 15.12 hrs Surf.Area= 525 sf Storage= 1 cf

Plug-Flow detention time= 0.1 min calculated for 0.067 af (100% of inflow)
Center-of-Mass det. time= 0.1 min (1,007.9 - 1,007.8)

Volume	Invert	Avail.Storage	Storage Description
#1	108.67'	183 cf	**1.50'W x 350.00'L x 1.00'H 6" Trench** 525 cf Overall - 69 cf Embedded = 456 cf x 40.0% Voids
#2	109.67'	560 cf	**16.00'W x 350.00'L x 0.25'H 3" - 3/4" Stone** 1,400 cf Overall x 40.0% Voids
#3	109.92'	280 cf	**16.00'W x 350.00'L x 1.00'H 12" - Filter MDOT Type D** 5,600 cf Overall x 5.0% Voids
#4	110.92'	1,120 cf	**16.00'W x 350.00'L x 0.50'H 6" - Choker 1-1/2"** 2,800 cf Overall x 40.0% Voids
#5	111.42'	370 cf	**16.00'W x 350.00'L x 0.33'H 4" - OGFC** 1,848 cf Overall x 20.0% Voids
#6	108.92'	69 cf	**6.0" Round 6 SD** Inside #1 L= 350.0'
		2,581 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	107.10'	**8.0" Round 6" Pipe** L= 70.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 107.10' / 106.25' S= 0.0121 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=1.48 cfs @ 15.12 hrs HW=108.67' (Free Discharge)
↳1=6" Pipe (Inlet Controls 1.48 cfs @ 4.23 fps)

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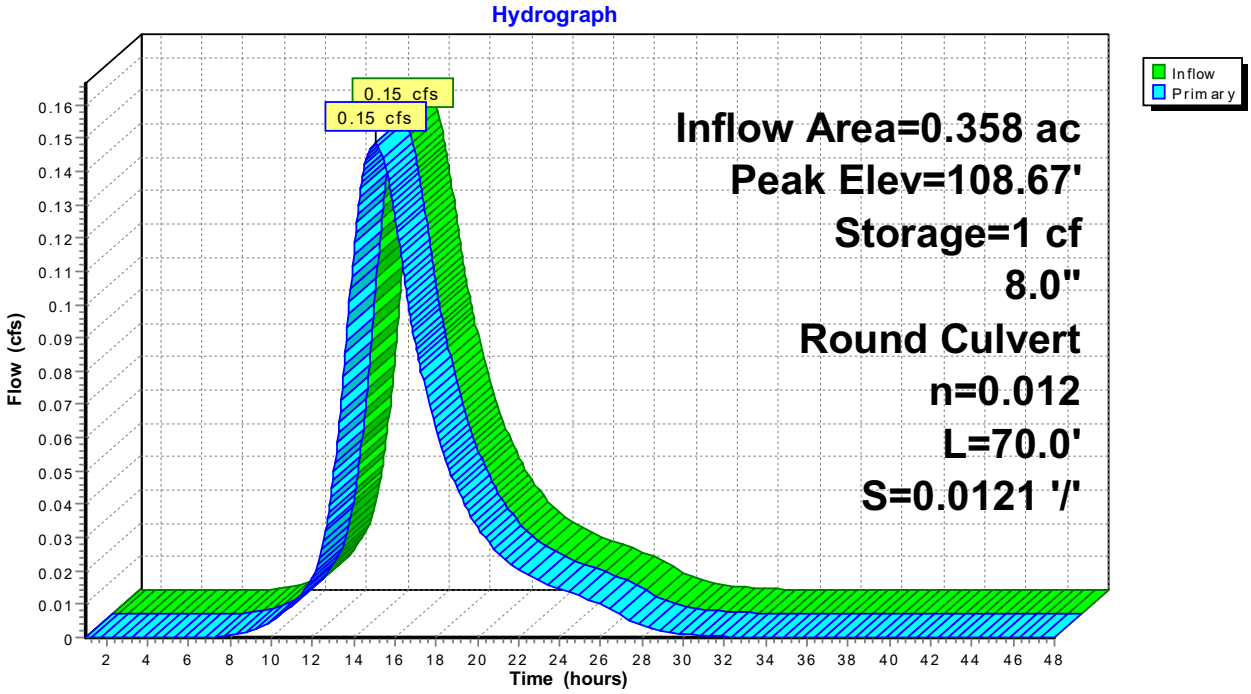
Pond 4P: Pavement Profile/Drainage



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Summary for Pond 5P: Pavement Profile/Drainage

Inflow Area = 0.281 ac, 81.51% Impervious, Inflow Depth = 1.75" for 2-year event
Inflow = 0.09 cfs @ 15.14 hrs, Volume= 0.041 af
Outflow = 0.09 cfs @ 15.14 hrs, Volume= 0.041 af, Atten = 0%, Lag = 0.0 min
Primary = 0.09 cfs @ 15.14 hrs, Volume= 0.041 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 104.67' @ 15.14 hrs Surf.Area= 188 sf Storage= 0 cf

Plug-Flow detention time= 0.0 min calculated for 0.041 af (100% of inflow)
Center-of-Mass det. time= 0.0 min (1,032.9 - 1,032.8)

Volume	Invert	Avail.Storage	Storage Description
#1	104.67'	65 cf	**1.50'W x 125.00'L x 1.00'H 6" Underdrained Trench** 188 cf Overall - 25 cf Embedded = 163 cf x 40.0% Voids
#2	105.67'	225 cf	**18.00'W x 125.00'L x 0.25'H 3" - 3/4" Stone** 563 cf Overall x 40.0% Voids
#3	105.92'	113 cf	**18.00'W x 125.00'L x 1.00'H 12" - Filter MDOT Type D** 2,250 cf Overall x 5.0% Voids
#4	106.92'	450 cf	**18.00'W x 125.00'L x 0.50'H 6" - Choker 1-1/2"** 1,125 cf Overall x 40.0% Voids
#5	107.42'	148 cf	**18.00'W x 125.00'L x 0.33'H 4" - OGFC** 742 cf Overall x 20.0% Voids
#6	104.92'	25 cf	**6.0" Round 4 SD** Inside #1 L= 125.0'
		1,026 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	101.35'	**12.0" Round 12" Pipe** L= 32.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 101.35' / 101.25' S = 0.0031 '/' Cc = 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=5.01 cfs @ 15.14 hrs HW=104.67' (Free Discharge)
↳1=12" Pipe (Inlet Controls 5.01 cfs @ 6.38 fps)

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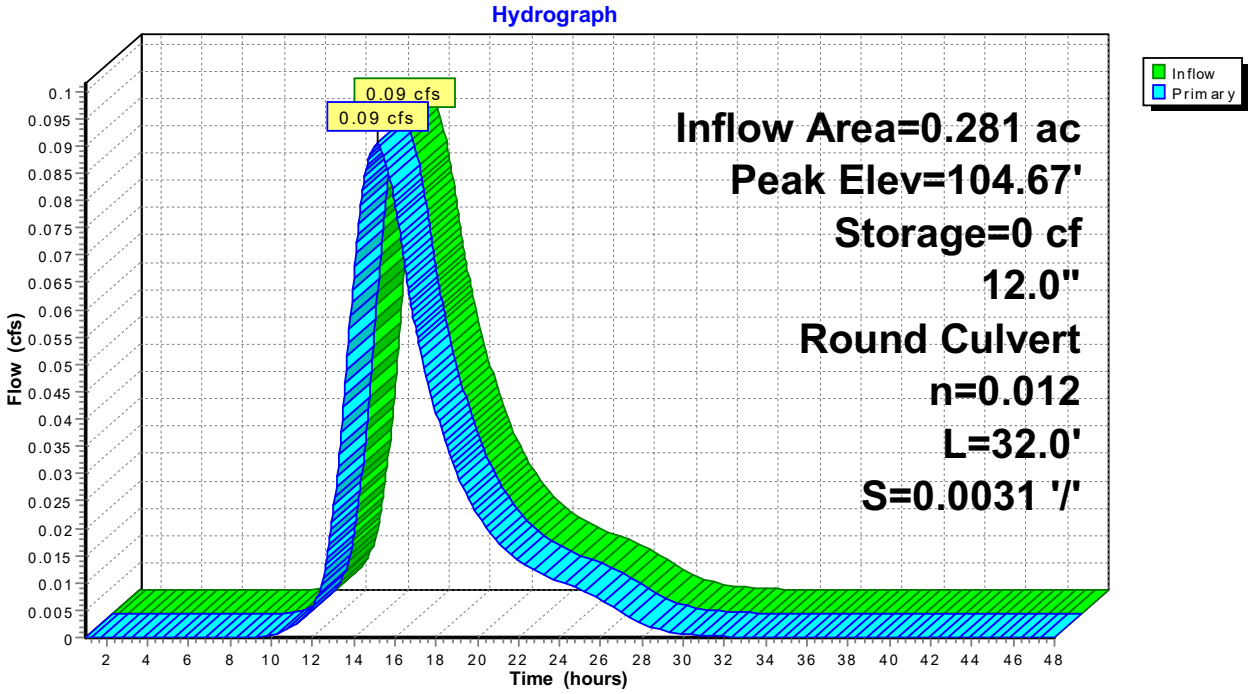
Pond 5P: Pavement Profile/Drainage



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Summary for Pond 6P: USSF 2 - StormTech 3500

Inflow Area = 1.261 ac, 60.39% Impervious, Inflow Depth = 1.84" for 2-year event
Inflow = 2.27 cfs @ 12.09 hrs, Volume= 0.193 af
Outflow = 0.23 cfs @ 13.02 hrs, Volume= 0.183 af, Atten = 90%, Lag = 55.5 min
Primary = 0.23 cfs @ 13.02 hrs, Volume= 0.183 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 102.87' @ 13.02 hrs Surf.Area= 6,841 sf Storage= 3,993 cf

Plug-Flow detention time= 221.9 min calculated for 0.183 af (95% of inflow)
Center-of-Mass det. time= 190.6 min (969.3 - 778.6)

Volume	Invert	Avail.Storage	Storage Description
#1	101.00'	3,081 cf	**35.08'W x 65.00'L x 5.50'H Stone** 12,541 cf Overall - 4,839 cf Embedded = 7,702 cf x 40.0% Voids
#2	101.75'	4,839 cf	**ADS_StormTech MC-3500 d +Cap @ 7.50' L** x 40 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.50'L = 115.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 40 Chambers in 8 Rows Cap Storage= +14.9 cf x 2 x 8 rows = 238.4 cf
#3	99.50'	171 cf	**35.08'W x 65.00'L x 1.50'H Sand** 3,420 cf Overall x 5.0% Voids
#4	98.50'	907 cf	**35.08'W x 65.00'L x 1.00'H Crushed Stone** 2,280 cf Overall - 1,373 cf Embedded = 2,267 cf x 40.0% Voids
#5	99.00'	13 cf	**4.0" Round Underdrain Storage** Inside #4 L= 150.0'
		9,011 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	99.00'	**2.1" Vert. Underdrain/Orifice** C= 0.600
#2	Primary	104.52'	**6.0" Round Bypass Overflow X 3.00** L= 7.0' Ke= 0.600 Inlet / Outlet Invert= 104.52' / 103.75' S= 0.1100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=0.23 cfs @ 13.02 hrs HW=102.87' (Free Discharge)
1=Underdrain/Orifice (Orifice Controls 0.23 cfs @ 9.37 fps)
2=Bypass Overflow (Controls 0.00 cfs)

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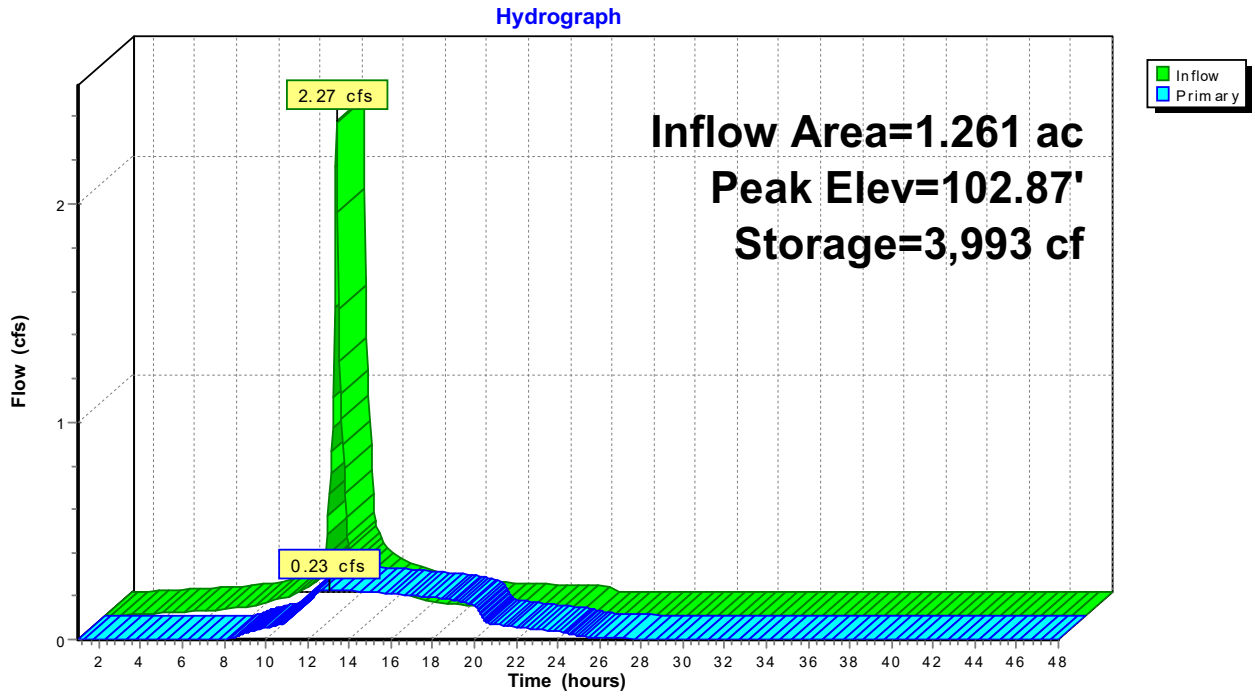
Pond 6P: USSF 2 - StormTech 3500



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Summary for Pond 7P: 6+00 Rain Garden

Inflow Area = 0.432 ac, 68.41% Impervious, Inflow Depth = 1.81" for 2-year event
Inflow = 0.88 cfs @ 12.09 hrs, Volume= 0.065 af
Outflow = 0.88 cfs @ 12.12 hrs, Volume= 0.065 af, Atten = 0%, Lag = 2.0 min
Primary = 0.88 cfs @ 12.12 hrs, Volume= 0.065 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 109.65' @ 12.12 hrs Surf.Area= 458 sf Storage= 359 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 10.7 min (819.5 - 808.8)

Volume	Invert	Avail.Storage	Storage Description
#1	108.00'	982 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	106.50'	16 cf	**Soil Filter/Loam Topsoil (Prismatic)** Listed below (Recalc)
			162 cf Overall x 10.0% Voids
		998 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
108.00	108	0	0
109.00	213	161	161
110.00	424	319	479
110.25	450	109	588
111.00	600	394	982

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
106.50	108	0	0
108.00	108	162	162

Device	Routing	Invert	Outlet Devices
#1	Primary	105.50'	**2.0" Round Culvert** L= 10.0' Ke= 0.600
			Inlet / Outlet Invert= 105.50' / 105.35' S = 0.0150 '/' Cc = 0.900
			n= 0.012, Flow Area= 0.02 sf
#2	Device 1	106.50'	**0.13 cfs Exfiltration when above 106.50'**
#3	Primary	109.50'	**18.0" Horiz. Beehive Overflow** C= 0.600
			Limited to weir flow at low heads
#4	Primary	109.75'	**5.0' long (Profile 1) Broad-Crested Rectangular Weir**
			Head (feet) 0.49 0.98 1.48
			Coef. (English) 2.92 3.37 3.59

Primary OutFlow Max=0.79 cfs @ 12.12 hrs HW=109.62' (Free Discharge)
- **1=Culvert** (Passes 0.13 cfs of 0.17 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.13 cfs)
- **3=Beehive Overflow** (Weir Controls 0.66 cfs @ 1.14 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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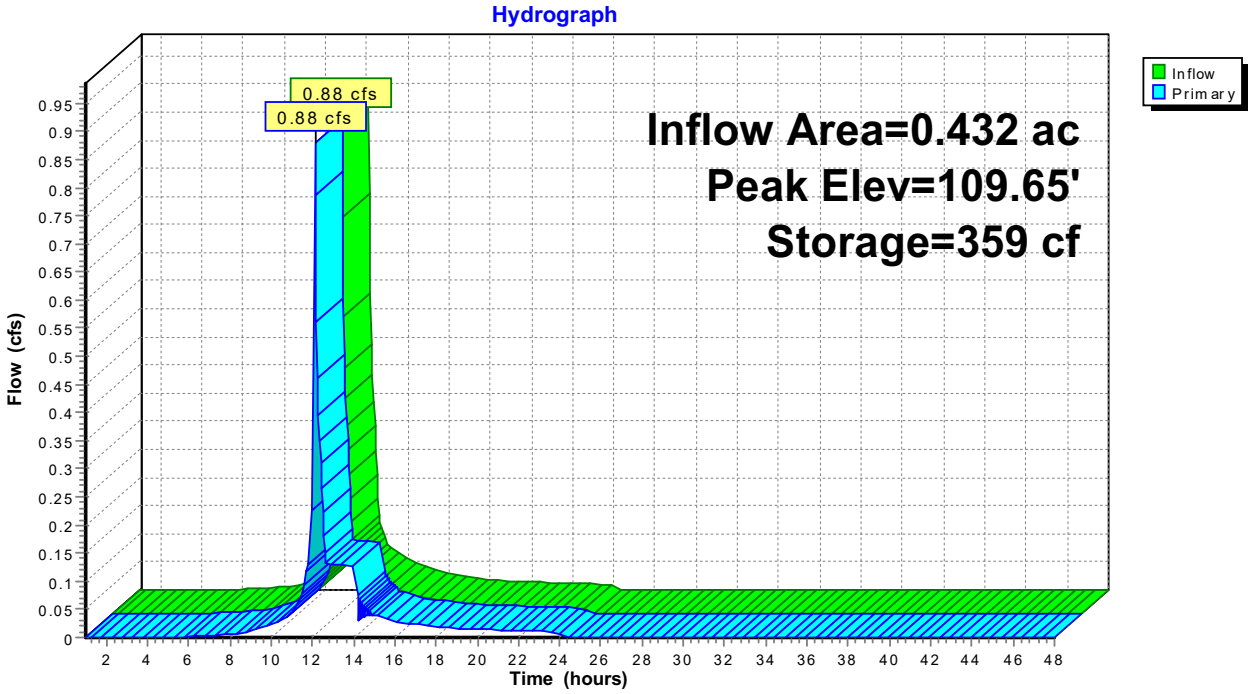
Pond 7P: 6+00 Rain Garden



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Summary for Pond 8P: Pavement Profile/Drainage

Inflow Area = 0.234 ac, 82.25% Impervious, Inflow Depth = 2.55" for 2-year event
Inflow = 0.11 cfs @ 15.10 hrs, Volume= 0.050 af
Outflow = 0.11 cfs @ 15.34 hrs, Volume= 0.048 af, Atten= 3%, Lag= 14.6 min
Primary = 0.11 cfs @ 15.34 hrs, Volume= 0.048 af

Routing by Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 111.90' @ 15.34 hrs Surf.Area= 2,610 sf Storage= 300 cf

Plug-Flow detention time= 93.5 min calculated for 0.048 af (96% of inflow)
Center-of-Mass det. time= 70.7 min (1,061.5 - 990.9)

Volume	Invert	Avail.Storage	Storage Description
#1	110.67'	68 cf	**1.33'W x 135.00'L x 1.00'H Trench**
			180 cf Overall - 10 cf Embedded = 170 cf x 40.0% Voids
#2	111.67'	243 cf	**49.30'W x 49.30'L x 0.25'H 3" - 3/4" Stone**
			608 cf Overall x 40.0% Voids
#3	111.92'	243 cf	**49.30'W x 49.30'L x 1.00'H 12" - Filter MDOT Type D**
			2,430 cf Overall x 10.0% Voids
#4	112.92'	486 cf	**49.30'W x 49.30'L x 0.50'H 6" - Choker 1-1/2"**
			1,215 cf Overall x 40.0% Voids
#5	113.42'	160 cf	**49.30'W x 49.30'L x 0.33'H 4" - OGFC**
			802 cf Overall x 20.0% Voids
#6	110.92'	10 cf	**6.0" Round 4 SD** Inside #1
			L= 49.3' S= 0.0010 '/'
		1,210 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	111.67'	**6.0" Round 6" Pipe**
			L= 5.0' CMP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 111.67' / 111.62' S= 0.0100 '/' Cc= 0.900
			n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.11 cfs @ 15.34 hrs HW=111.90' (Free Discharge)
↳1=6" Pipe (Barrel Controls 0.11 cfs @ 1.76 fps)

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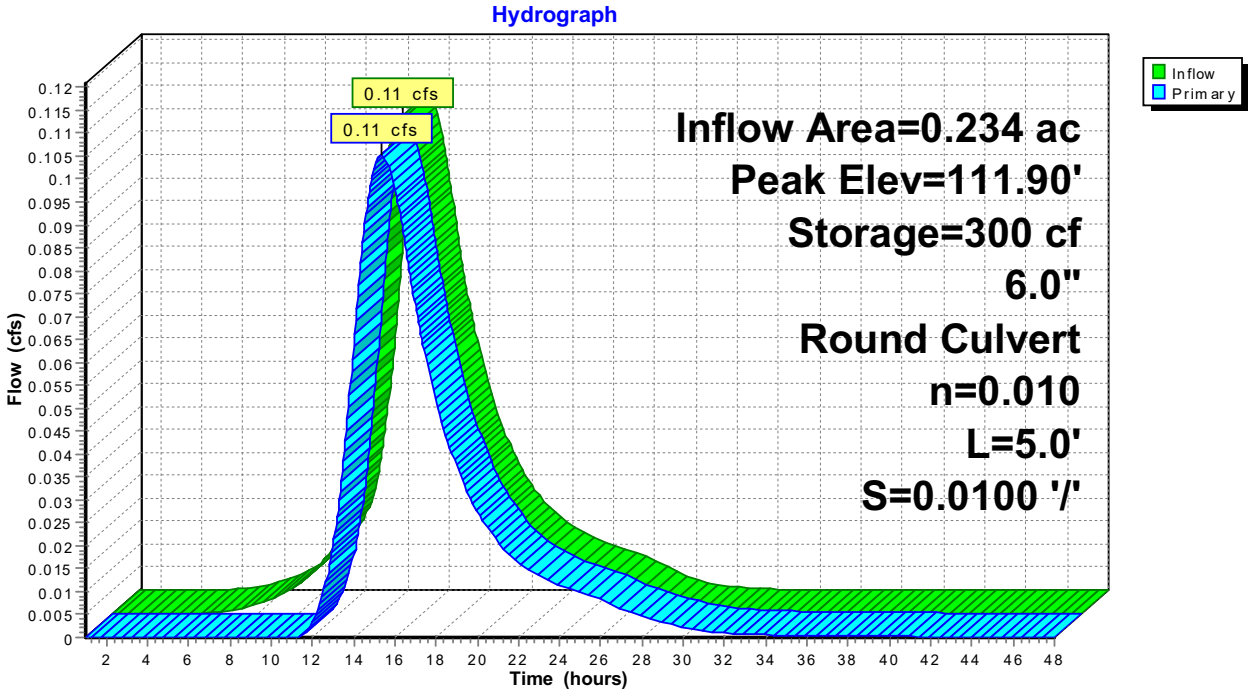
Pond 8P: Pavement Profile/Drainage



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Summary for Pond 9P: 4+25 Rain Garden

Inflow Area = 0.226 ac, 68.34% Impervious, Inflow Depth = 1.33" for 2-year event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 0.025 af
Outflow = 0.36 cfs @ 12.16 hrs, Volume= 0.025 af, Atten = 0%, Lag = 3.9 min
Primary = 0.36 cfs @ 12.16 hrs, Volume= 0.025 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 104.58' @ 12.16 hrs Surf.Area= 407 sf Storage= 229 cf

Plug-Flow detention time= 136.6 min calculated for 0.025 af (100% of inflow)
Center-of-Mass det. time= 136.9 min (981.3 - 844.4)

Volume	Invert	Avail.Storage	Storage Description
#1	103.25'	1,050 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	101.75'	8 cf	**Soil Filter (Prismatic)** Listed below (Recalc)
			83 cf Overall x 10.0% Voids
		1,058 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
103.25	55	0	0
104.00	148	76	76
105.00	500	324	400
106.00	800	650	1,050

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
101.75	55	0	0
103.25	55	83	83

Device	Routing	Invert	Outlet Devices
#1	Primary	100.75'	**4.0" Round Culvert** L= 45.0' Ke= 0.600
			Inlet / Outlet Invert= 100.75' / 100.25' S = 0.0111 '/' Cc = 0.900
			n= 0.012, Flow Area= 0.09 sf
#2	Device 1	101.75'	**0.01 cfs Exfiltration at all elevations**
#3	Primary	104.50'	**18.0" Horiz. Beehive Overflow** C= 0.600
			Limited to weir flow at low heads
#4	Primary	104.75'	**5.0' long (Profile 1) Broad-Crested Rectangular Weir**
			Head (feet) 0.49 0.98 1.48
			Coef. (English) 2.92 3.37 3.59

Primary OutFlow Max=0.31 cfs @ 12.16 hrs HW=104.57' (Free Discharge)
- **1=Culvert** (Passes 0.01 cfs of 0.54 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.01 cfs)
- **3=Beehive Overflow** (Weir Controls 0.30 cfs @ 0.88 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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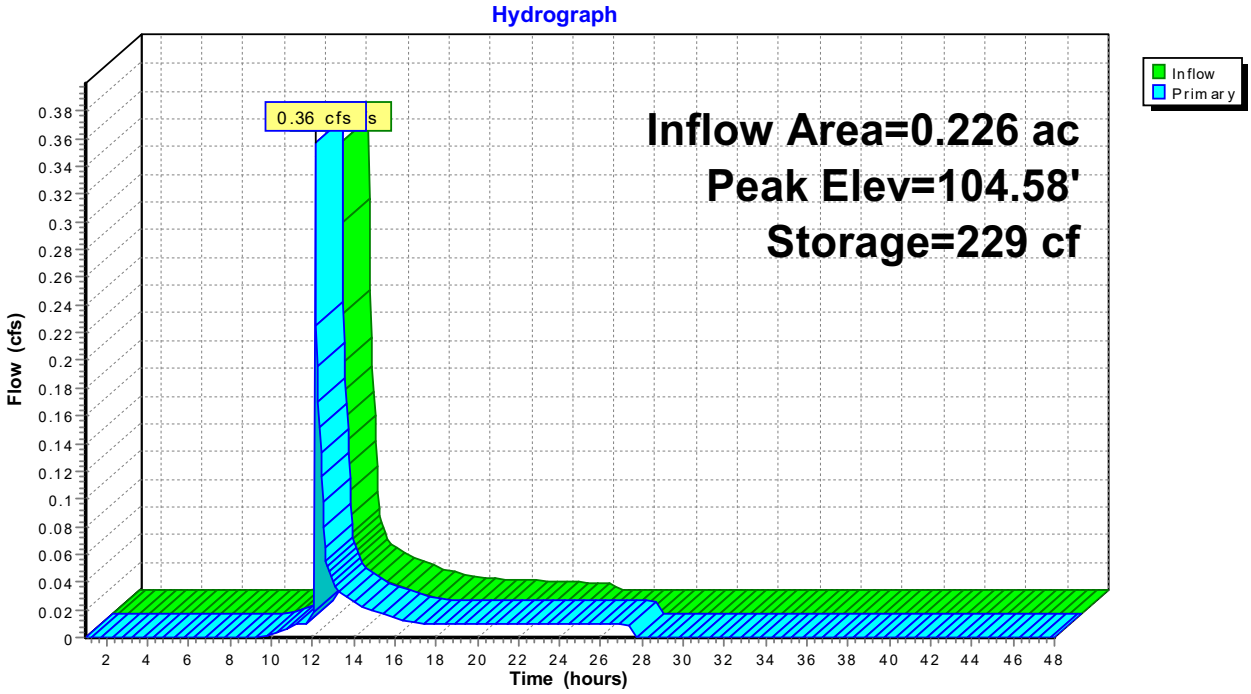
Pond 9P: 4+25 Rain Garden



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Summary for Pond 10P: Riprap Basin

Inflow Area = 4.880 ac, 50.08% Impervious, Inflow Depth > 1.14" for 2-year event
Inflow = 1.28 cfs @ 12.20 hrs, Volume= 0.463 af
Outflow = 0.80 cfs @ 12.41 hrs, Volume= 0.462 af, Atten = 38%, Lag = 13.0 min
Primary = 0.80 cfs @ 12.41 hrs, Volume= 0.462 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 92.05' @ 12.41 hrs Surf.Area= 614 sf Storage= 502 cf

Plug-Flow detention time= 9.0 min calculated for 0.462 af (100% of inflow)
Center-of-Mass det. time= 6.7 min (1,047.6 - 1,040.9)

Volume	Invert	Avail.Storage	Storage Description
#1	88.00'	480 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
			1,200 cf Overall x 40.0% Voids
#2	92.00'	1,381 cf	**Ponding (Prismatic)** Listed below
		1,861 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.00	300	0	0
92.00	300	1,200	1,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.00	300	0	0
93.00	582	441	441
94.00	859	721	1,162
94.25	900	220	1,381

Device	Routing	Invert	Outlet Devices
#1	Primary	88.25'	**4.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	93.50'	**18.0" Horiz. CB OVERFLOW** C= 0.600
			Limited to weir flow at low heads

Primary OutFlow Max=0.80 cfs @ 12.41 hrs HW=92.05' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.80 cfs @ 9.18 fps)
2=CB OVERFLOW (Controls 0.00 cfs)

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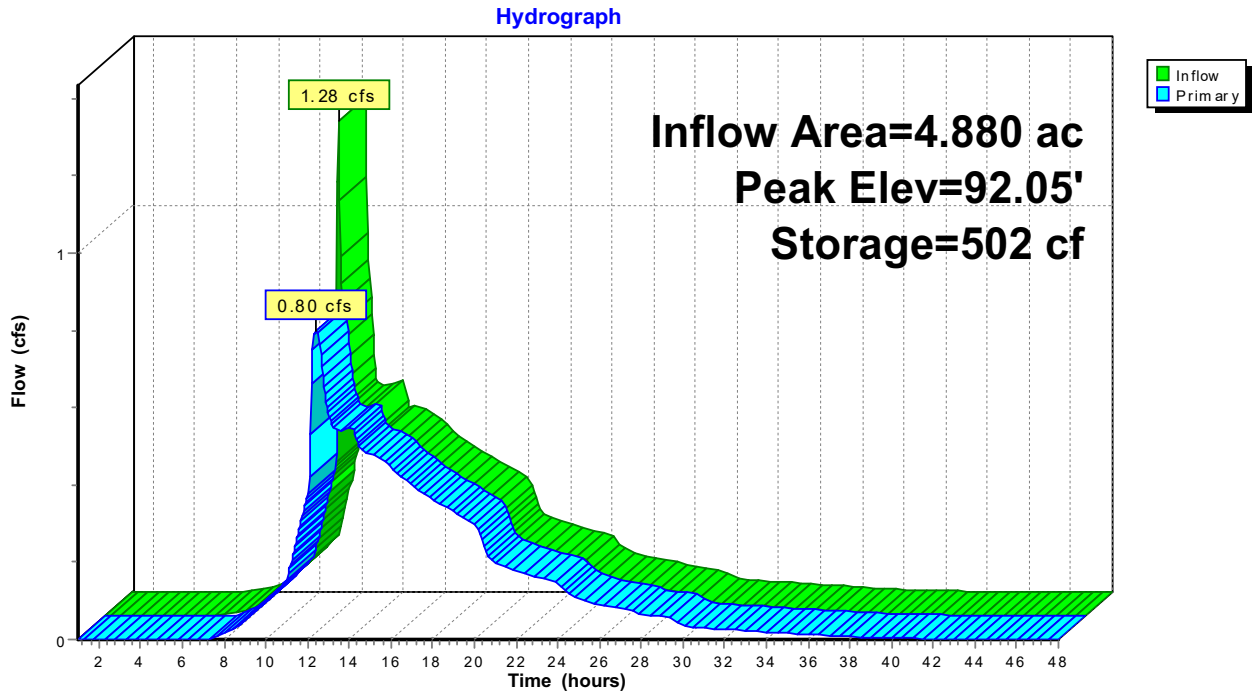
Pond 10P: Riprap Basin



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Summary for Subcatchment 1.1N: SC 1.1N

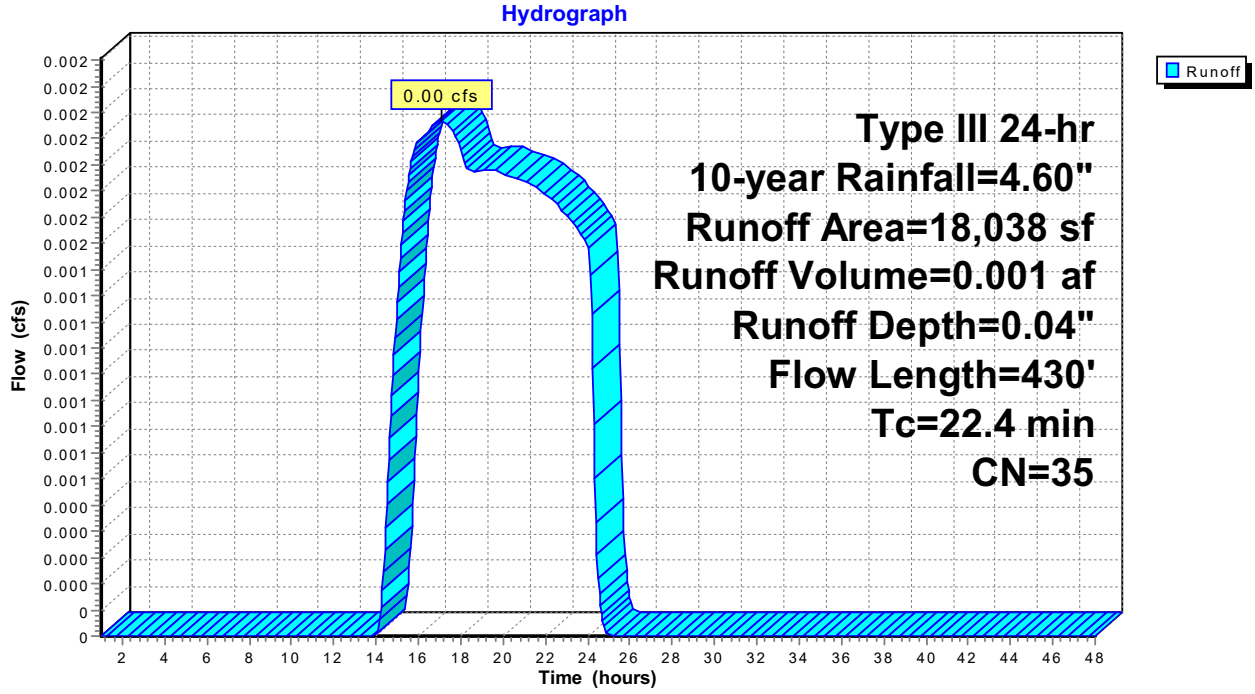
Runoff = 0.00 cfs @ 17.08 hrs, Volume= 0.001 af, Depth= 0.04"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	4,082	39	Roadside ditch and shrubs, HSG A
	9,907	30	Woods, Good, HSG A
*	1,254	39	Landscaping/open space, HSG A
*	2,546	39	Landscaping/roadside ditch
*	249	98	Sidewalk
	18,038	35	Weighted Average
	17,789		98.62% Previous Area
	249		1.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	70	0.0400	0.06		**Sheet Flow, SF (A to B)** Woods: Dense underbrush n= 0.800 P2= 3.27"
0.1	20	0.4000	3.16		**Shallow Concentrated Flow, SCF (B to C)** Woodland Kv= 5.0 fps
1.2	340	0.0310	4.64	17.83	**Trap/Vee/Rect Channel Flow, Ditch Flow (C to D)** Bot.W=2.00' D=0.80' Z= 2.5& 4.5'/' Top.W=7.60' n= 0.035
22.4	430	Total			

Subcatchment 1.1N: SC 1.1N



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Summary for Subcatchment 1.1S: Roofs

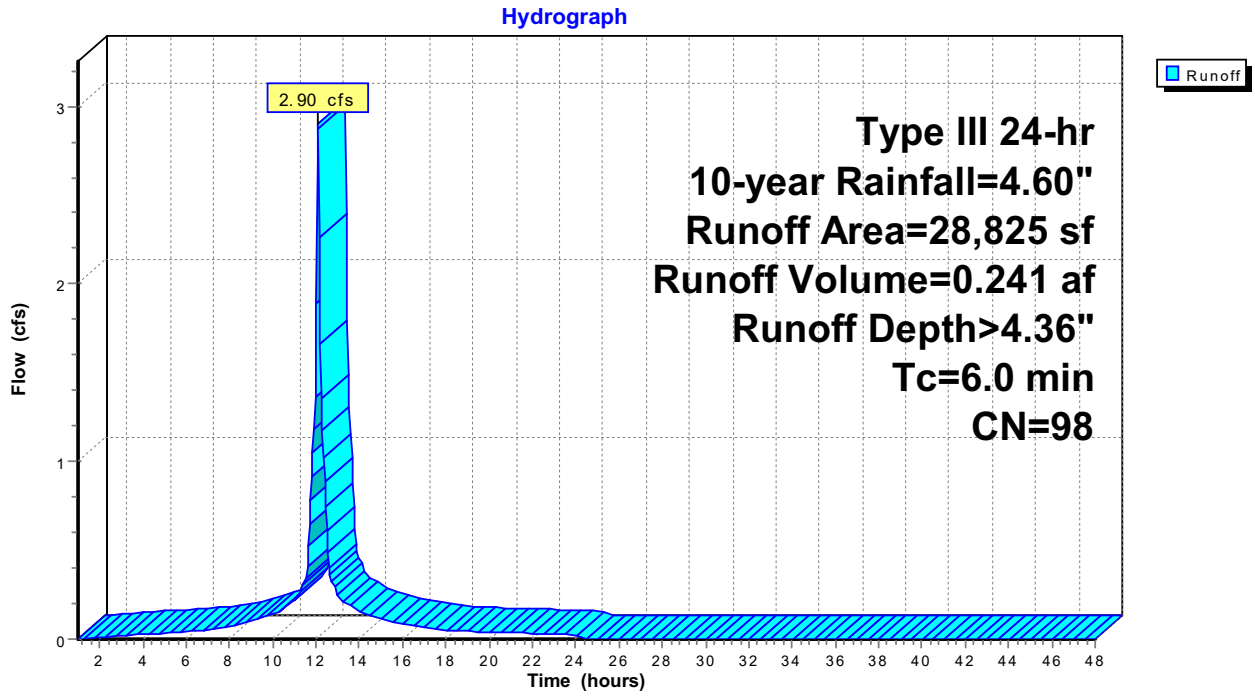
Runoff = 2.90 cfs @ 12.09 hrs, Volume= 0.241 af, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	28,825	98	Roofs
	28,825		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.1S: Roofs



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Summary for Subcatchment 1.2N: SC 1.2N

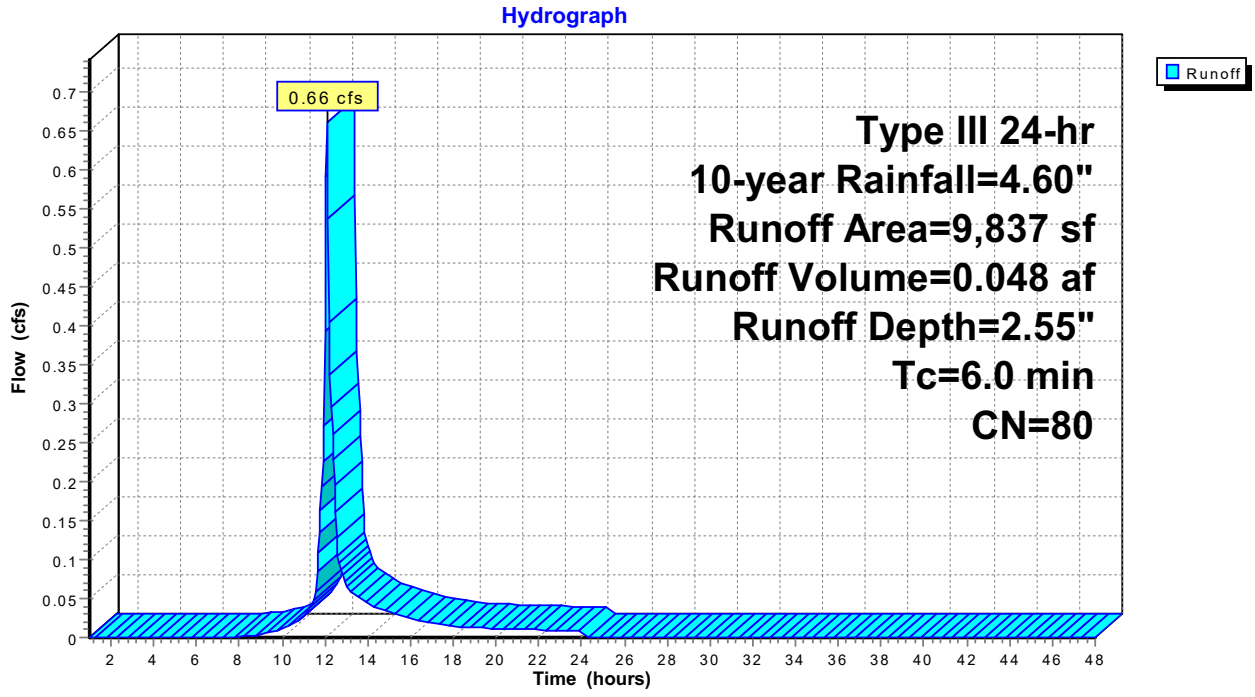
Runoff = 0.66 cfs @ 12.09 hrs, Volume= 0.048 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	3,797	98	Wash Ave
*	360	98	A.2 patios
*	2,543	98	sidewalk
*	23	98	pavers
*	99	80	grass pavers
*	3,015	39	Lawn/landscaping/HSG A
	9,837	80	Weighted Average
	3,114		31.66% Pervious Area
	6,723		68.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.2N: SC 1.2N



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Summary for Subcatchment 1.2S: Property Frontage

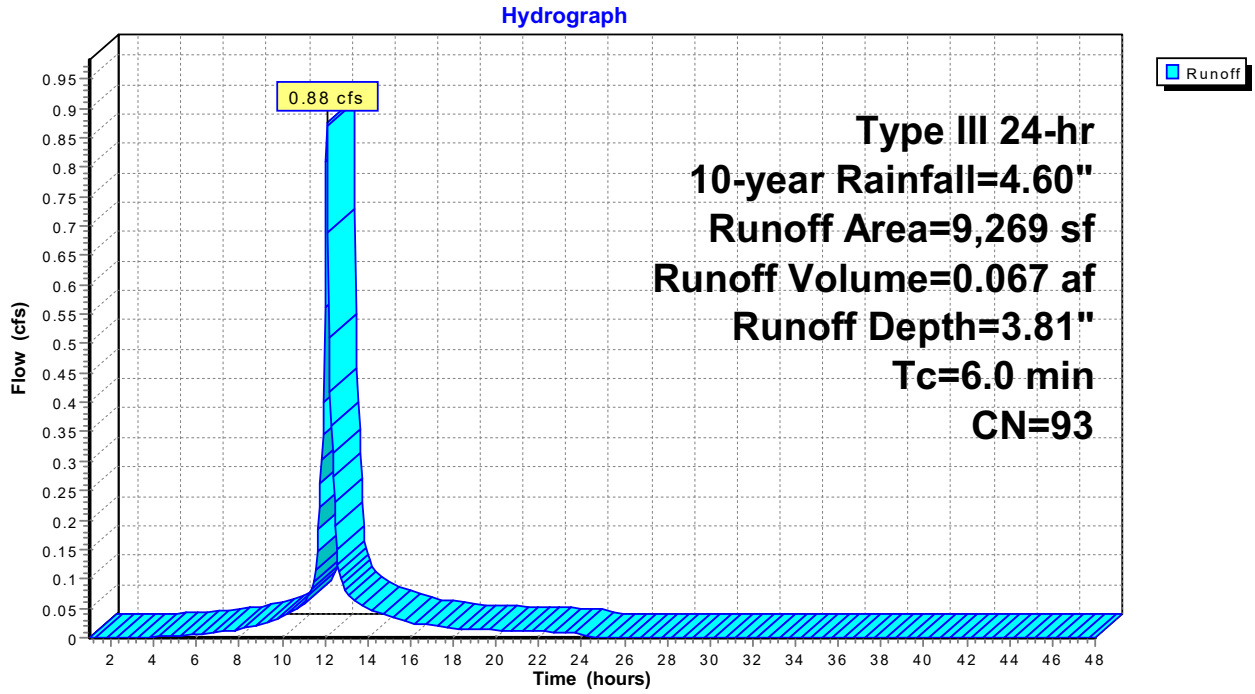
Runoff = 0.88 cfs @ 12.09 hrs, Volume= 0.067 af, Depth= 3.81"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	4,309	98	Wash. Ave
*	1,319	98	Sidewalk
*	436	98	patio
*	321	98	driveway
*	363	98	sidewalk
*	76	98	bus stop
	2,445	80	>75% Grass cover, Good, HSG D
	9,269	93	Weighted Average
	2,445		26.38% Pervious Area
	6,824		73.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.2S: Property Frontage



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Summary for Subcatchment 1.3N: SC 1.3N

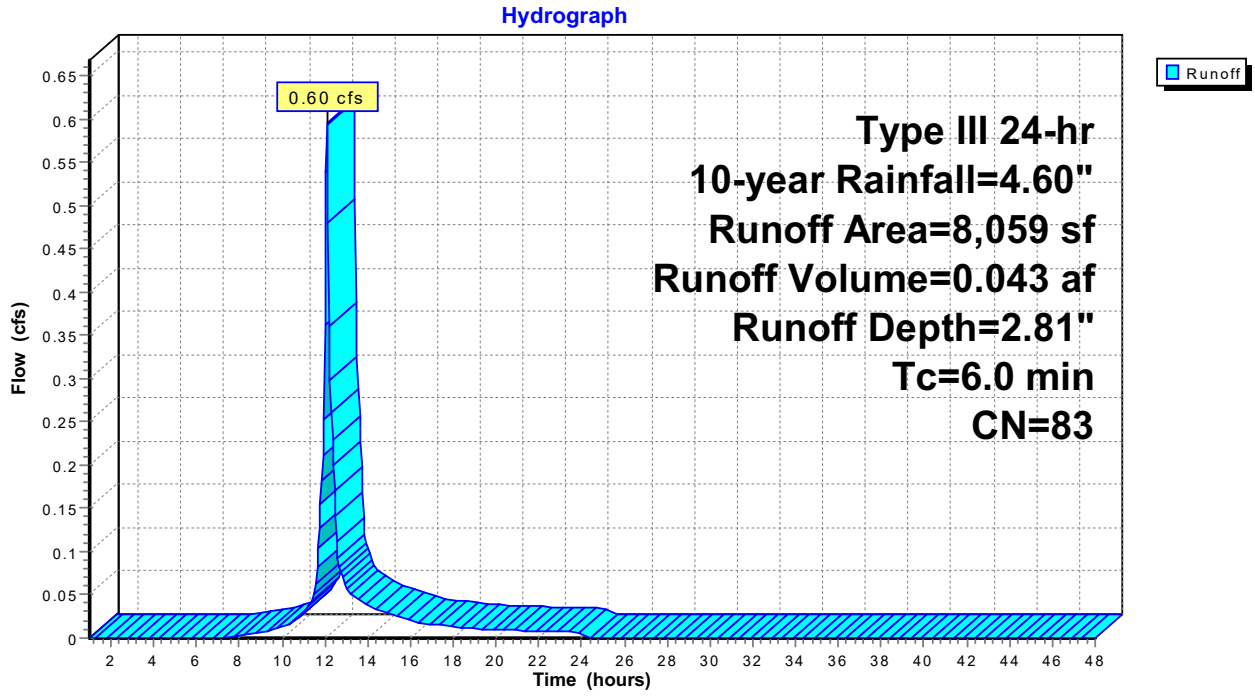
Runoff = 0.60 cfs @ 12.09 hrs, Volume= 0.043 af, Depth= 2.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	3,859	98	Wash Ave
*	230	98	Patios
*	1,924	98	Sidewalk/driveway
*	2,046	39	Landscaping/lawn, HSG A
	8,059	83	Weighted Average
	2,046		25.39% Pervious Area
	6,013		74.61% Impervious Area

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

Subcatchment 1.3N: SC 1.3N



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Summary for Subcatchment 1.3S: West Parking Lot

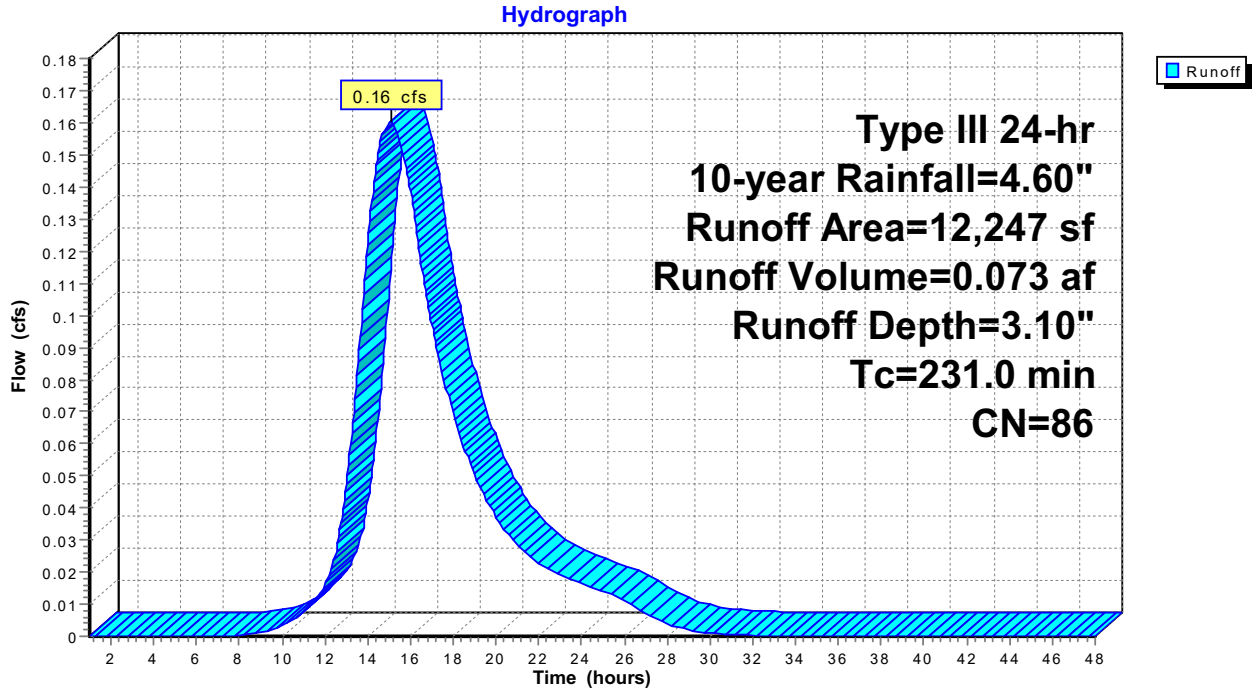
Runoff = 0.16 cfs @ 15.13 hrs, Volume= 0.073 af, Depth= 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	2,279	98	porous
*	6,635	98	paved drive aisle
*	1,068	98	walkway
*	1,197	30	crstone
	1,068	39	>75% Grass cover, Good, HSG A
	12,247	86	Weighted Average
	2,265		18.49% Pervious Area
	9,982		81.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
231.0					**Direct Entry, UNH**

Subcatchment 1.3S: West Parking Lot



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Summary for Subcatchment 1.4N: SC 1.4N

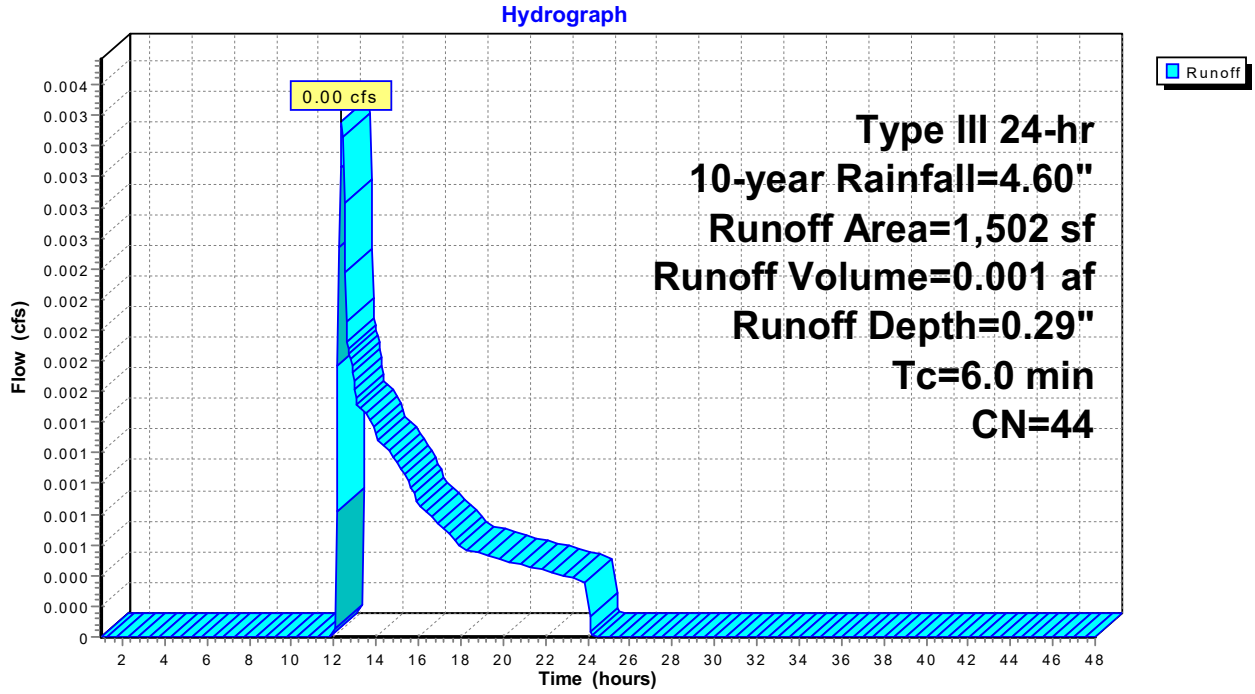
Runoff = 0.00 cfs @ 12.38 hrs, Volume= 0.001 af, Depth= 0.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	131	80	Grass pavers
*	45	98	Pave rwalkway
*	1,326	39	Landscaping/open space/rain garden / HSGA
	1,502	44	Weighted Average
	1,457		97.00% Pervious Area
	45		3.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.4N: SC 1.4N



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Summary for Subcatchment 1.4S: Common

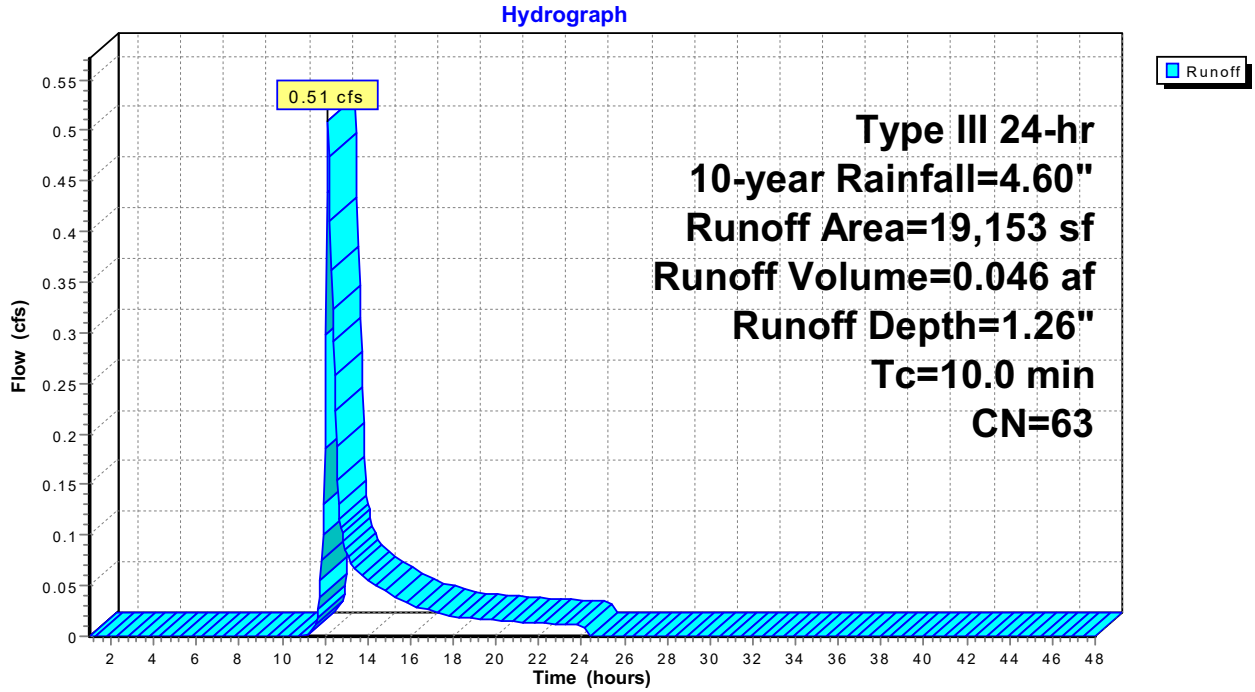
Runoff = 0.51 cfs @ 12.16 hrs, Volume= 0.046 af, Depth= 1.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	1,688	98	paved walkway
*	153	98	Rear Patio
*	112	98	Rear Patio
	8,600	39	>75% Grass cover, Good, HSG A
	8,600	80	>75% Grass cover, Good, HSG D
	19,153	63	Weighted Average
	17,200		89.80% Pervious Area
	1,953		10.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1.4S: Common



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Summary for Subcatchment 1.5N: Roofs

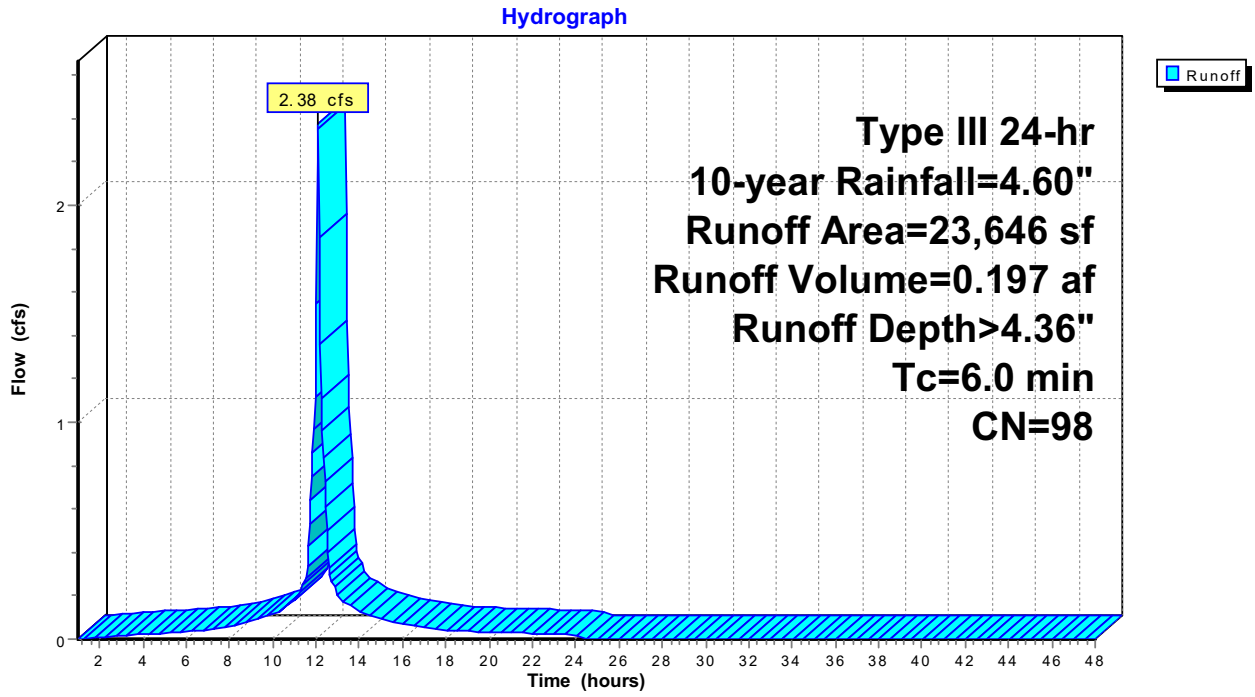
Runoff = 2.38 cfs @ 12.09 hrs, Volume= 0.197 af, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	23,646	98	IMPERV
	23,646		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.5N: Roofs



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Summary for Subcatchment 1.5S: A.7, A.10, C.3, C.2 Aisle

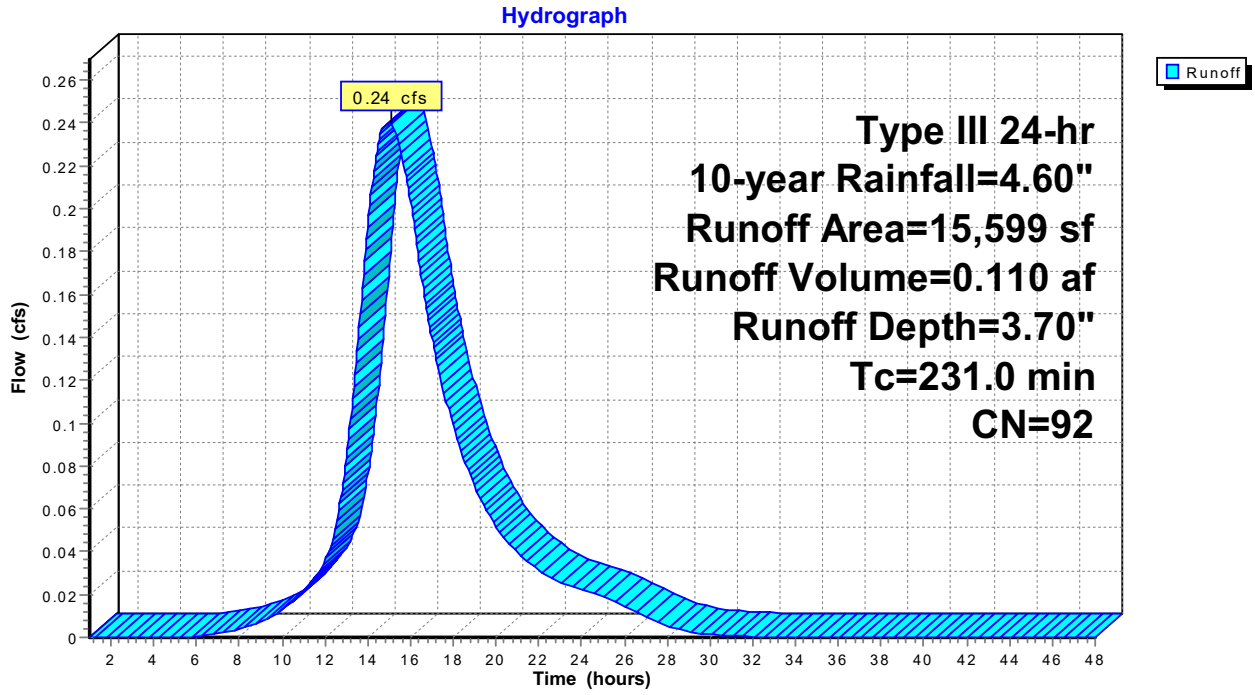
Runoff = 0.24 cfs @ 15.08 hrs, Volume= 0.110 af, Depth= 3.70"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	879	98	5' pavers/s. mews
*	3,722	98	porous
*	442	98	Front Patios
*	759	98	Front Patios
*	1,033	98	Long Patio
*	585	98	Curved Patio
*	536	98	Front Patios
*	592	98	Front Patios
*	1,360	98	Long Patio
*	679	80	Grass Pavers
*	425	98	Patios
*	16	98	Transformer
*	446	98	Sidewalks
*	4,125	80	>75% Grass cover, Good, HSG D
	15,599	92	Weighted Average
	4,804		30.80% Pervious Area
	10,795		69.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
231.0					**Direct Entry, UNH**

Subcatchment 1.5S: A.7, A.10, C.3, C.2 Aisle



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Summary for Subcatchment 1.6N: SC 1.6N

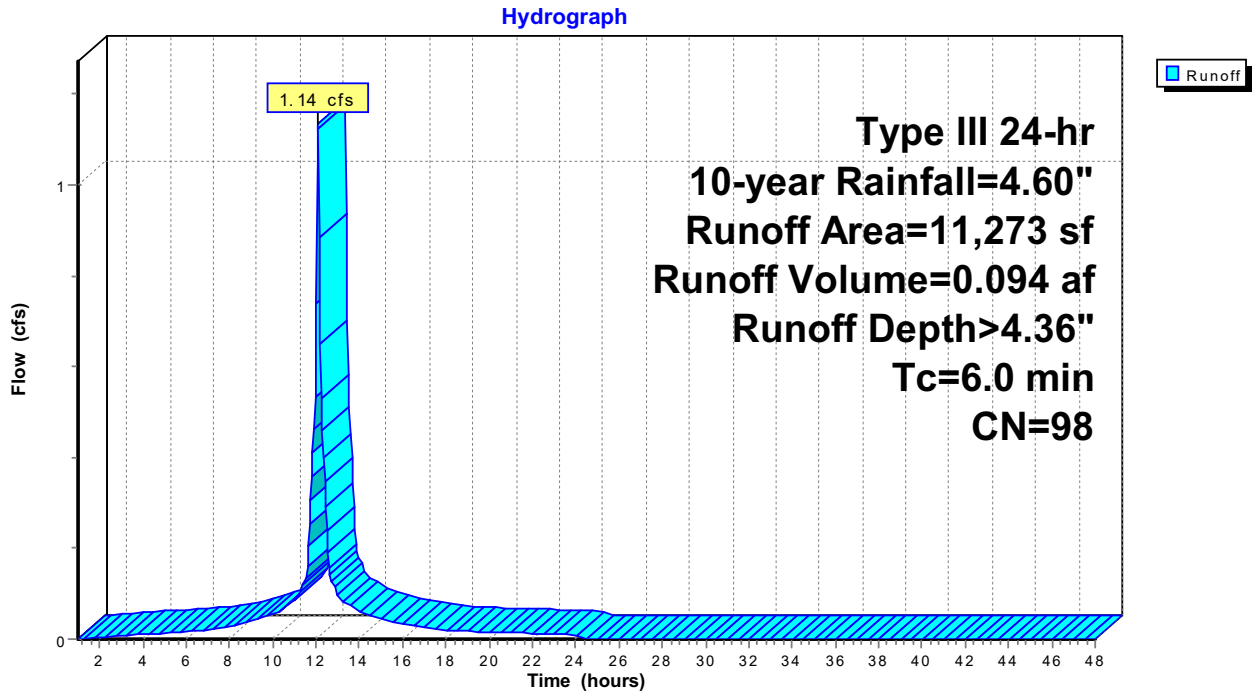
Runoff = 1.14 cfs @ 12.09 hrs, Volume= 0.094 af, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	11,273	98	Wash Ave
	11,273		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.6N: SC 1.6N



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Summary for Subcatchment 1.6S: Developed/Undeveloped area

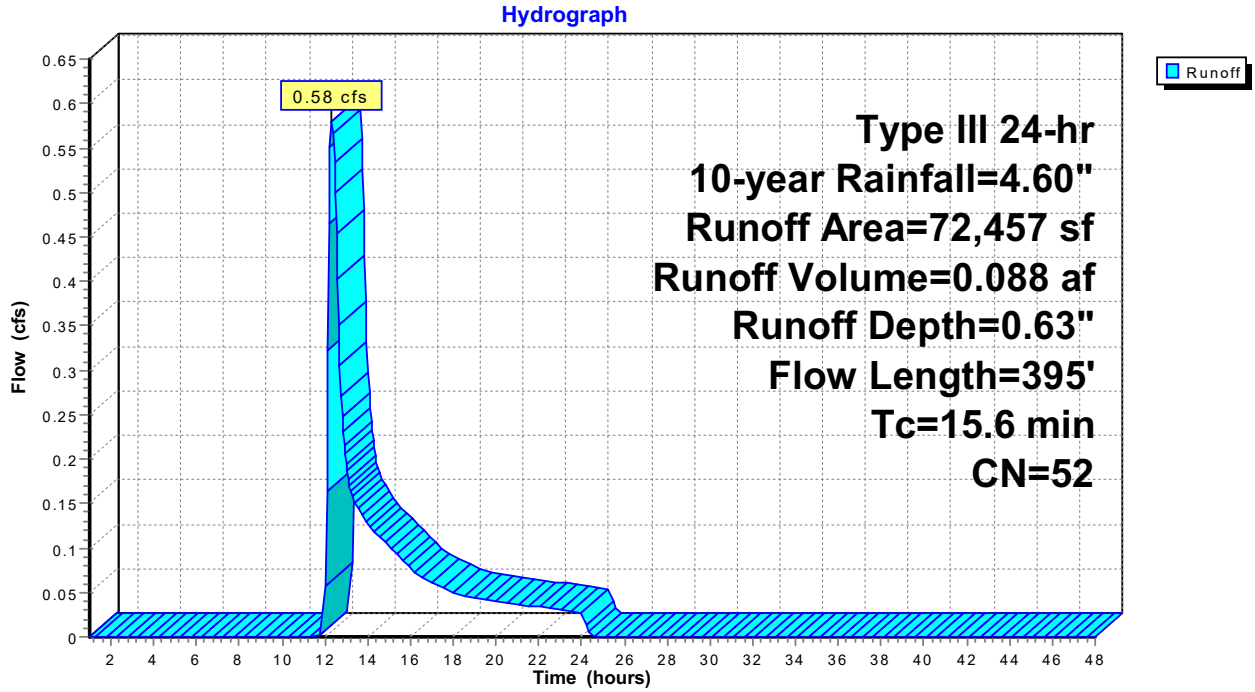
Runoff = 0.58 cfs @ 12.32 hrs, Volume= 0.088 af, Depth= 0.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
	37,858	30	Woods, Good, HSG A
*	5,348	39	Landscaped/open space
	311	98	Unconnected roofs, HSG A
*	5,781	39	Wash Ave ditch
*	15,509	98	Washington ave, cross walks
*	1,195	98	Patios
*	305	80	Grass pavers
*	6,150	80	Landscaping/HSG D
	72,457	52	Weighted Average
	55,442		76.52% Pervious Area
	17,015		23.48% Impervious Area
	311		1.83% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	100	0.0500	0.17		**Sheet Flow, Sheet flow (A to B)**
					Grass: Dense n= 0.240 P2= 3.27"
5.5	203	0.0600	0.61		**Shallow Concentrated Flow, SCF (B to C)**
					Forest w/ Heavy Litter Kv= 2.5 fps
0.3	92	0.0400	5.40	17.28	**Trap/Vee/Rect Channel Flow, Ditch Flow (C to D)**
					Bot.W=2.00' D=0.80' Z= 2.5'/' Top.W=6.00'
					n= 0.035
15.6	395	Total			

Subcatchment 1.6S: Developed/Undeveloped area



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Summary for Subcatchment 1.7N: SC 1.7N

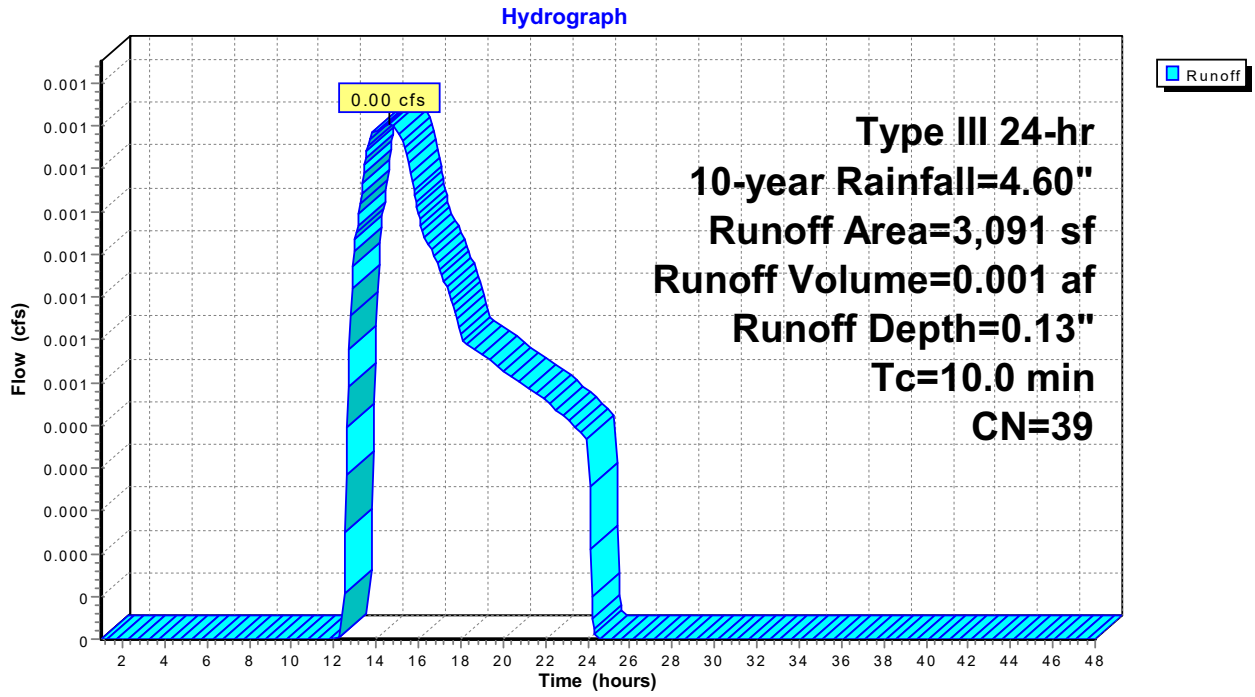
Runoff = 0.00 cfs @ 14.65 hrs, Volume= 0.001 af, Depth= 0.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	3,091	39	Lawn/landscaping/ditch, HSG A
	3,091		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1.7N: SC 1.7N



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Summary for Subcatchment 1.7S: SC 1.7S

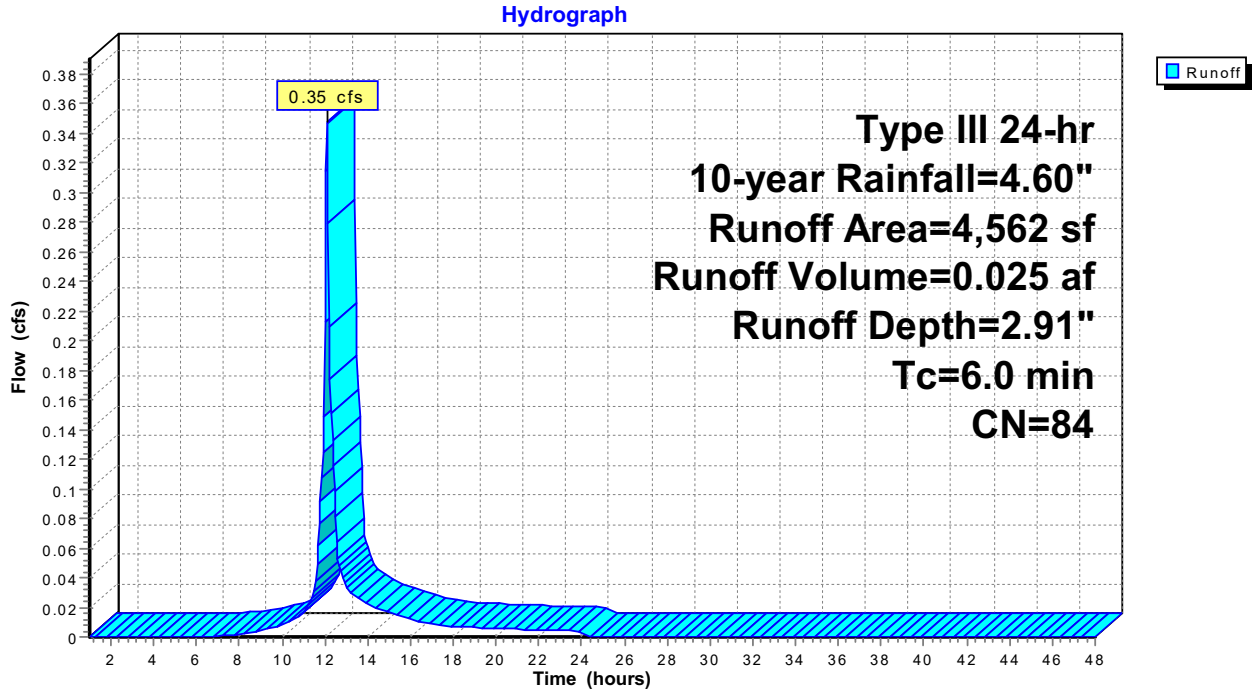
Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 2.91"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	724	98	A.9/A.10 rear patios
*	356	98	Walkway
*	3,482	80	Lawn/landscaping, HSG D
	4,562	84	Weighted Average
	3,482		76.33% Pervious Area
	1,080		23.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.7S: SC 1.7S



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Summary for Subcatchment 1.8N: Common

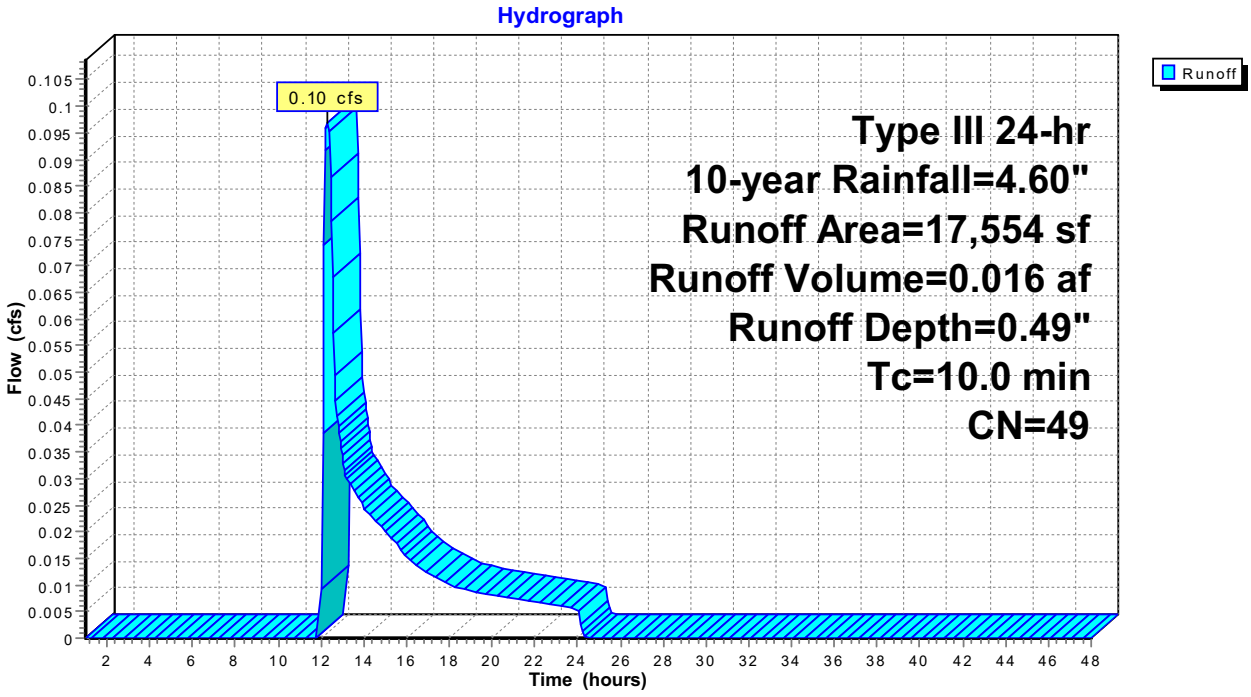
Runoff = 0.10 cfs @ 12.30 hrs, Volume= 0.016 af, Depth= 0.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	2,549	98	Paved walkway
*	472	98	patios
*	16	98	transformer
*	14,517	39	Open space, landscaping, HSG A
	17,554	49	Weighted Average
	14,517		82.70% Pervious Area
	3,037		17.30% Impervious Area

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

Subcatchment 1.8N: Common



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Summary for Subcatchment 1.8S: West Parking Lot

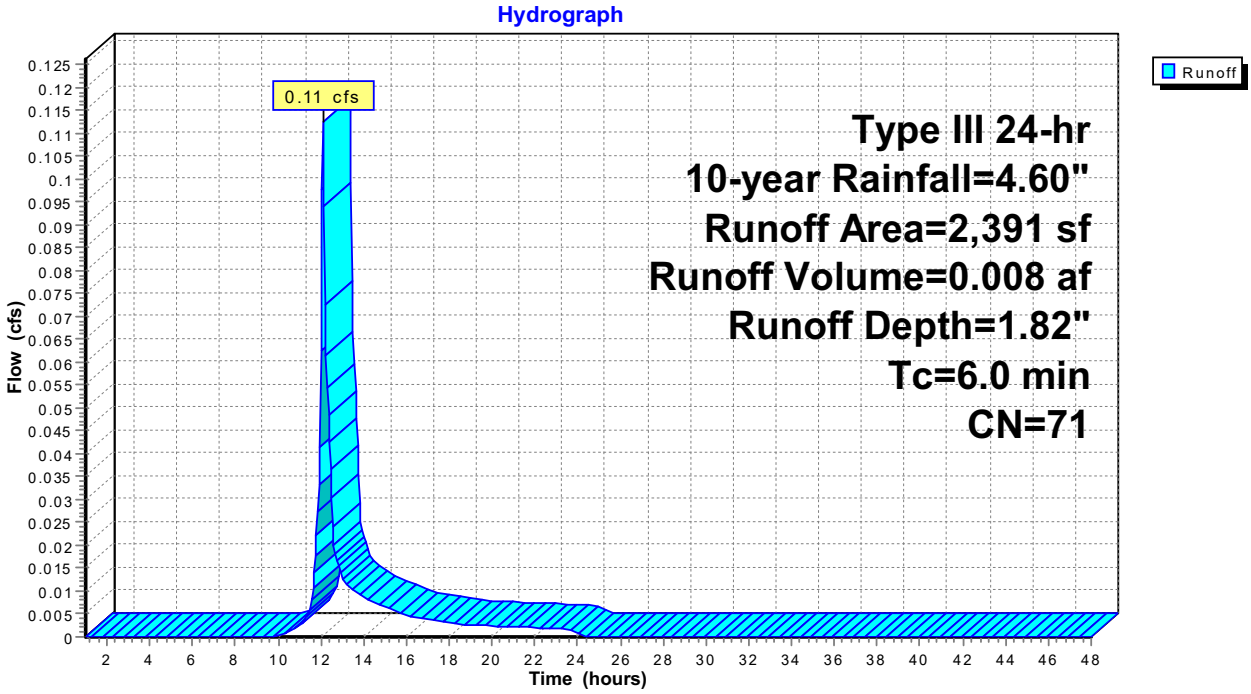
Runoff = 0.11 cfs @ 12.10 hrs, Volume= 0.008 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	1,037	98	drive aisle
*	278	98	sidewalk
	1,076	39	>75% Grass cover, Good, HSG A
	2,391	71	Weighted Average
	1,076		45.00% Pervious Area
	1,315		55.00% Impervious Area

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

Subcatchment 1.8S: West Parking Lot



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Summary for Subcatchment 1.9N: SC 1.9N

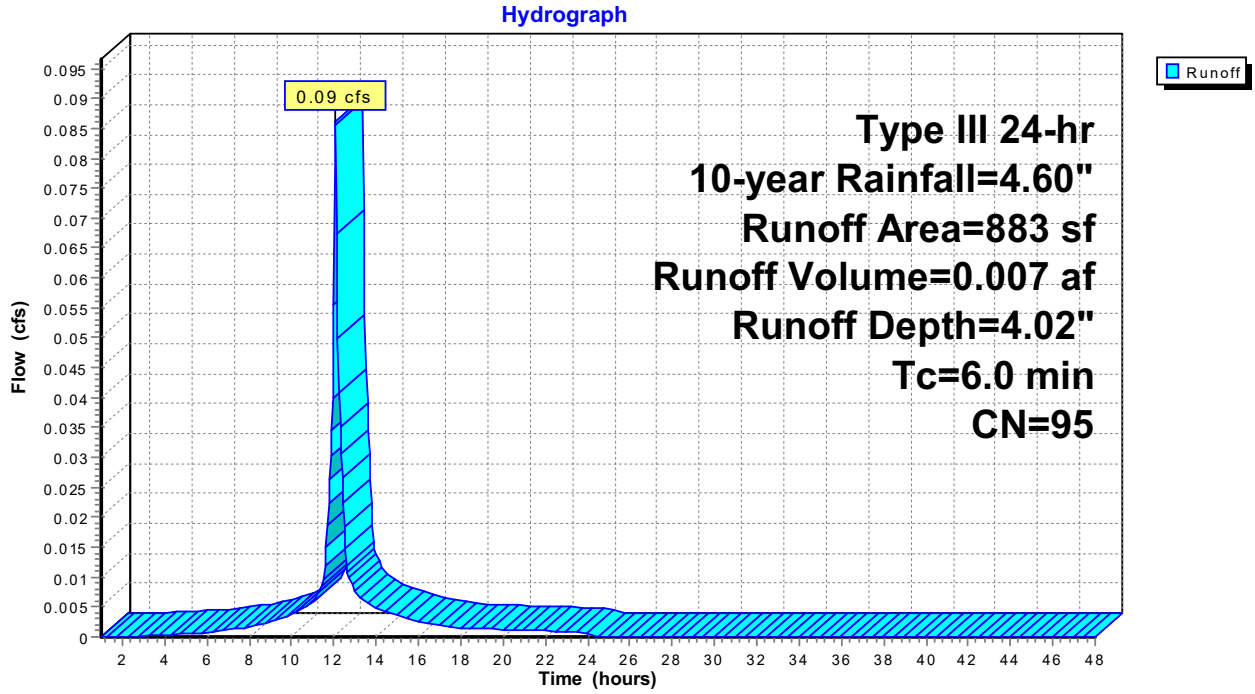
Runoff = 0.09 cfs @ 12.09 hrs, Volume= 0.007 af, Depth= 4.02"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	710	98	Wash Ave
*	123	98	sidewalk
*	50	39	Landscaping/esplanade
	883	95	Weighted Average
	50		5.66% Pervious Area
	833		94.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.9N: SC 1.9N



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Summary for Subcatchment 2.1N: SC 2.1N

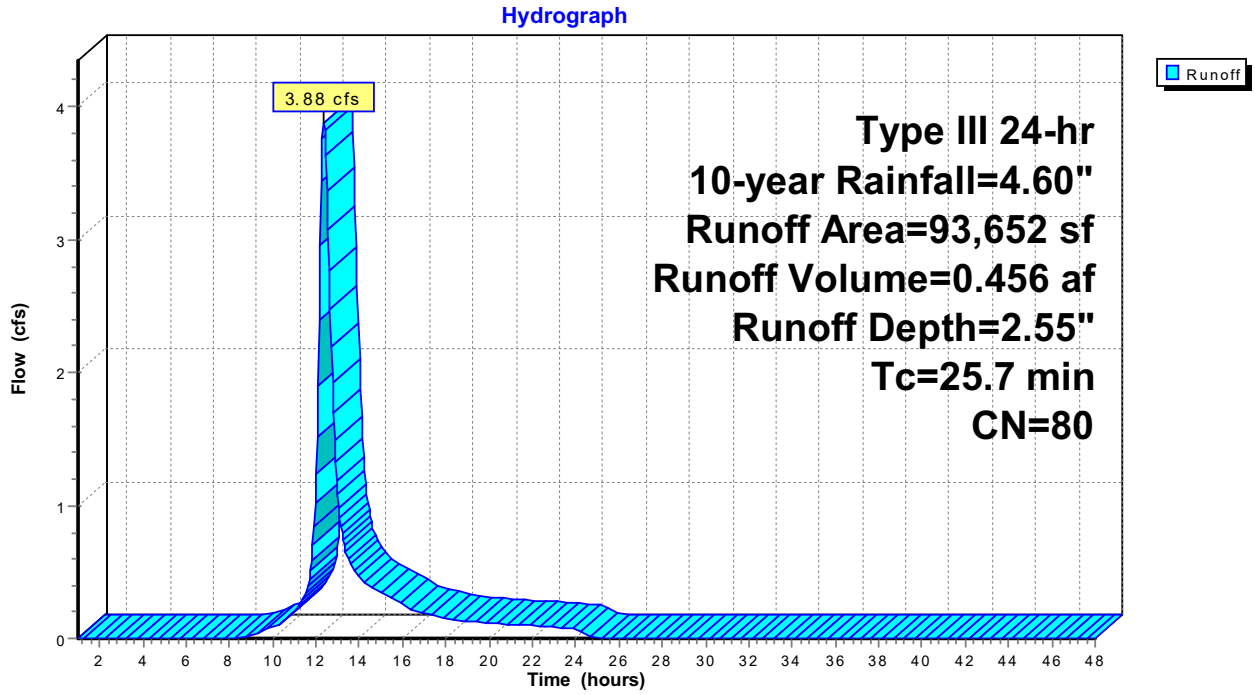
Runoff = 3.88 cfs @ 12.36 hrs, Volume= 0.456 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	7,438	80	Roadside slope
	37,683	77	Woods, Good, HSG D
*	2,842	98	N sidewalk
*	9,017	98	Wash. Ave and S. Conc apron
*	6,794	98	Rooftop and driveway
*	414	98	Rooftop
*	21,315	80	Lawns/landscaping, HSG D
	5,316	30	Woods, Good, HSG A
*	2,833	80	Landscaping/open space
	93,652	80	Weighted Average
	74,585		79.64% Pervious Area
	19,067		20.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7					**Direct Entry, Direct input of pre Tc**

Subcatchment 2.1N: SC 2.1N



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Summary for Subcatchment 2.1S: Eastern Parking Lot

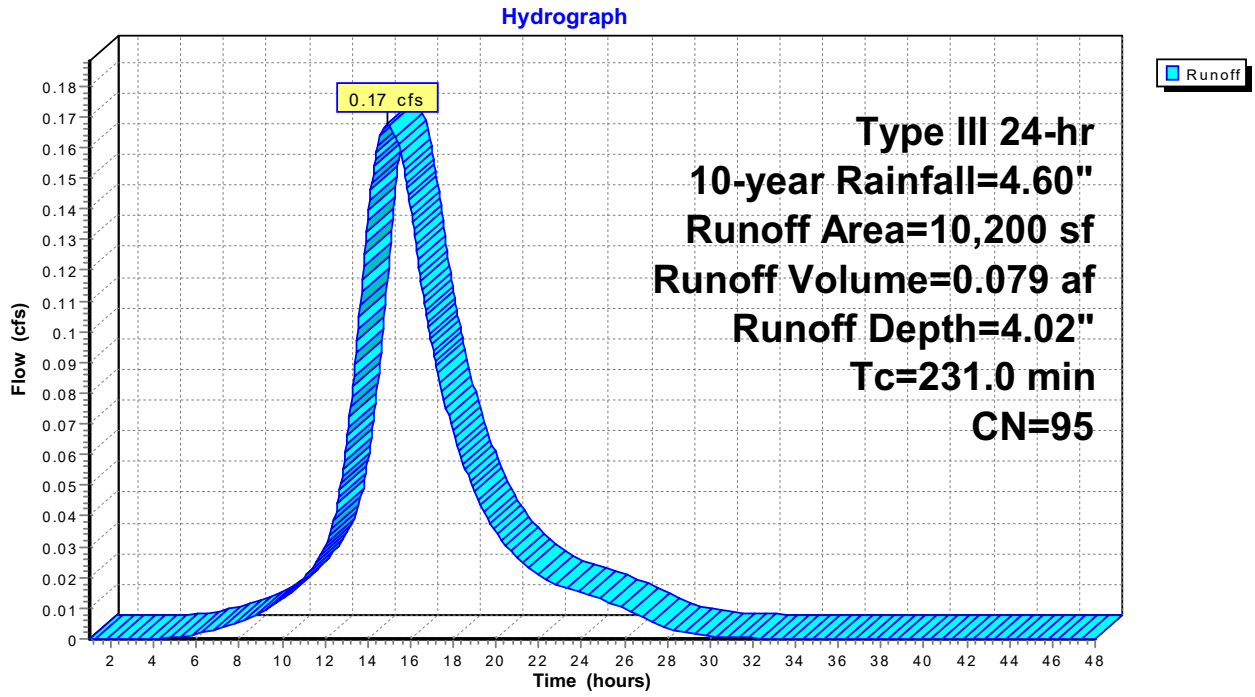
Runoff = 0.17 cfs @ 14.92 hrs, Volume= 0.079 af, Depth= 4.02"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	1,296	98	Porous Horizontal
*	4,187	98	Paved driveaisle
*	857	98	Walkway/patio
*	501	98	Rear walkway/patio
*	180	98	dumpster pad
*	1,134	98	Porous Vertical
*	234	98	Curbing
	1,811	80	>75% Grass cover, Good, HSG D
	10,200	95	Weighted Average
	1,811		17.75% Pervious Area
	8,389		82.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
231.0					**Direct Entry, UNH**

Subcatchment 2.1S: Eastern Parking Lot



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Summary for Subcatchment 2.2S: Developed/nondeveloped area

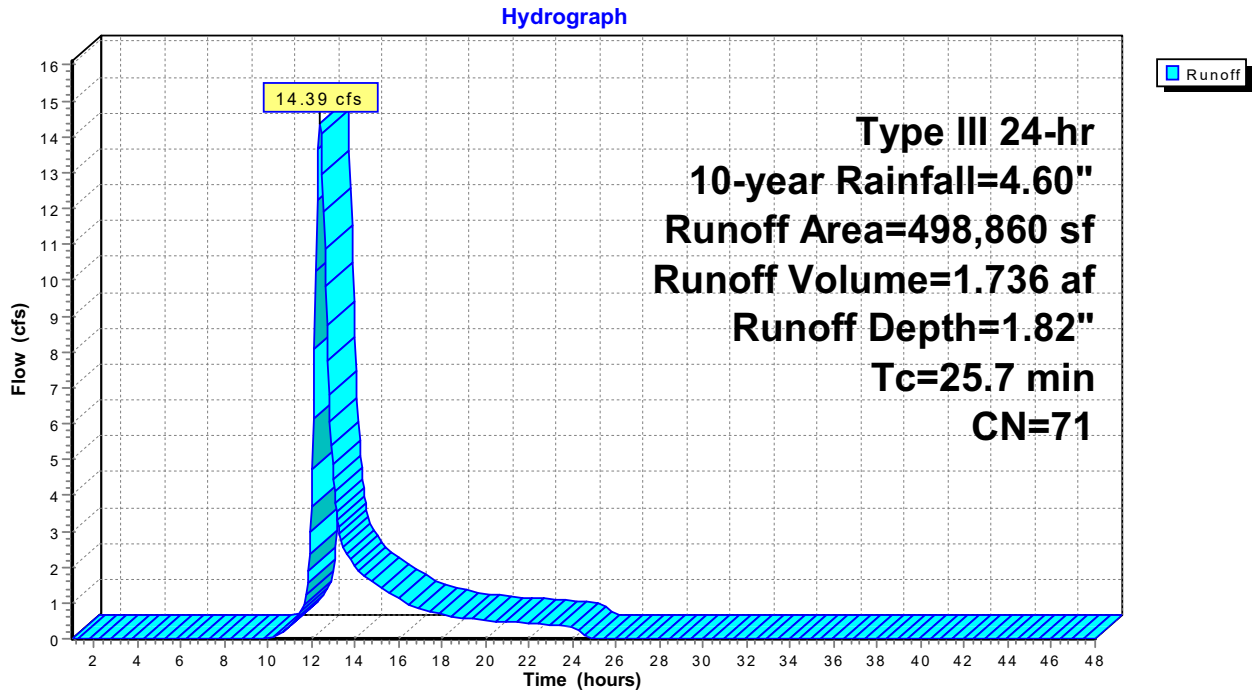
Runoff = 14.39 cfs @ 12.38 hrs, Volume= 1.736 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	4,589	39	Slope behind patios, HSG A
*	30,826	39	>75% Grass cover, Good, HSG A
*	3,896	98	Roofs/driveways/patios (HSG A)
	24,173	55	Woods, Good, HSG B
	6,557	70	Woods, Good, HSG C
	146,595	70	Woods, Good, HSG C
	240,138	77	Woods, Good, HSG D
*	9,119	80	>75% Grass cover, Good, HSG D
*	3,503	98	Roofs/driveway s/patios (HSG D)
*	5,475	98	Wash Ave
*	3,729	98	Sidewalk
*	7,959	80	Roadside ditch/slope
*	820	80	Landscaping Auburn St
	9,281	39	>75% Grass cover, Good, HSG A
*	1,500	98	8' multiuse new imperv
*	700	98	stone dust
	498,860	71	Weighted Average
	480,057		96.23% Pervious Area
	18,803		3.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7					**Direct Entry, copy from pre**

Subcatchment 2.2S: Developed/nondeveloped area



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Summary for Subcatchment 3.1N: SC 3.1N

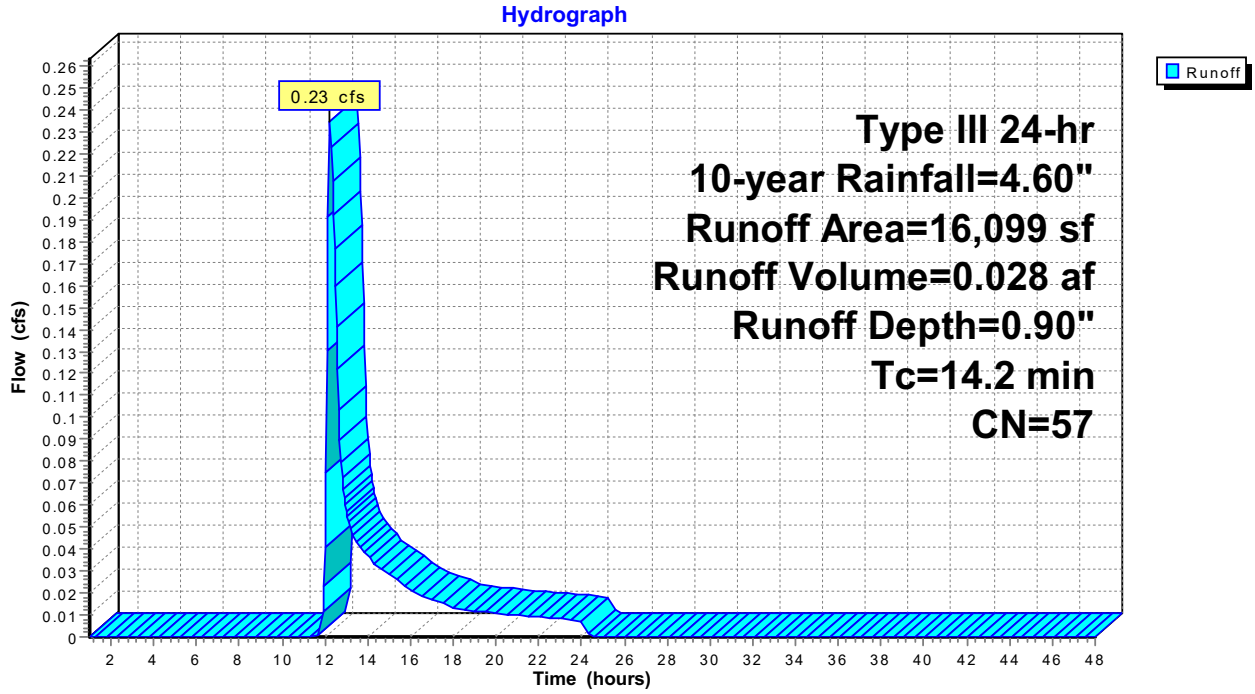
Runoff = 0.23 cfs @ 12.24 hrs, Volume= 0.028 af, Depth= 0.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
	4,070	30	Woods, Good, HSG A
*	3,619	39	Landscaping/swale, HSG A
	5,115	77	Woods, Good, HSG D
*	3,295	80	Landscaping/slope, HSG D
	16,099	57	Weighted Average
	16,099		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2					**Direct Entry, Direct input of pre Tc**

Subcatchment 3.1N: SC 3.1N



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Summary for Subcatchment 4.1N: 4.1N

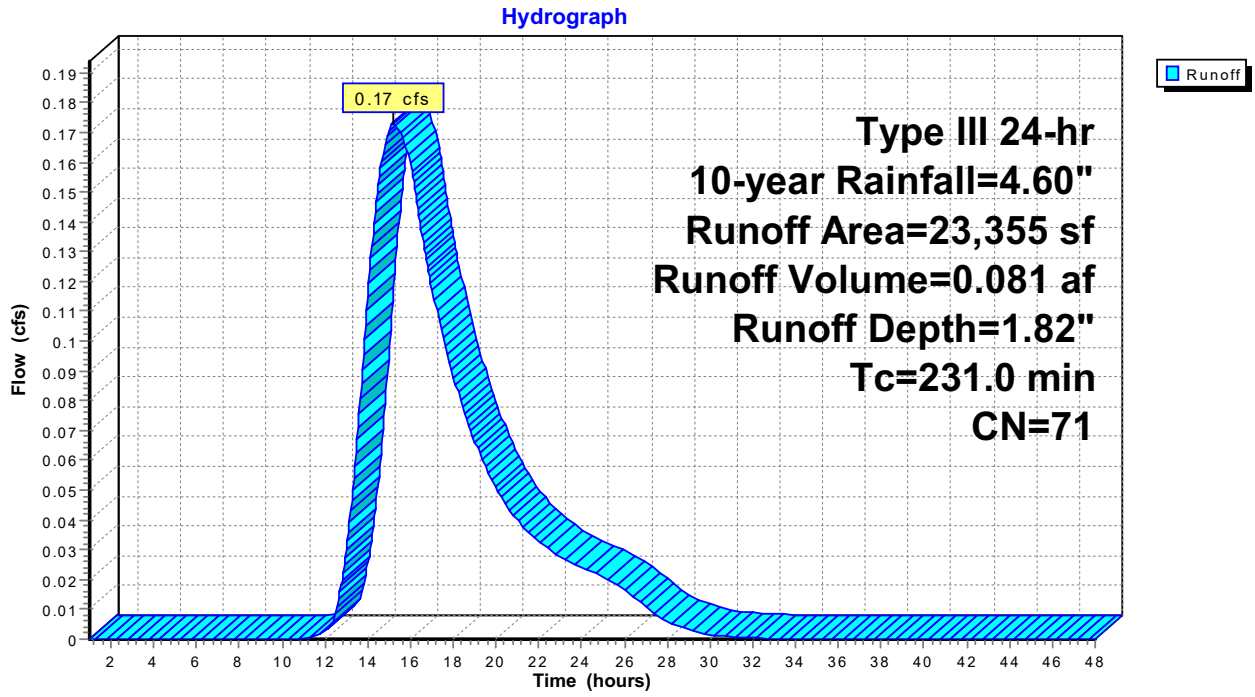
Runoff = 0.17 cfs @ 15.17 hrs, Volume= 0.081 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	1,940	98	Curb & Pavement
*	5,213	98	Porous Pavement
*	2,866	98	Patios
*	612	98	Patios
*	16	98	transformer pad
*	185	98	Paved Walkway
*	394	98	Paved Walkway
*	408	98	Patios
*	655	98	Patios
*	128	98	Solid Waste Location
*	112	98	Patios
*	46	98	Paved Walkway
*	10,780	39	Lawn/landscaping, HSG A
	23,355	71	Weighted Average
	10,780		46.16% Pervious Area
	12,575		53.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
231.0					**Direct Entry, UNH**

Subcatchment 4.1N: 4.1N



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Summary for Subcatchment 4.2N: Eastern Parking Lot

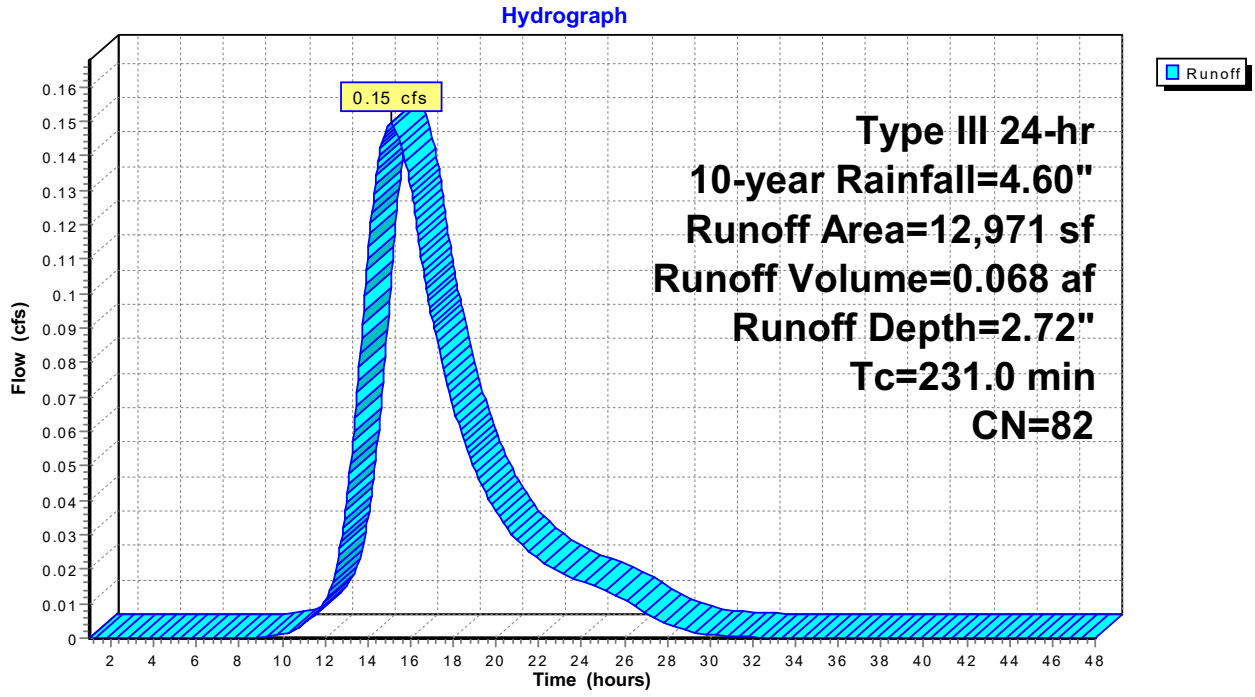
Runoff = 0.15 cfs @ 15.14 hrs, Volume= 0.068 af, Depth= 2.72"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	569	98	Sidewalk
*	2,420	98	Porous pavement
*	6,517	98	Parking lot
*	3,465	39	Landscaping/open space, HSG A
	12,971	82	Weighted Average
	3,465		26.71% Pervious Area
	9,506		73.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
231.0					Direct Entry, UNH

Subcatchment 4.2N: Eastern Parking Lot



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Summary for Subcatchment 4.3N: SC 4.3N

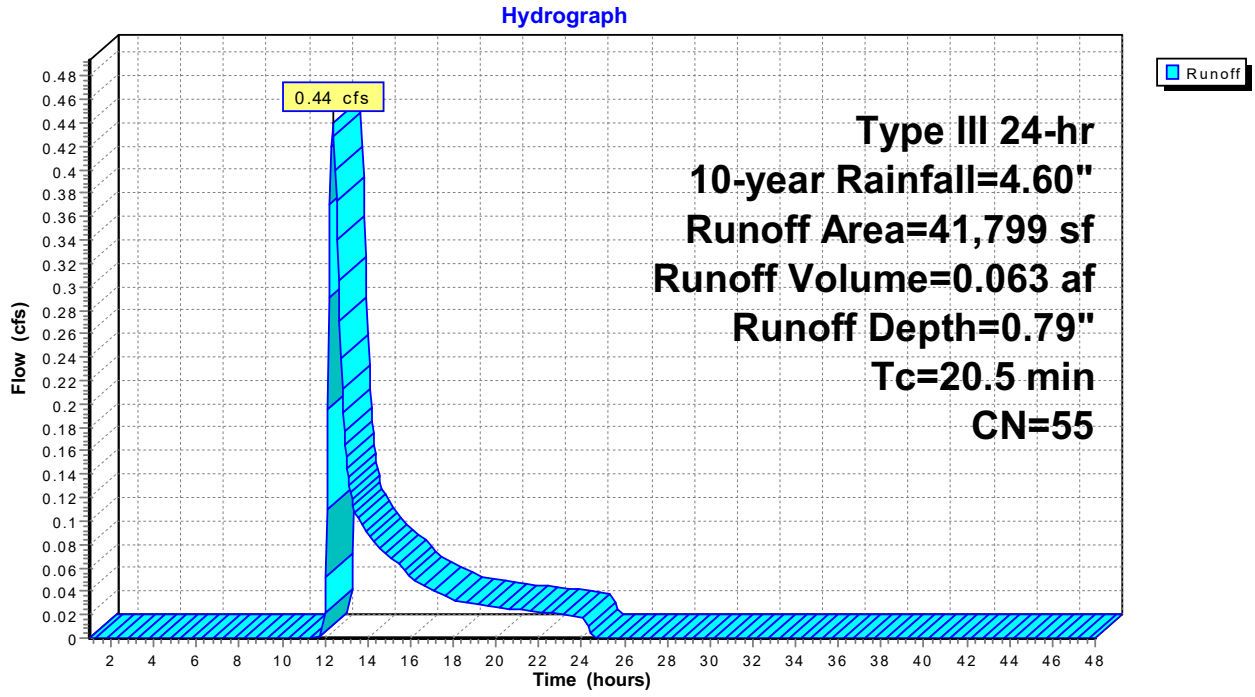
Runoff = 0.44 cfs @ 12.37 hrs, Volume= 0.063 af, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
	4,033	80	>75% Grass cover, Good, HSG D
	6,717	77	Woods, Good, HSG D
	18,402	30	Woods, Good, HSG A
*	1,998	39	Landscaping/slope, HSG A
*	10,649	77	Woods, Good, HSG D
	41,799	55	Weighted Average
	41,799		100.00% Previous Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5					Direct Entry, copy from pre

Subcatchment 4.3N: SC 4.3N



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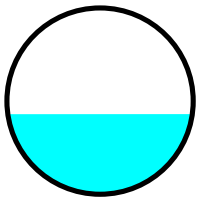
Summary for Reach 1: POI #1 - LAMBERT/WASH INTERSECTION

Inflow Area = 5.932 ac, 50.16% Impervious, Inflow Depth > 2.13" for 10-year event
Inflow = 2.70 cfs @ 12.30 hrs, Volume= 1.051 af
Outflow = 2.66 cfs @ 12.31 hrs, Volume= 1.051 af, Atten= 1%, Lag= 0.7 min

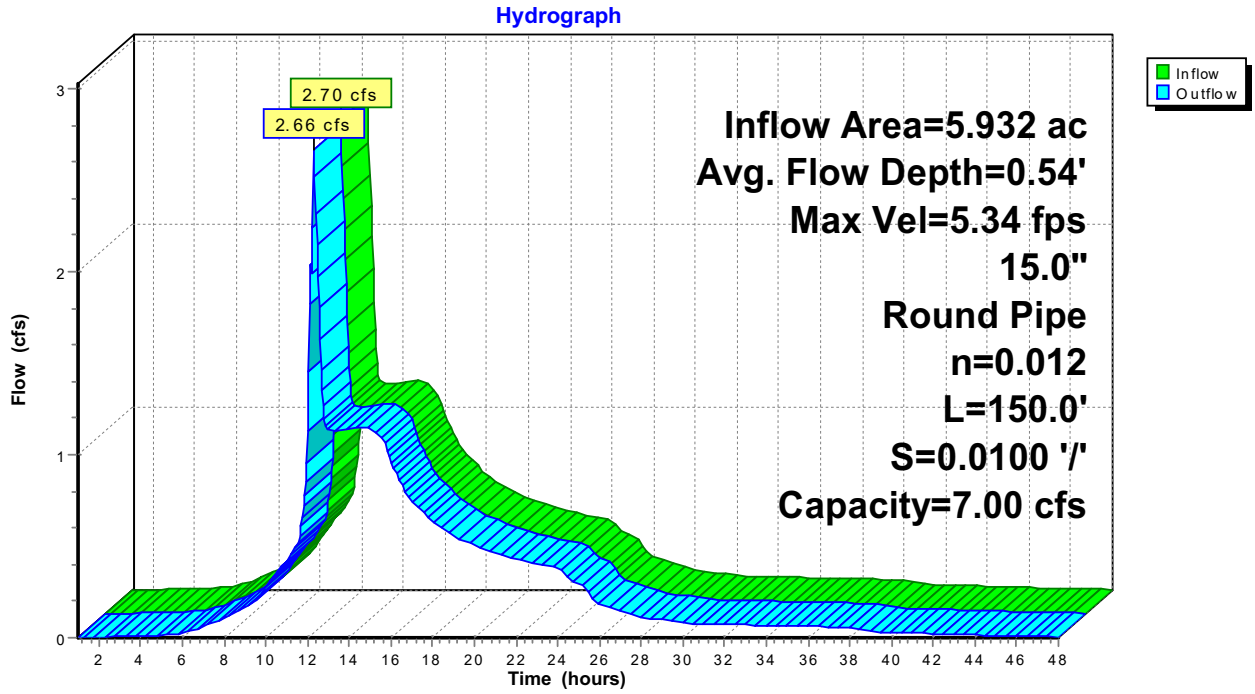
Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.34 fps, Min. Travel Time= 0.5 min
Avg. Velocity= 2.22 fps, Avg. Travel Time= 1.1 min

Peak Storage= 76 cf @ 12.31 hrs
Average Depth at Peak Storage= 0.54'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 7.00 cfs

15.0" Round Pipe
n= 0.012 Concrete pipe, finished
Length= 150.0' Slope= 0.0100 '/'
Inlet Invert= 87.18', Outlet Invert= 85.68'



Reach 1: POI #1 - LAMBERT/WASH INTERSECTION



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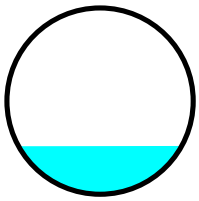
Summary for Reach 1R: N. DITCH CB OUTLET

Inflow Area = 0.673 ac, 39.31% Impervious, Inflow Depth > 1.70" for 10-year event
Inflow = 1.07 cfs @ 12.14 hrs, Volume= 0.096 af
Outflow = 1.06 cfs @ 12.15 hrs, Volume= 0.096 af, Atten = 0%, Lag = 0.2 min

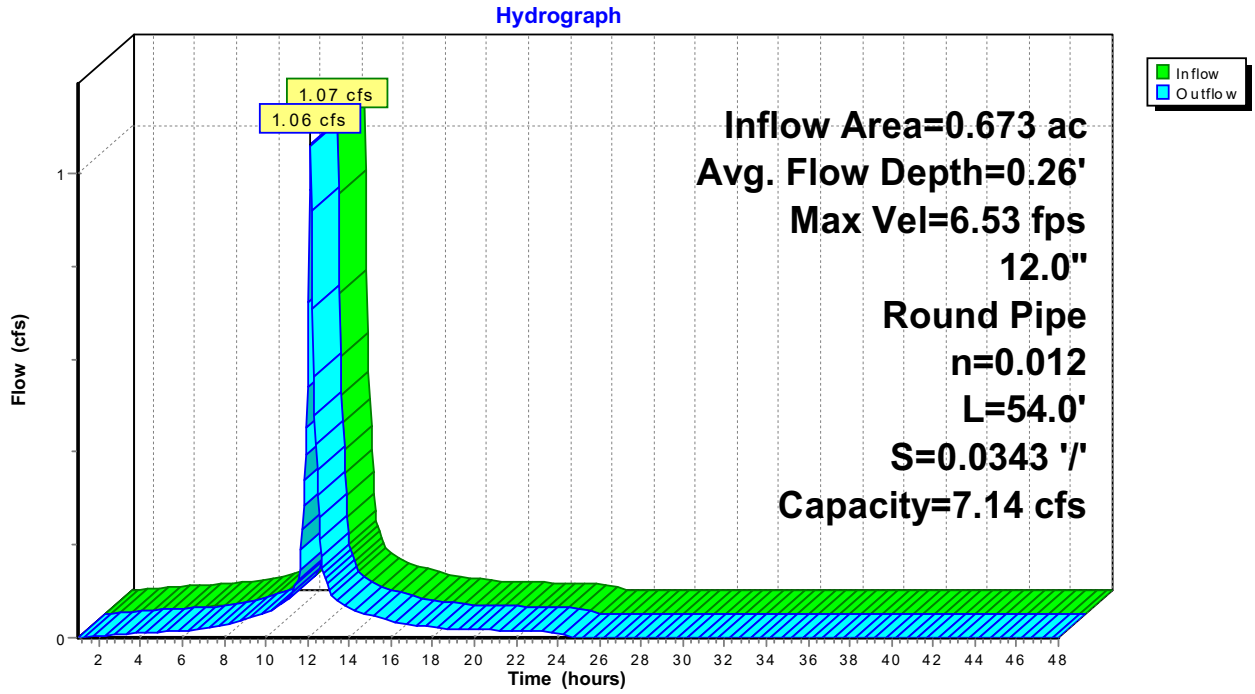
Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Max. Velocity= 6.53 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.19 fps, Avg. Travel Time= 0.4 min

Peak Storage= 9 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.14 cfs

12.0" Round Pipe
n= 0.012
Length= 54.0' Slope= 0.0343 '/'
Inlet Invert= 87.63', Outlet Invert= 85.78'



Reach 1R: N. DITCH CB OUTLET



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Summary for Reach 2R: N. DITCH

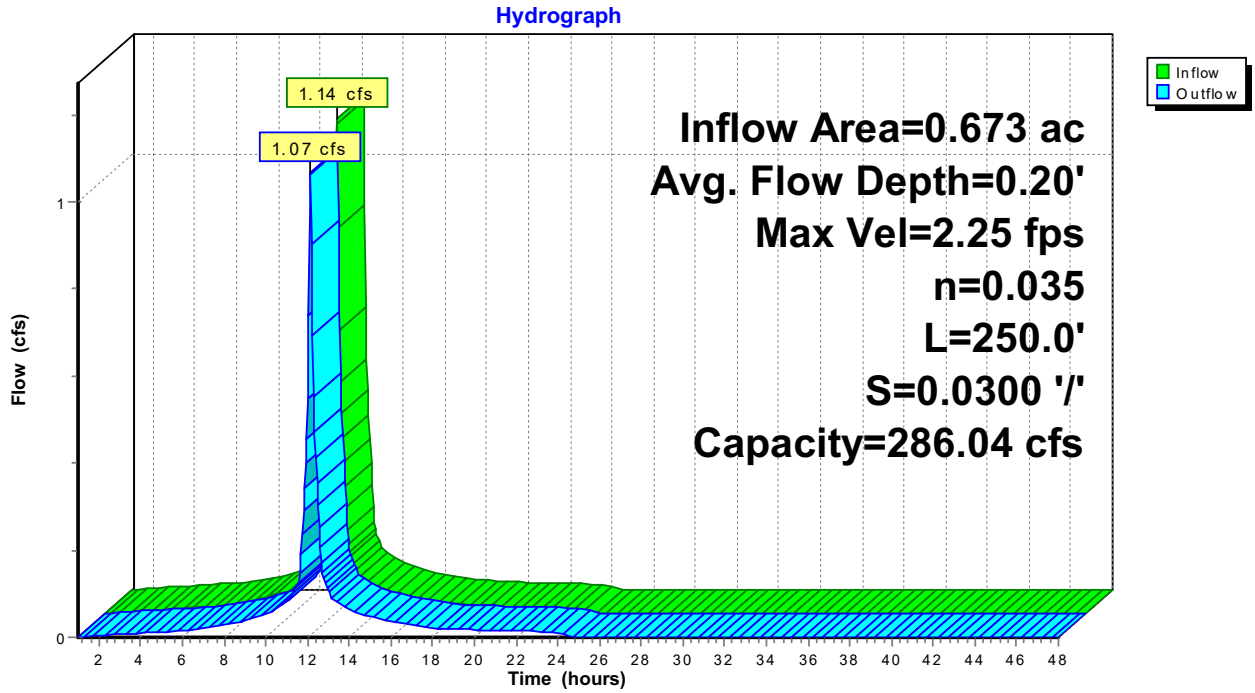
Inflow Area = 0.673 ac, 39.31% Impervious, Inflow Depth > 1.70" for 10-year event
Inflow = 1.14 cfs @ 12.09 hrs, Volume= 0.096 af
Outflow = 1.07 cfs @ 12.14 hrs, Volume= 0.096 af, Atten= 6%, Lag= 3.3 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.25 fps, Min. Travel Time= 1.9 min
Avg. Velocity= 0.79 fps, Avg. Travel Time= 5.2 min

Peak Storage= 123 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.20'
Bank-Full Depth= 3.25' Flow Area= 27.6 sf, Capacity= 286.04 cfs

2.00' x 3.25' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 2.0 '/' Top Width= 15.00'
Length= 250.0' Slope= 0.0300 '/'
Inlet Invert= 107.50', Outlet Invert= 100.00'

Reach 2R: N. DITCH



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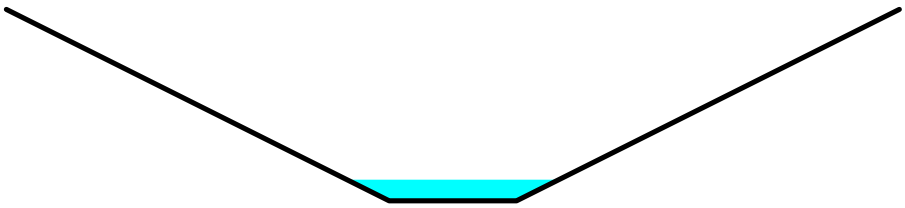
Summary for Reach 3R: S. DITCH

Inflow Area = 4.880 ac, 50.08% Impervious, Inflow Depth > 2.06" for 10-year event
Inflow = 2.65 cfs @ 12.11 hrs, Volume= 0.839 af
Outflow = 2.54 cfs @ 12.15 hrs, Volume= 0.839 af, Atten = 4%, Lag = 2.4 min

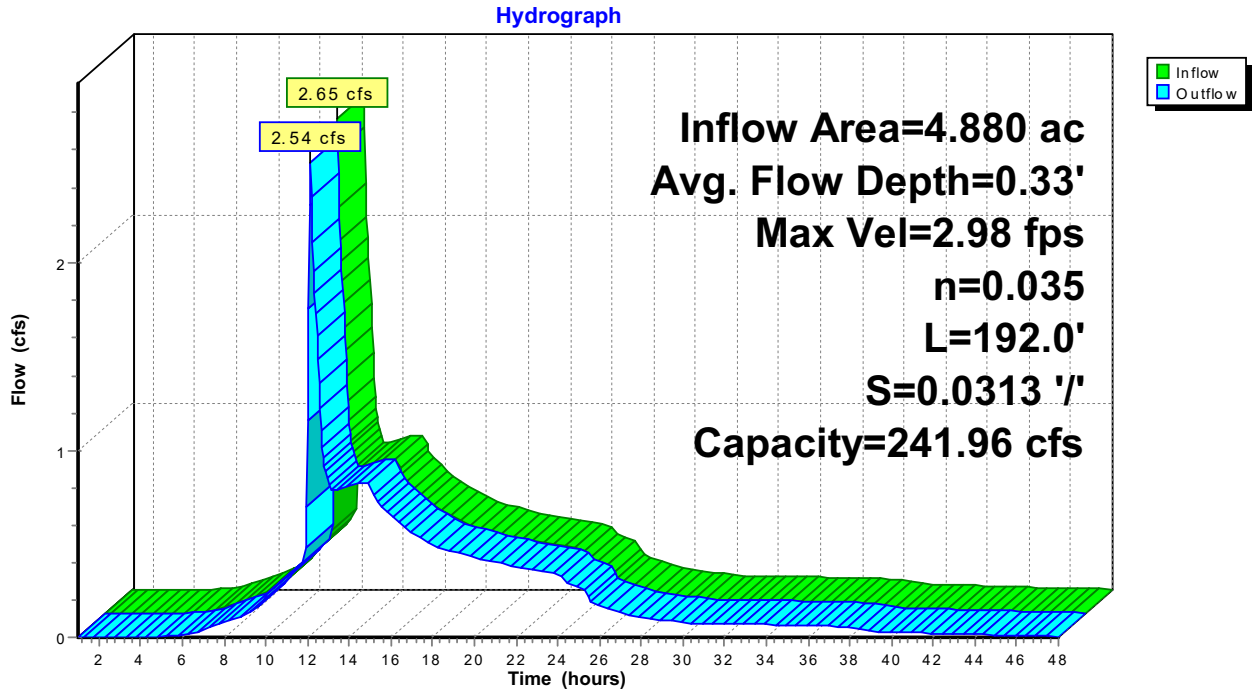
Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Max. Velocity= 2.98 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.15 fps, Avg. Travel Time= 2.8 min

Peak Storage= 166 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.33'
Bank-Full Depth= 3.00' Flow Area= 24.0 sf, Capacity= 241.96 cfs

2.00' x 3.00' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 2.0 '/' Top Width= 14.00'
Length= 192.0' Slope= 0.0313 '/'
Inlet Invert= 99.00', Outlet Invert= 93.00'



Reach 3R: S. DITCH



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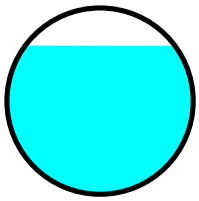
Summary for Reach 4R: WASH. CROSS CULVERT

Inflow Area = 2.150 ac, 20.36% Impervious, Inflow Depth = 2.55" for 10-year event
Inflow = 3.88 cfs @ 12.36 hrs, Volume= 0.456 af
Outflow = 3.88 cfs @ 12.37 hrs, Volume= 0.456 af, Atten= 0%, Lag= 0.6 min

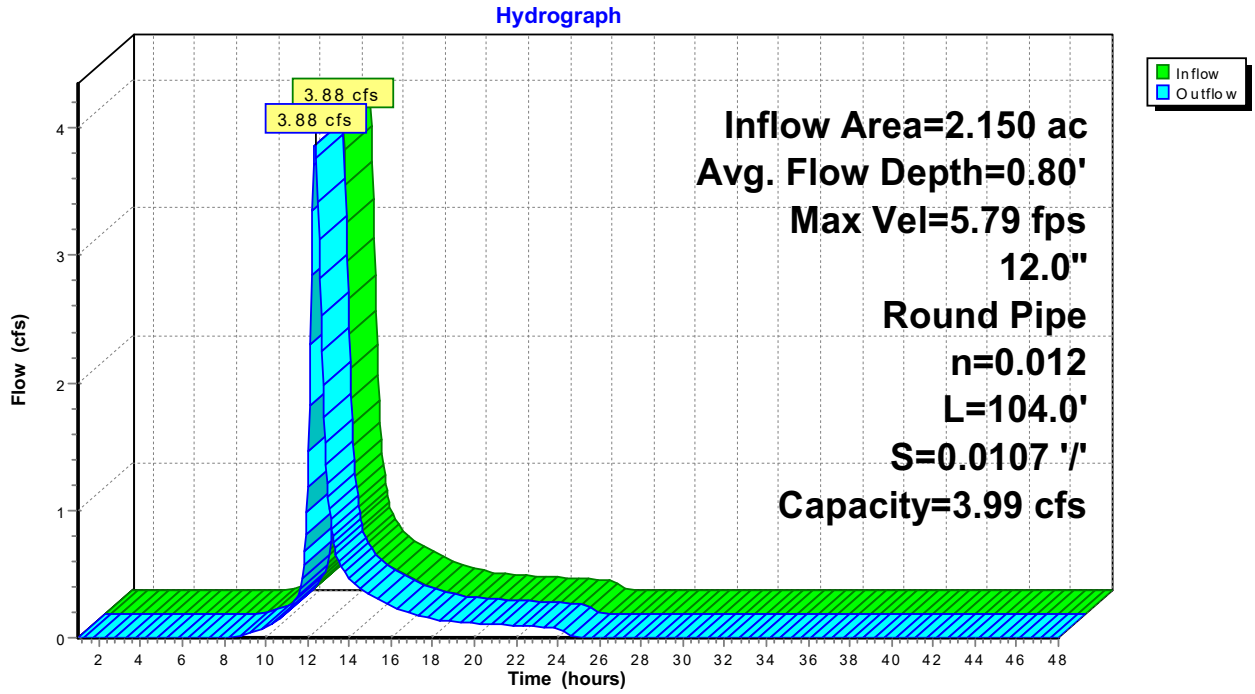
Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.79 fps, Min. Travel Time= 0.3 min
Avg. Velocity= 2.48 fps, Avg. Travel Time= 0.7 min

Peak Storage= 70 cf @ 12.36 hrs
Average Depth at Peak Storage= 0.80'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.99 cfs

12.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 104.0' Slope= 0.0107 '/'
Inlet Invert= 113.80', Outlet Invert= 112.69'



Reach 4R: WASH. CROSS CULVERT



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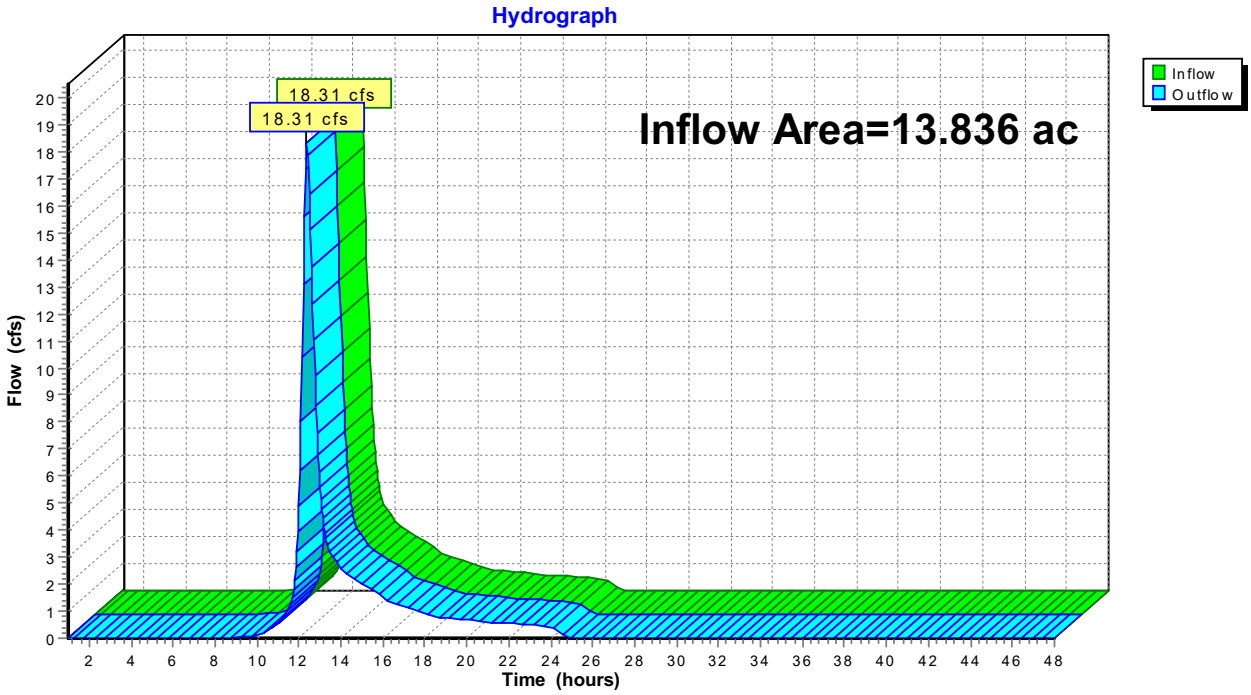
Summary for Reach POI 2: POI #2 - LAMBERT CROSS CULVERT

Inflow Area = 13.836 ac, 7.68% Impervious, Inflow Depth = 1.97" for 10-year event
Inflow = 18.31 cfs @ 12.37 hrs, Volume= 2.269 af
Outflow = 18.31 cfs @ 12.37 hrs, Volume= 2.269 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach POI 2: POI #2 - LAMBERT CROSS CULVERT



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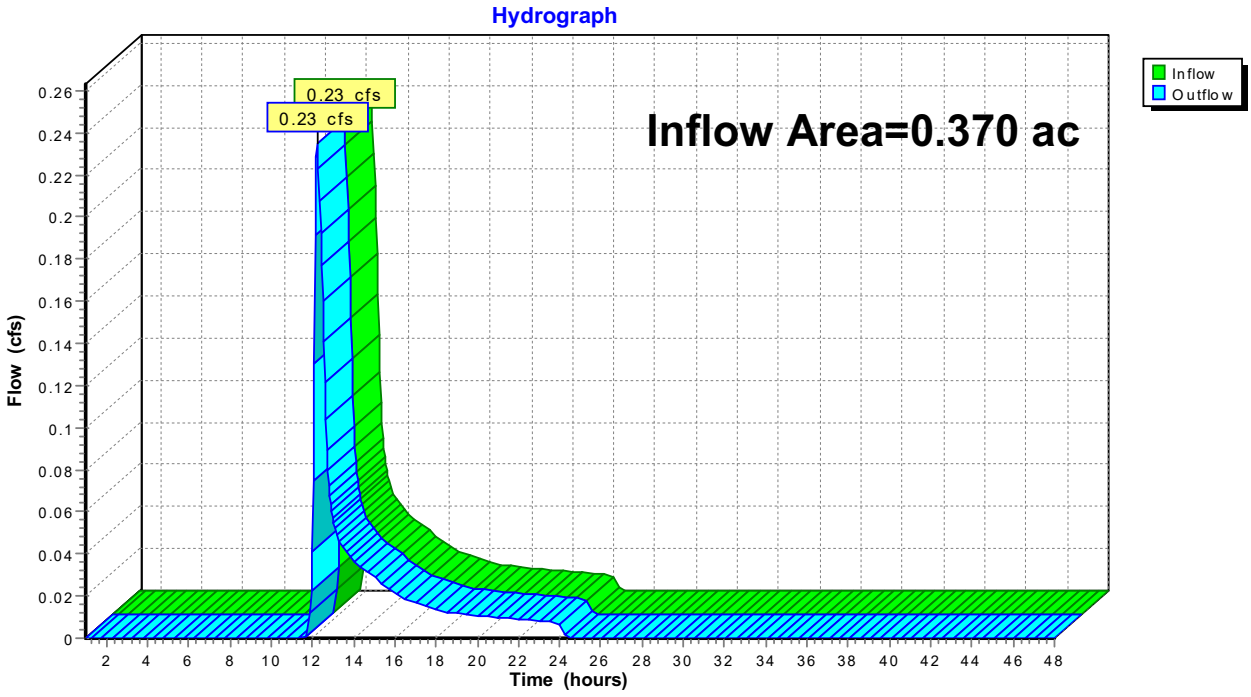
Summary for Reach POI 3: POI #3 - FALMOUTH WETLANDS

Inflow Area = 0.370 ac, 0.00% Impervious, Inflow Depth = 0.90" for 10-year event
Inflow = 0.23 cfs @ 12.24 hrs, Volume= 0.028 af
Outflow = 0.23 cfs @ 12.24 hrs, Volume= 0.028 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach POI 3: POI #3 - FALMOUTH WETLANDS



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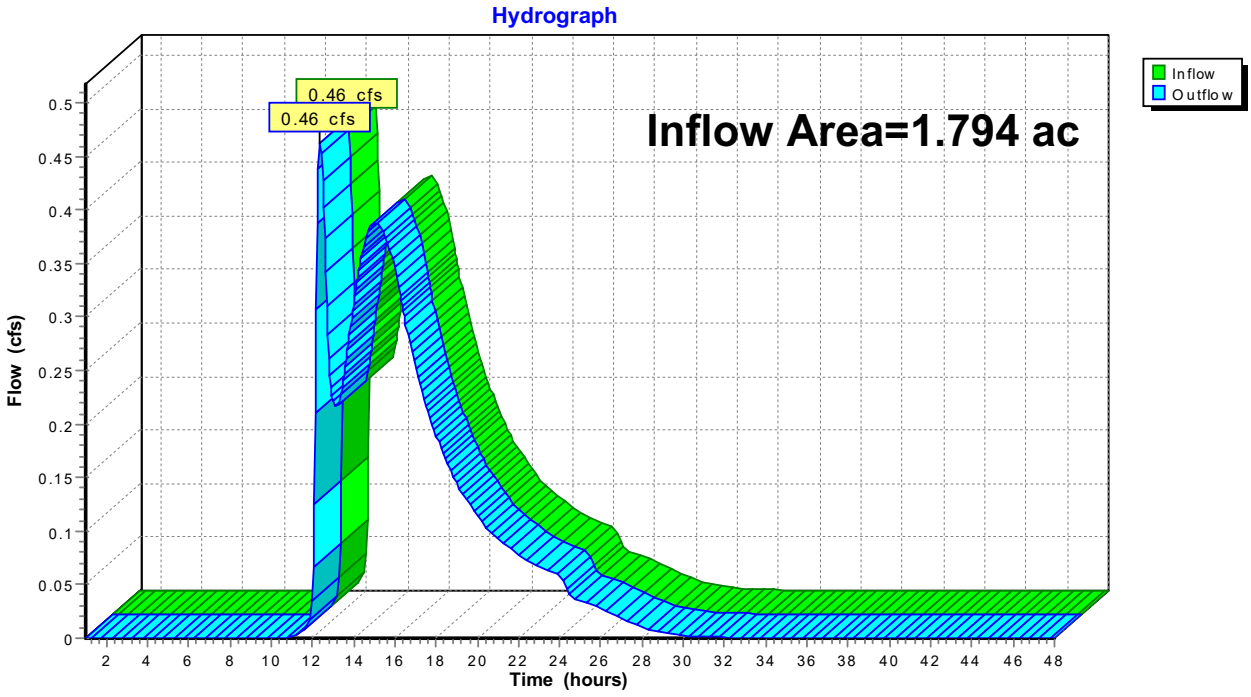
Summary for Reach POI 4: POI #4 - N STREAM

Inflow Area = 1.794 ac, 28.26% Impervious, Inflow Depth = 1.42" for 10-year event
Inflow = 0.46 cfs @ 12.37 hrs, Volume= 0.212 af
Outflow = 0.46 cfs @ 12.37 hrs, Volume= 0.212 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach POI 4: POI #4 - N STREAM



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Summary for Pond 1P: USSF 1 - StormTech 3500

Inflow Area = 1.017 ac, 60.24% Impervious, Inflow Depth > 2.53" for 10-year event
Inflow = 2.41 cfs @ 12.09 hrs, Volume= 0.215 af
Outflow = 0.13 cfs @ 14.56 hrs, Volume= 0.209 af, Atten = 95%, Lag = 148.6 min
Primary = 0.13 cfs @ 14.56 hrs, Volume= 0.209 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 108.10' @ 14.56 hrs Surf.Area= 5,880 sf Storage= 5,767 cf

Plug-Flow detention time= 684.1 min calculated for 0.209 af (97% of inflow)
Center-of-Mass det. time= 668.1 min (1,432.9-764.8)

Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	2,840 cf	**40.00'W x 49.00'L x 5.50'H Stone**
			10,780 cf Overall - 3,680 cf Embedded = 7,100 cf x 40.0% Voids
#2	105.25'	3,680 cf	**ADS_StormTech MC-3500 d +Cap @ 7.50' L** x 32 Inside# 1
			Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.50'L = 115.0 cf
			Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
#3	103.00'	147 cf	**40.00'W x 49.00'L x 1.50'H Sand**
			2,940 cf Overall x 5.0% Voids
#4	102.00'	779 cf	**40.00'W x 49.00'L x 1.00'H Crushed Stone**
			1,960 cf Overall - 13 cf Embedded = 1,947 cf x 40.0% Voids
#5	102.25'	13 cf	**4.0" Round Underdrain Storage** Inside #4
			L= 150.0'
		7,459 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	102.25'	**1.2" Vert. Underdrain/Orifice** C= 0.600
#2	Primary	108.02'	**6.0" Round Bypass Overflow X 2.00** L= 6.0' Ke= 0.600
			Inlet / Outlet Invert= 108.02' / 107.75' S = 0.0450 '/' Cc = 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=0.13 cfs @ 14.56 hrs HW=108.10' (Free Discharge)
1=Underdrain/Orifice (Orifice Controls 0.09 cfs @ 11.60 fps)
2=Bypass Overflow (Inlet Controls 0.04 cfs @ 0.90 fps)

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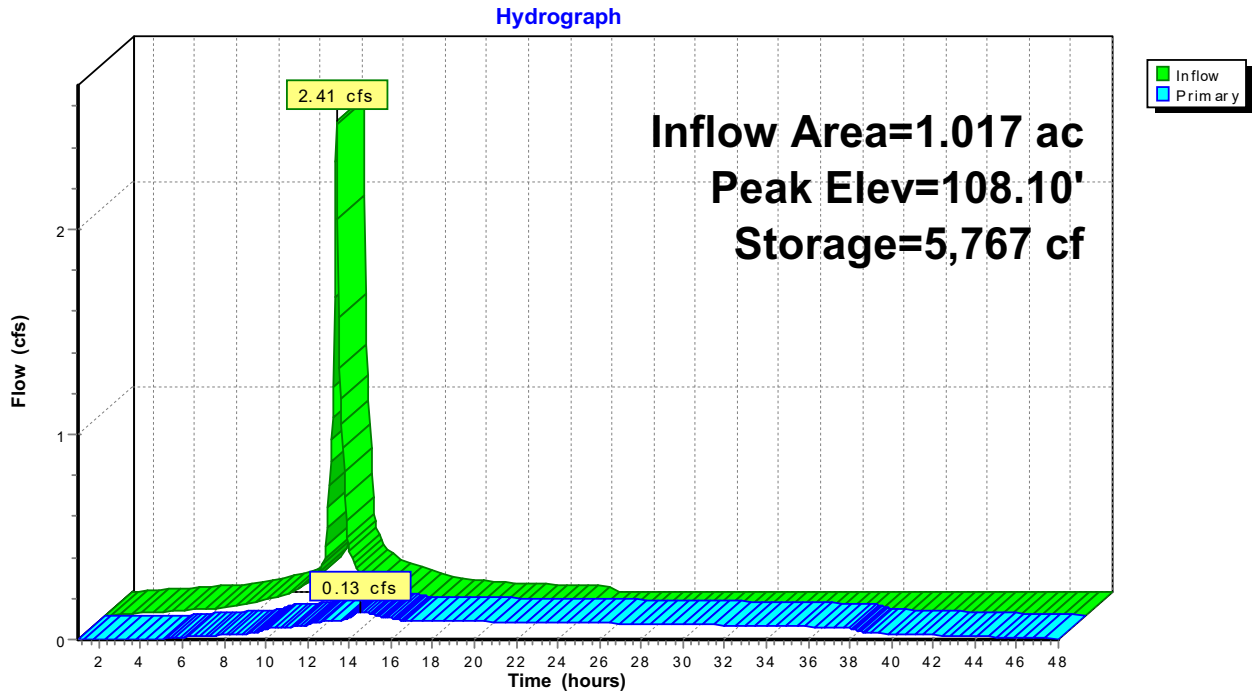
Pond 1P: USSF 1 - StormTech 3500



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Summary for Pond 2P: Pavement Profile/Drainage

Inflow Area = 0.298 ac, 73.29% Impervious, Inflow Depth = 2.72" for 10-year event
Inflow = 0.15 cfs @ 15.14 hrs, Volume= 0.068 af
Outflow = 0.15 cfs @ 15.16 hrs, Volume= 0.067 af, Atten = 0%, Lag = 1.2 min
Primary = 0.15 cfs @ 15.16 hrs, Volume= 0.067 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 108.00' @ 15.16 hrs Surf.Area= 180 sf Storage= 33 cf

Plug-Flow detention time= 7.7 min calculated for 0.067 af (100% of inflow)
Center-of-Mass det. time= 5.1 min (1,033.8 - 1,028.7)

Volume	Invert	Avail.Storage	Storage Description
#1	107.60'	147 cf	**1.33'W x 135.00'L x 2.19'H 6" Trench** 393 cf Overall - 27 cf Embedded = 367 cf x 40.0% Voids
#2	109.79'	243 cf	**18.00'W x 135.00'L x 0.25'H 3" - 3/4" Stone** 608 cf Overall x 40.0% Voids
#3	110.04'	122 cf	**18.00'W x 135.00'L x 1.00'H 12" - Filter MDOT Type D** 2,430 cf Overall x 5.0% Voids
#4	111.04'	321 cf	**18.00'W x 135.00'L x 0.33'H 4" - Choker 1-1/2"** 802 cf Overall x 40.0% Voids
#5	111.37'	160 cf	**18.00'W x 135.00'L x 0.33'H 4" - OGFC** 802 cf Overall x 20.0% Voids
#6	107.85'	27 cf	**6.0" Round 6 SD** Inside #1 L= 135.0'
		1,019 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	107.75'	**8.0" Round 6" Pipe** L= 39.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 107.75' / 107.55' S = 0.0051 '/' Cc = 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.15 cfs @ 15.16 hrs HW=108.00' (Free Discharge)
↳1=6" Pipe (Barrel Controls 0.15 cfs @ 1.83 fps)

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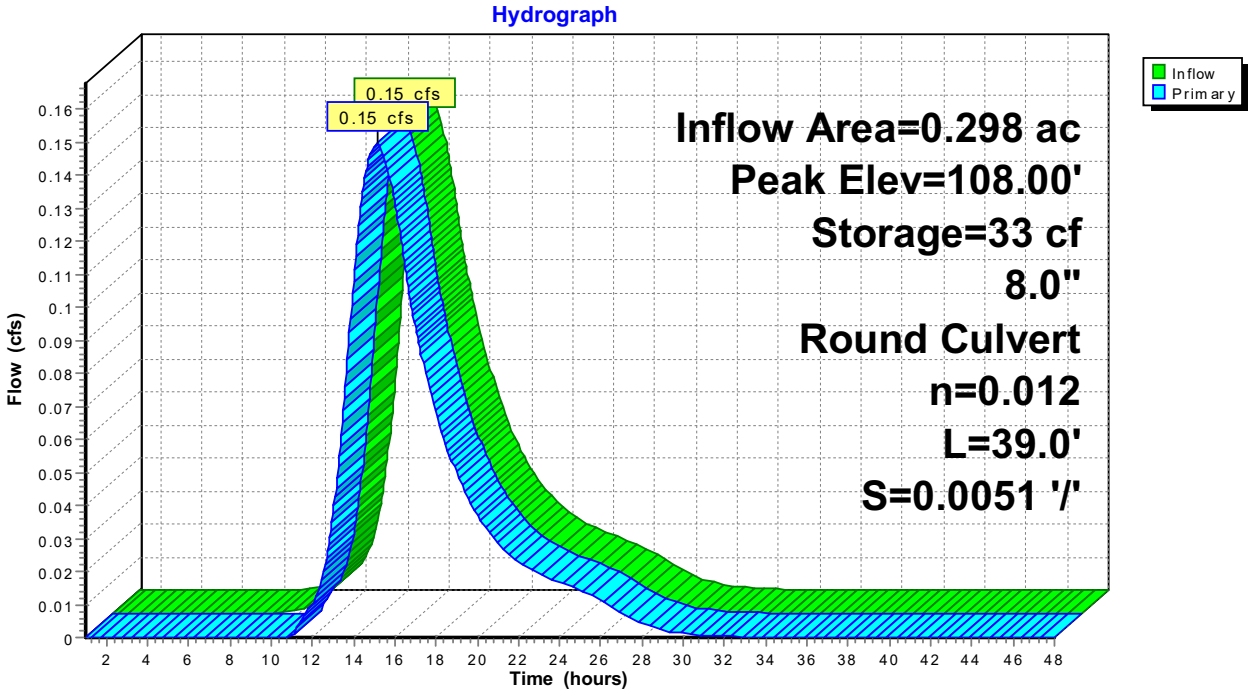
Pond 2P: Pavement Profile/Drainage



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Summary for Pond 3P: Pavement Profile/Drainage

Inflow Area = 0.536 ac, 53.84% Impervious, Inflow Depth = 1.82" for 10-year event
Inflow = 0.17 cfs @ 15.17 hrs, Volume= 0.081 af
Outflow = 0.17 cfs @ 15.17 hrs, Volume= 0.081 af, Atten= 0%, Lag= 0.0 min
Primary = 0.17 cfs @ 15.17 hrs, Volume= 0.081 af

Routing by Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 106.81' @ 15.17 hrs Surf.Area= 625 sf Storage= 0 cf

Plug-Flow detention time= 0.0 min calculated for 0.081 af (100% of inflow)
Center-of-Mass det. time= 0.0 min (1,058.5 - 1,058.5)

Volume	Invert	Avail.Storage	Storage Description
#1	106.81'	213 cf	**1.33'W x 470.00'L x 1.00'H 6" Trench** 625 cf Overall - 92 cf Embedded = 533 cf x 40.0% Voids
#2	107.81'	517 cf	**11.00'W x 470.00'L x 0.25'H 3" - 3/4" Stone** 1,293 cf Overall x 40.0% Voids
#3	108.06'	259 cf	**11.00'W x 470.00'L x 1.00'H 12" - Filter MDOT Type D** 5,170 cf Overall x 5.0% Voids
#4	109.06'	1,034 cf	**11.00'W x 470.00'L x 0.50'H 6" - Choker 1-1/2"** 2,585 cf Overall x 40.0% Voids
#5	109.56'	341 cf	**11.00'W x 470.00'L x 0.33'H 4" - OGFC** 1,706 cf Overall x 20.0% Voids
#6	107.06'	92 cf	**6.0" Round 6 SD** Inside #1 L= 470.0'
		2,456 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	102.75'	**12.0" Round 12" Pipe** L= 46.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 102.75' / 102.50' S= 0.0054 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=5.63 cfs @ 15.17 hrs HW=106.81' (Free Discharge)
↳1=12" Pipe (Inlet Controls 5.63 cfs @ 7.17 fps)

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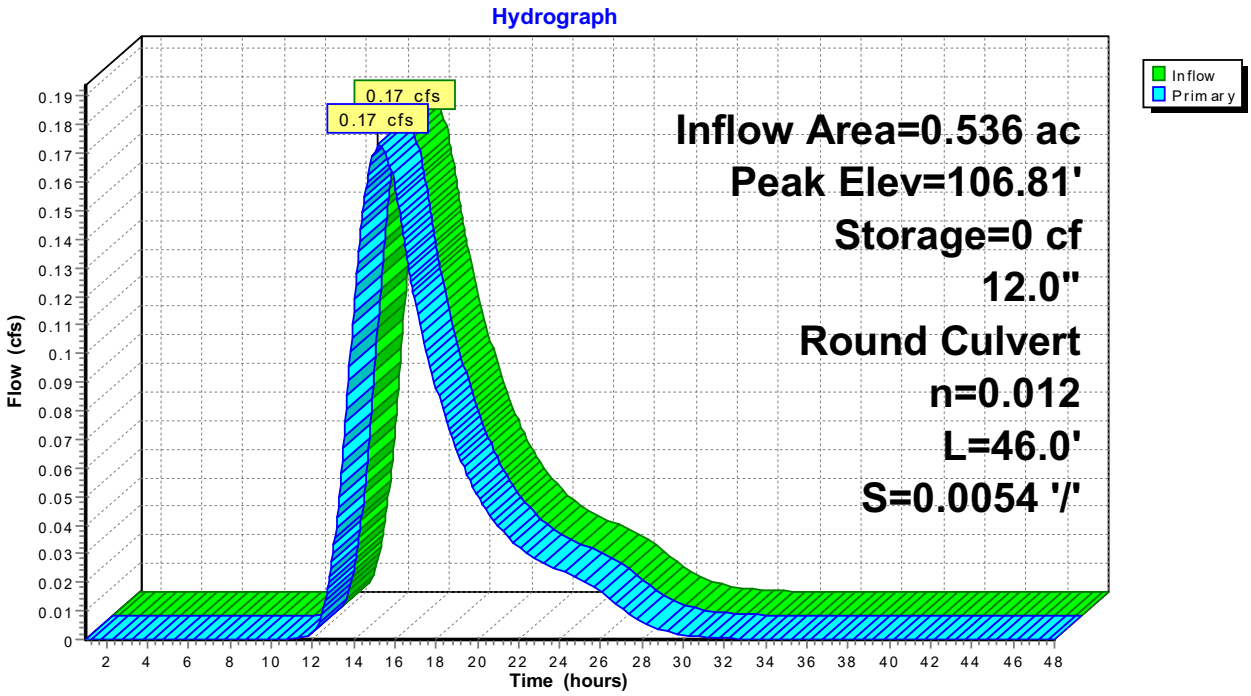
Pond 3P: Pavement Profile/Drainage



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Summary for Pond 4P: Pavement Profile/Drainage

Inflow Area = 0.358 ac, 69.20% Impervious, Inflow Depth = 3.70" for 10-year event
Inflow = 0.24 cfs @ 15.08 hrs, Volume= 0.110 af
Outflow = 0.24 cfs @ 15.08 hrs, Volume= 0.110 af, Atten = 0%, Lag = 0.0 min
Primary = 0.24 cfs @ 15.08 hrs, Volume= 0.110 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 108.67' @ 15.08 hrs Surf.Area= 525 sf Storage= 1 cf

Plug-Flow detention time= 0.1 min calculated for 0.110 af (100% of inflow)
Center-of-Mass det. time= 0.1 min (994.4 - 994.3)

Volume	Invert	Avail.Storage	Storage Description
#1	108.67'	183 cf	**1.50'W x 350.00'L x 1.00'H 6" Trench** 525 cf Overall - 69 cf Embedded = 456 cf x 40.0% Voids
#2	109.67'	560 cf	**16.00'W x 350.00'L x 0.25'H 3" - 3/4" Stone** 1,400 cf Overall x 40.0% Voids
#3	109.92'	280 cf	**16.00'W x 350.00'L x 1.00'H 12" - Filter MDOT Type D** 5,600 cf Overall x 5.0% Voids
#4	110.92'	1,120 cf	**16.00'W x 350.00'L x 0.50'H 6" - Choker 1-1/2"** 2,800 cf Overall x 40.0% Voids
#5	111.42'	370 cf	**16.00'W x 350.00'L x 0.33'H 4" - OGFC** 1,848 cf Overall x 20.0% Voids
#6	108.92'	69 cf	**6.0" Round 6 SD** Inside #1 L= 350.0'
		2,581 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	107.10'	**8.0" Round 6" Pipe** L= 70.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 107.10' / 106.25' S = 0.0121 '/' Cc = 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=1.48 cfs @ 15.08 hrs HW=108.67' (Free Discharge)
↳1=6" Pipe (Inlet Controls 1.48 cfs @ 4.24 fps)

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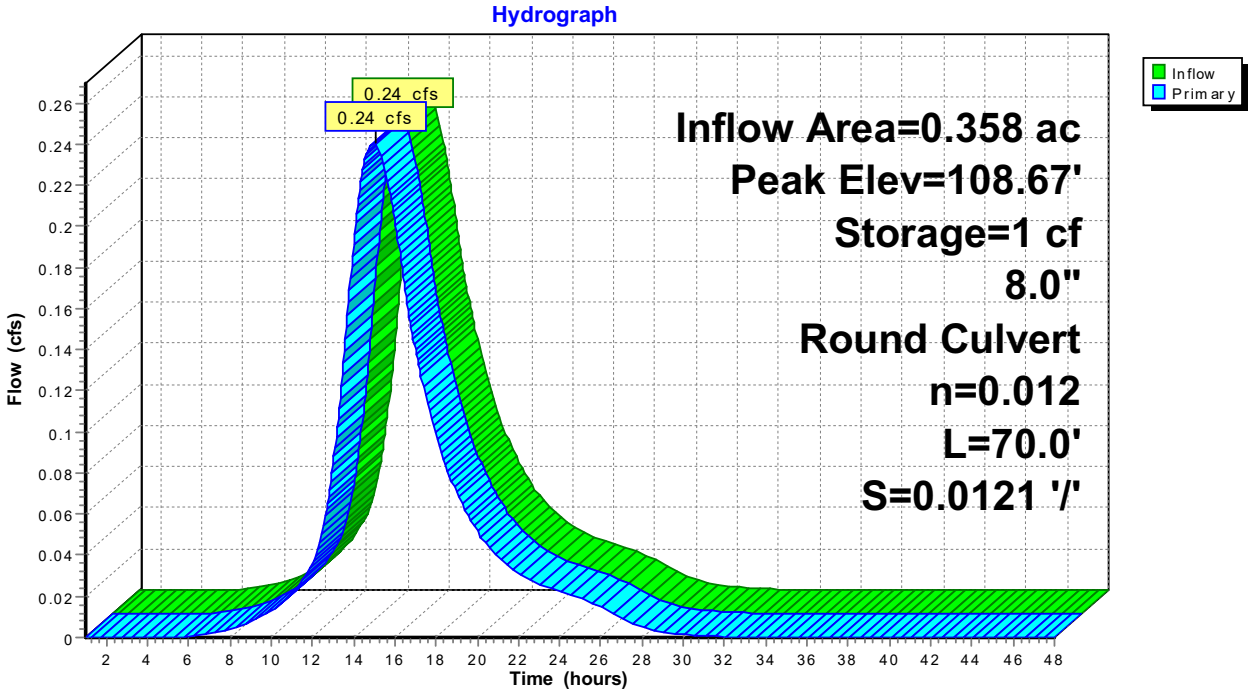
Pond 4P: Pavement Profile/Drainage



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Summary for Pond 5P: Pavement Profile/Drainage

Inflow Area = 0.281 ac, 81.51% Impervious, Inflow Depth = 3.10" for 10-year event
Inflow = 0.16 cfs @ 15.13 hrs, Volume= 0.073 af
Outflow = 0.16 cfs @ 15.13 hrs, Volume= 0.073 af, Atten = 0%, Lag = 0.0 min
Primary = 0.16 cfs @ 15.13 hrs, Volume= 0.073 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 104.67' @ 15.13 hrs Surf.Area= 188 sf Storage= 0 cf

Plug-Flow detention time= 0.0 min calculated for 0.072 af (100% of inflow)
Center-of-Mass det. time= 0.0 min (1,016.6 - 1,016.6)

Volume	Invert	Avail.Storage	Storage Description
#1	104.67'	65 cf	**1.50'W x 125.00'L x 1.00'H 6" Underdrained Trench** 188 cf Overall - 25 cf Embedded = 163 cf x 40.0% Voids
#2	105.67'	225 cf	**18.00'W x 125.00'L x 0.25'H 3" - 3/4" Stone** 563 cf Overall x 40.0% Voids
#3	105.92'	113 cf	**18.00'W x 125.00'L x 1.00'H 12" - Filter MDOT Type D** 2,250 cf Overall x 5.0% Voids
#4	106.92'	450 cf	**18.00'W x 125.00'L x 0.50'H 6" - Choker 1-1/2"** 1,125 cf Overall x 40.0% Voids
#5	107.42'	148 cf	**18.00'W x 125.00'L x 0.33'H 4" - OGFC** 742 cf Overall x 20.0% Voids
#6	104.92'	25 cf	**6.0" Round 4 SD** Inside #1 L= 125.0'
		1,026 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	101.35'	**12.0" Round 12" Pipe** L= 32.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 101.35' / 101.25' S = 0.0031 '/' Cc = 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=5.01 cfs @ 15.13 hrs HW=104.67' (Free Discharge)
↳1=12" Pipe (Inlet Controls 5.01 cfs @ 6.38 fps)

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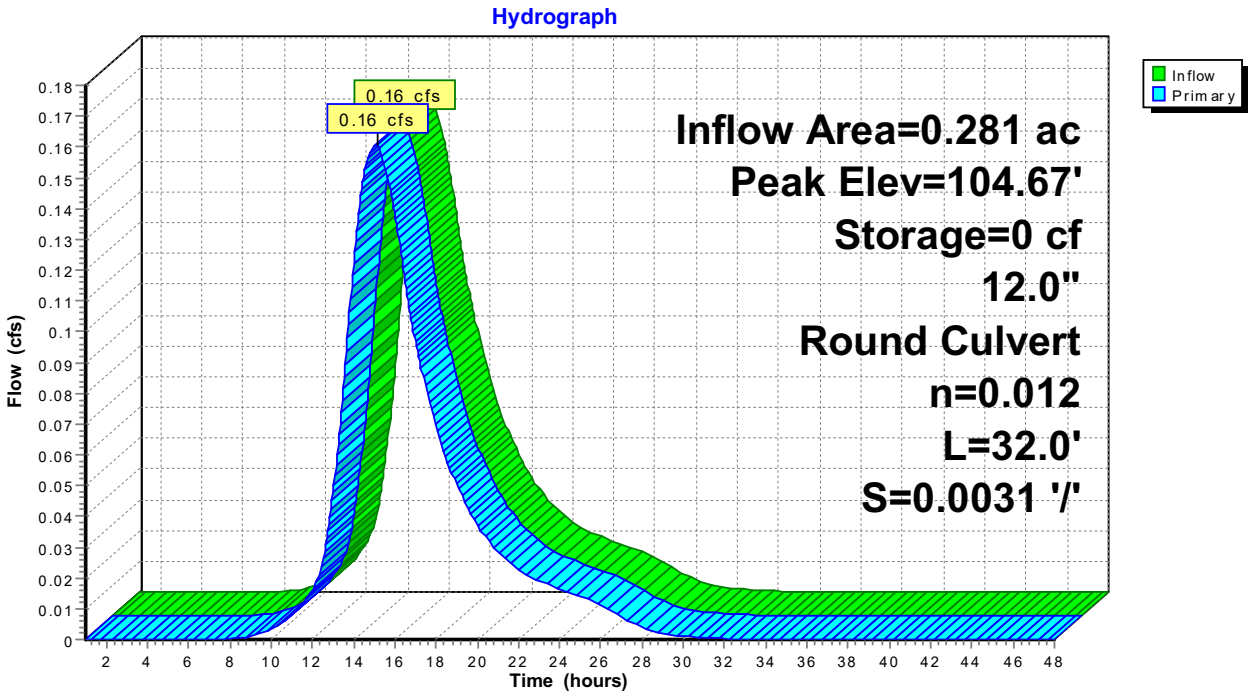
Pond 5P: Pavement Profile/Drainage



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Summary for Pond 6P: USSF 2 - StormTech 3500

Inflow Area = 1.261 ac, 60.39% Impervious, Inflow Depth > 3.05" for 10-year event
Inflow = 3.78 cfs @ 12.09 hrs, Volume= 0.321 af
Outflow = 0.29 cfs @ 13.56 hrs, Volume= 0.310 af, Atten = 92%, Lag = 88.2 min
Primary = 0.29 cfs @ 13.56 hrs, Volume= 0.310 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 104.55' @ 13.56 hrs Surf.Area= 6,841 sf Storage= 6,944 cf

Plug-Flow detention time= 295.0 min calculated for 0.310 af (97% of inflow)
Center-of-Mass det. time= 274.8 min (1,050.2 - 775.4)

Volume	Invert	Avail.Storage	Storage Description
#1	101.00'	3,081 cf	**35.08'W x 65.00'L x 5.50'H Stone** 12,541 cf Overall - 4,839 cf Embedded = 7,702 cf x 40.0% Voids
#2	101.75'	4,839 cf	**ADS_StormTech MC-3500 d +Cap @ 7.50' L** x 40 Inside# 1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.50'L = 115.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 40 Chambers in 8 Rows Cap Storage= +14.9 cf x 2 x 8 rows = 238.4 cf
#3	99.50'	171 cf	**35.08'W x 65.00'L x 1.50'H Sand** 3,420 cf Overall x 5.0% Voids
#4	98.50'	907 cf	**35.08'W x 65.00'L x 1.00'H Crushed Stone** 2,280 cf Overall - 1,373 cf Embedded = 2,267 cf x 40.0% Voids
#5	99.00'	13 cf	**4.0" Round Underdrain Storage** Inside #4 L= 150.0'
		9,011 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	99.00'	**2.1" Vert. Underdrain/Orifice** C= 0.600
#2	Primary	104.52'	**6.0" Round Bypass Overflow X 3.00** L= 7.0' Ke= 0.600 Inlet / Outlet Invert= 104.52' / 103.75' S= 0.1100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=0.28 cfs @ 13.56 hrs HW=104.55' (Free Discharge)
1=Underdrain/Orifice (Orifice Controls 0.27 cfs @ 11.26 fps)
2=Bypass Overflow (Inlet Controls 0.01 cfs @ 0.59 fps)

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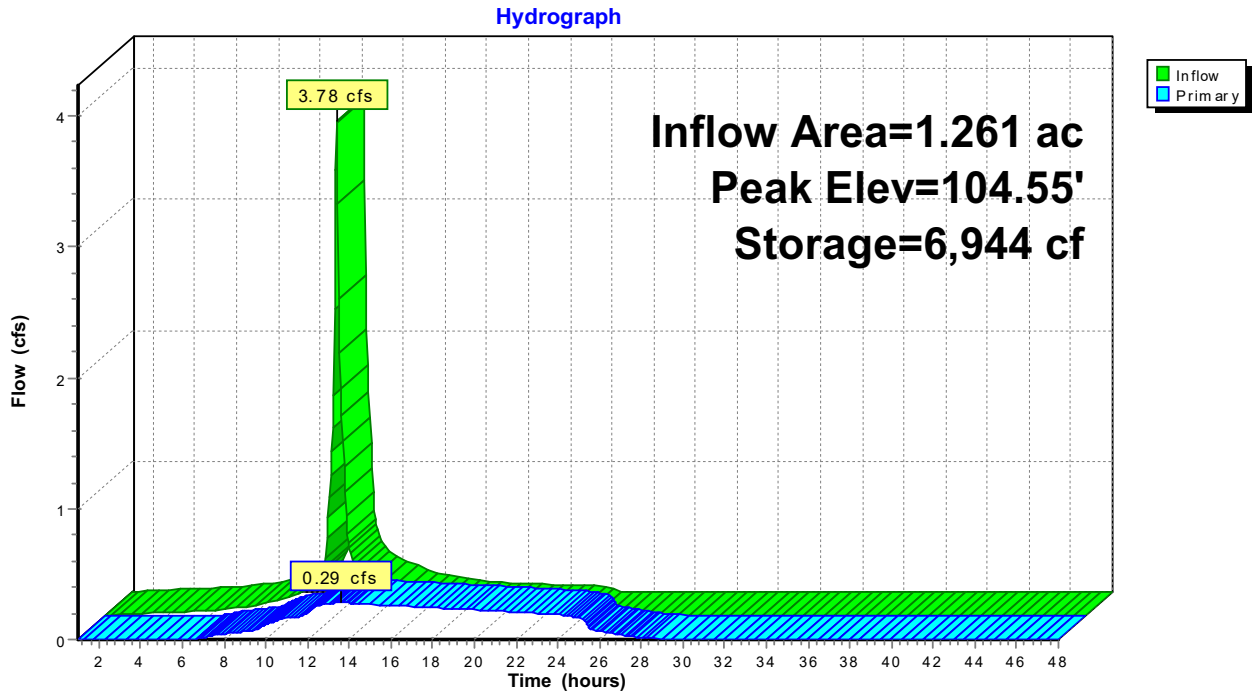
Pond 6P: USSF 2 - StormTech 3500



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Summary for Pond 7P: 6+00 Rain Garden

Inflow Area = 0.432 ac, 68.41% Impervious, Inflow Depth = 3.10" for 10-year event
Inflow = 1.47 cfs @ 12.09 hrs, Volume= 0.112 af
Outflow = 1.48 cfs @ 12.10 hrs, Volume= 0.112 af, Atten= 0%, Lag= 0.7 min
Primary = 1.48 cfs @ 12.10 hrs, Volume= 0.112 af

Routing by Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 109.70' @ 12.10 hrs Surf.Area= 468 sf Storage= 377 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 10.3 min (806.5 - 796.2)

Volume	Invert	Avail.Storage	Storage Description
#1	108.00'	982 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	106.50'	16 cf	**Soil Filter/Loam Topsoil (Prismatic)** Listed below (Recalc)
			162 cf Overall x 10.0% Voids
		998 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
108.00	108	0	0
109.00	213	161	161
110.00	424	319	479
110.25	450	109	588
111.00	600	394	982

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
106.50	108	0	0
108.00	108	162	162

Device	Routing	Invert	Outlet Devices
#1	Primary	105.50'	**2.0" Round Culvert** L= 10.0' Ke= 0.600
			Inlet / Outlet Invert= 105.50' / 105.35' S= 0.0150 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.02 sf
#2	Device 1	106.50'	**0.13 cfs Exfiltration when above 106.50'**
#3	Primary	109.50'	**18.0" Horiz. Beehive Overflow** C= 0.600
			Limited to weir flow at low heads
#4	Primary	109.75'	**5.0' long (Profile 1) Broad-Crested Rectangular Weir**
			Head (feet) 0.49 0.98 1.48
			Coef. (English) 2.92 3.37 3.59

Primary OutFlow Max=1.47 cfs @ 12.10 hrs HW=109.70' (Free Discharge)
- **1=Culvert** (Passes 0.13 cfs of 0.17 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.13 cfs)
- **3=Beehive Overflow** (Weir Controls 1.34 cfs @ 1.45 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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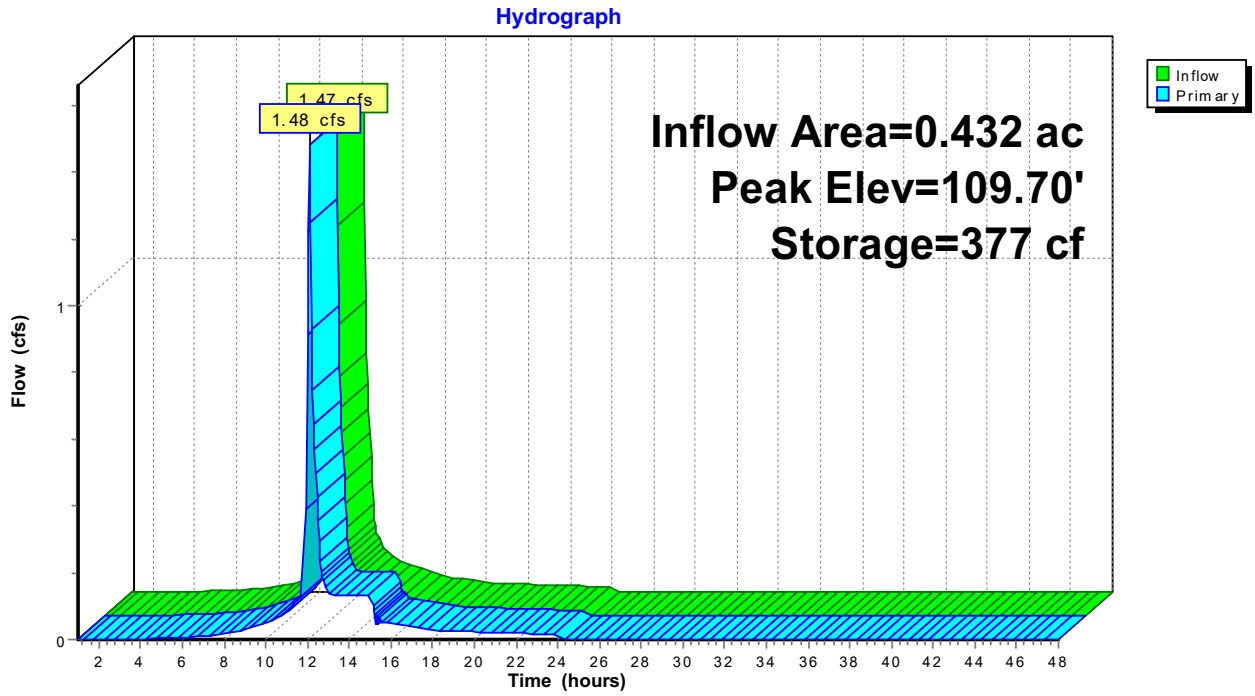
Pond 7P: 6+00 Rain Garden



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Summary for Pond 8P: Pavement Profile/Drainage

Inflow Area = 0.234 ac, 82.25% Impervious, Inflow Depth = 4.02" for 10-year event
Inflow = 0.17 cfs @ 14.92 hrs, Volume= 0.079 af
Outflow = 0.17 cfs @ 15.04 hrs, Volume= 0.077 af, Atten = 0%, Lag = 7.3 min
Primary = 0.17 cfs @ 15.04 hrs, Volume= 0.077 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 111.97' @ 15.04 hrs Surf.Area= 5,041 sf Storage= 333 cf

Plug-Flow detention time= 71.0 min calculated for 0.077 af (98% of inflow)
Center-of-Mass det. time= 56.6 min (1,036.0 - 979.4)

Volume	Invert	Avail.Storage	Storage Description
#1	110.67'	68 cf	**1.33'W x 135.00'L x 1.00'H Trench**
			180 cf Overall - 10 cf Embedded = 170 cf x 40.0% Voids
#2	111.67'	243 cf	**49.30'W x 49.30'L x 0.25'H 3" - 3/4" Stone**
			608 cf Overall x 40.0% Voids
#3	111.92'	243 cf	**49.30'W x 49.30'L x 1.00'H 12" - Filter MDOT Type D**
			2,430 cf Overall x 10.0% Voids
#4	112.92'	486 cf	**49.30'W x 49.30'L x 0.50'H 6" - Choker 1-1/2"**
			1,215 cf Overall x 40.0% Voids
#5	113.42'	160 cf	**49.30'W x 49.30'L x 0.33'H 4" - OGFC**
			802 cf Overall x 20.0% Voids
#6	110.92'	10 cf	**6.0" Round 4 SD** Inside #1
			L= 49.3' S= 0.0010 '/'
		1,210 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	111.67'	**6.0" Round 6" Pipe**
			L= 5.0' CMP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 111.67' / 111.62' S= 0.0100 '/' Cc= 0.900
			n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.17 cfs @ 15.04 hrs HW=111.97' (Free Discharge)
↳1=6" Pipe (Barrel Controls 0.17 cfs @ 1.94 fps)

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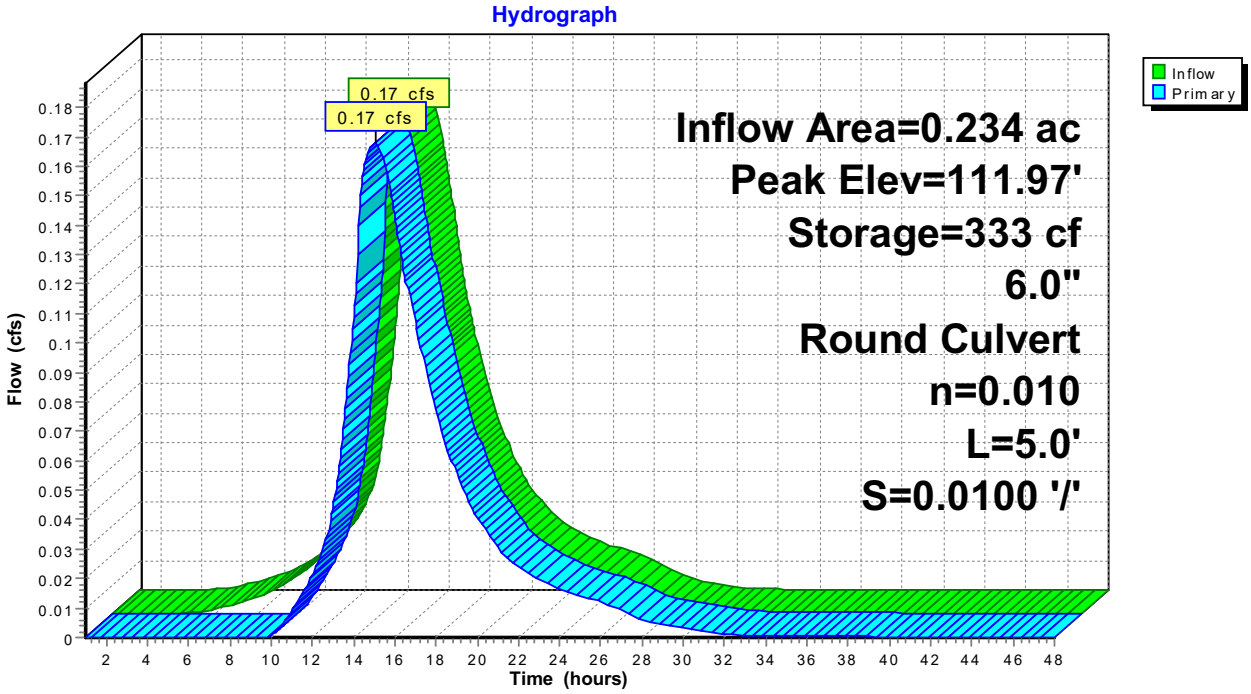
Pond 8P: Pavement Profile/Drainage



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Summary for Pond 9P: 4+25 Rain Garden

Inflow Area = 0.226 ac, 68.34% Impervious, Inflow Depth = 2.55" for 10-year event
Inflow = 0.66 cfs @ 12.09 hrs, Volume= 0.048 af
Outflow = 0.66 cfs @ 12.11 hrs, Volume= 0.048 af, Atten= 1%, Lag= 0.8 min
Primary = 0.66 cfs @ 12.11 hrs, Volume= 0.048 af

Routing by Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 104.62' @ 12.11 hrs Surf.Area= 421 sf Storage= 244 cf

Plug-Flow detention time= 88.9 min calculated for 0.048 af (100% of inflow)
Center-of-Mass det. time= 89.2 min (914.6-825.4)

Volume	Invert	Avail.Storage	Storage Description
#1	103.25'	1,050 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	101.75'	8 cf	**Soil Filter (Prismatic)** Listed below (Recalc)
			83 cf Overall x 10.0% Voids
		1,058 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
103.25	55	0	0
104.00	148	76	76
105.00	500	324	400
106.00	800	650	1,050

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
101.75	55	0	0
103.25	55	83	83

Device	Routing	Invert	Outlet Devices
#1	Primary	100.75'	**4.0" Round Culvert** L= 45.0' Ke= 0.600
			Inlet / Outlet Invert= 100.75' / 100.25' S= 0.0111 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.09 sf
#2	Device 1	101.75'	**0.01 cfs Exfiltration at all elevations**
#3	Primary	104.50'	**18.0" Horiz. Beehive Overflow** C= 0.600
			Limited to weir flow at low heads
#4	Primary	104.75'	**5.0' long (Profile 1) Broad-Crested Rectangular Weir**
			Head (feet) 0.49 0.98 1.48
			Coef. (English) 2.92 3.37 3.59

Primary OutFlow Max=0.64 cfs @ 12.11 hrs HW=104.62' (Free Discharge)
- **1=Culvert** (Passes 0.01 cfs of 0.54 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.01 cfs)
- **3=Beehive Overflow** (Weir Controls 0.63 cfs @ 1.13 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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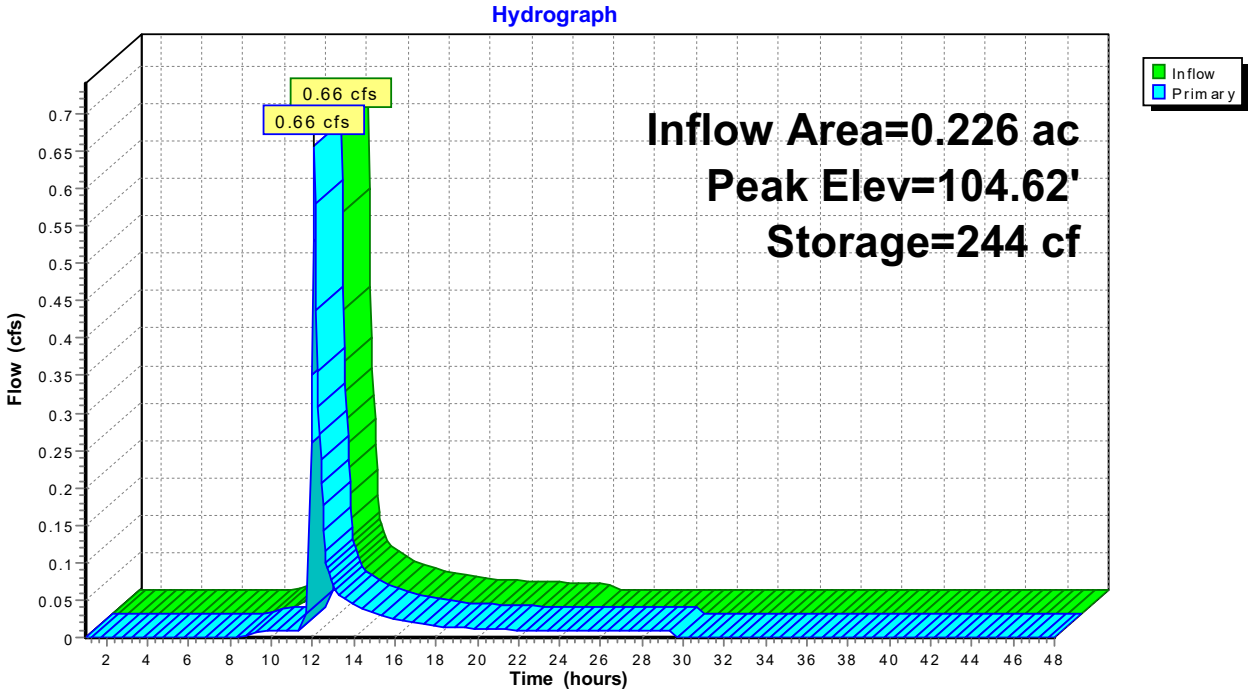
Pond 9P: 4+25 Rain Garden



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Summary for Pond 10P: Riprap Basin

Inflow Area = 4.880 ac, 50.08% Impervious, Inflow Depth > 2.06" for 10-year event
Inflow = 2.54 cfs @ 12.15 hrs, Volume= 0.839 af
Outflow = 2.07 cfs @ 12.31 hrs, Volume= 0.838 af, Atten = 18%, Lag = 9.5 min
Primary = 2.07 cfs @ 12.31 hrs, Volume= 0.838 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 93.67' @ 12.31 hrs Surf.Area= 1,068 sf Storage= 1,405 cf

Plug-Flow detention time= 11.0 min calculated for 0.837 af (100% of inflow)
Center-of-Mass det. time= 9.5 min (1,101.9 - 1,092.4)

Volume	Invert	Avail.Storage	Storage Description
#1	88.00'	480 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
			1,200 cf Overall x 40.0% Voids
#2	92.00'	1,381 cf	**Ponding (Prismatic)** Listed below
		1,861 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.00	300	0	0
92.00	300	1,200	1,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.00	300	0	0
93.00	582	441	441
94.00	859	721	1,162
94.25	900	220	1,381

Device	Routing	Invert	Outlet Devices
#1	Primary	88.25'	**4.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	93.50'	**18.0" Horiz. CB OVERFLOW** C= 0.600
			Limited to weir flow at low heads

Primary OutFlow Max=2.01 cfs @ 12.31 hrs HW=93.67' (Free Discharge)
↑**1=Orifice/Grate** (Orifice Controls 0.96 cfs @ 11.03 fps)
└**2=CB OVERFLOW** (Weir Controls 1.04 cfs @ 1.33 fps)

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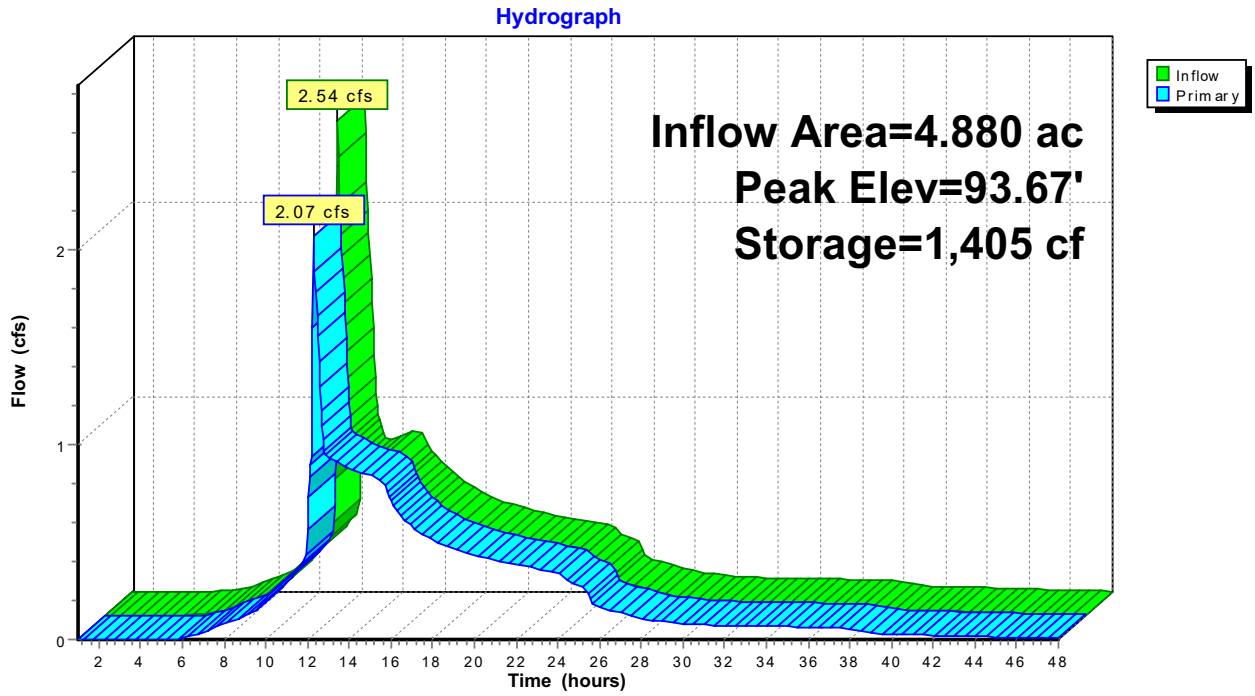
Pond 10P: Riprap Basin



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Summary for Subcatchment 1.1N: SC 1.1N

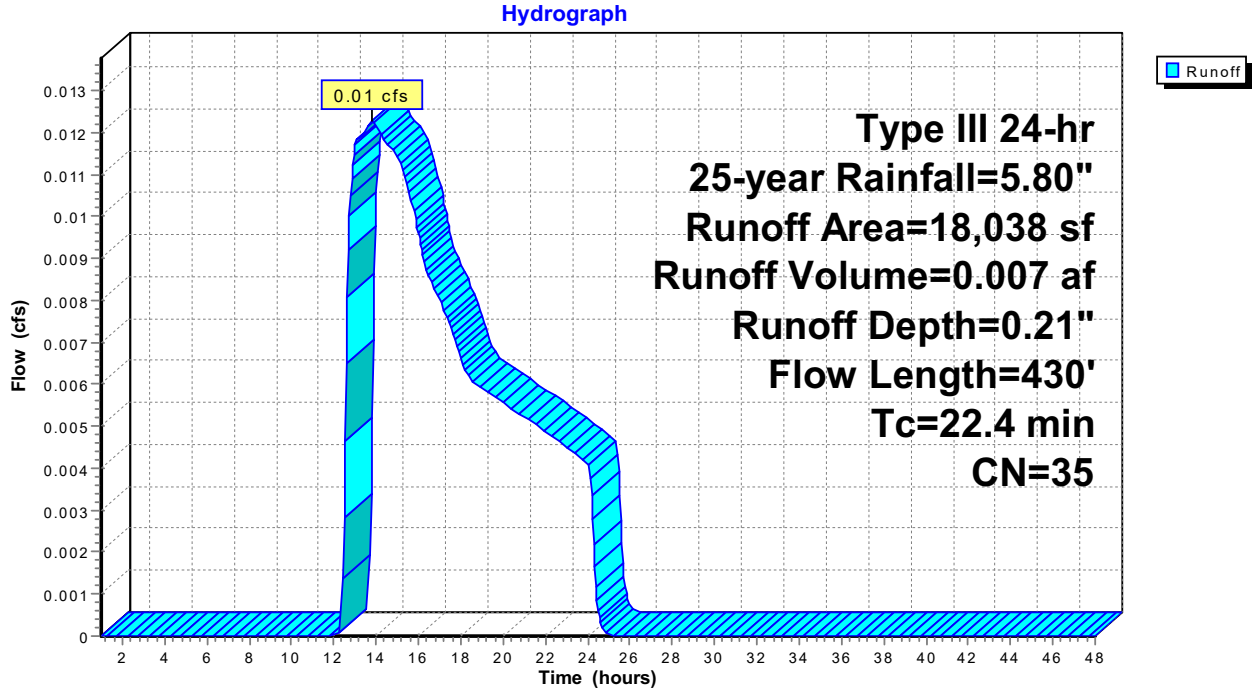
Runoff = 0.01 cfs @ 13.85 hrs, Volume= 0.007 af, Depth= 0.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	4,082	39	Roadside ditch and shrubs, HSG A
	9,907	30	Woods, Good, HSG A
*	1,254	39	Landscaping/open space, HSG A
*	2,546	39	Landscaping/roadside ditch
*	249	98	Sidewalk
	18,038	35	Weighted Average
	17,789		98.62% Pervious Area
	249		1.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	70	0.0400	0.06		**Sheet Flow, SF (A to B)** Woods: Dense underbrush n= 0.800 P2= 3.27"
0.1	20	0.4000	3.16		**Shallow Concentrated Flow, SCF (B to C)** Woodland Kv= 5.0 fps
1.2	340	0.0310	4.64	17.83	**Trap/Vee/Rect Channel Flow, Ditch Flow (C to D)** Bot.W=2.00' D=0.80' Z= 2.5& 4.5'/' Top.W=7.60' n= 0.035
22.4	430	Total			

Subcatchment 1.1N: SC 1.1N



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Summary for Subcatchment 1.1S: Roofs

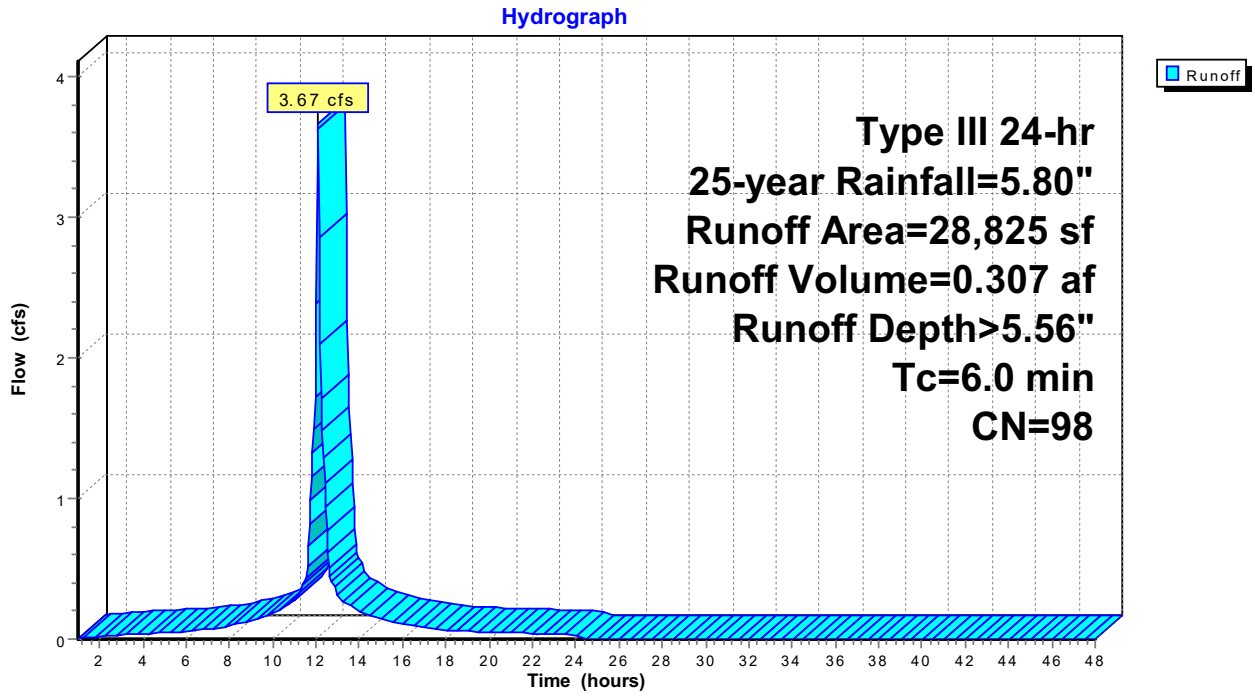
Runoff = 3.67 cfs @ 12.09 hrs, Volume= 0.307 af, Depth> 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	28,825	98	Roofs
	28,825		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.1S: Roofs



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Summary for Subcatchment 1.2N: SC 1.2N

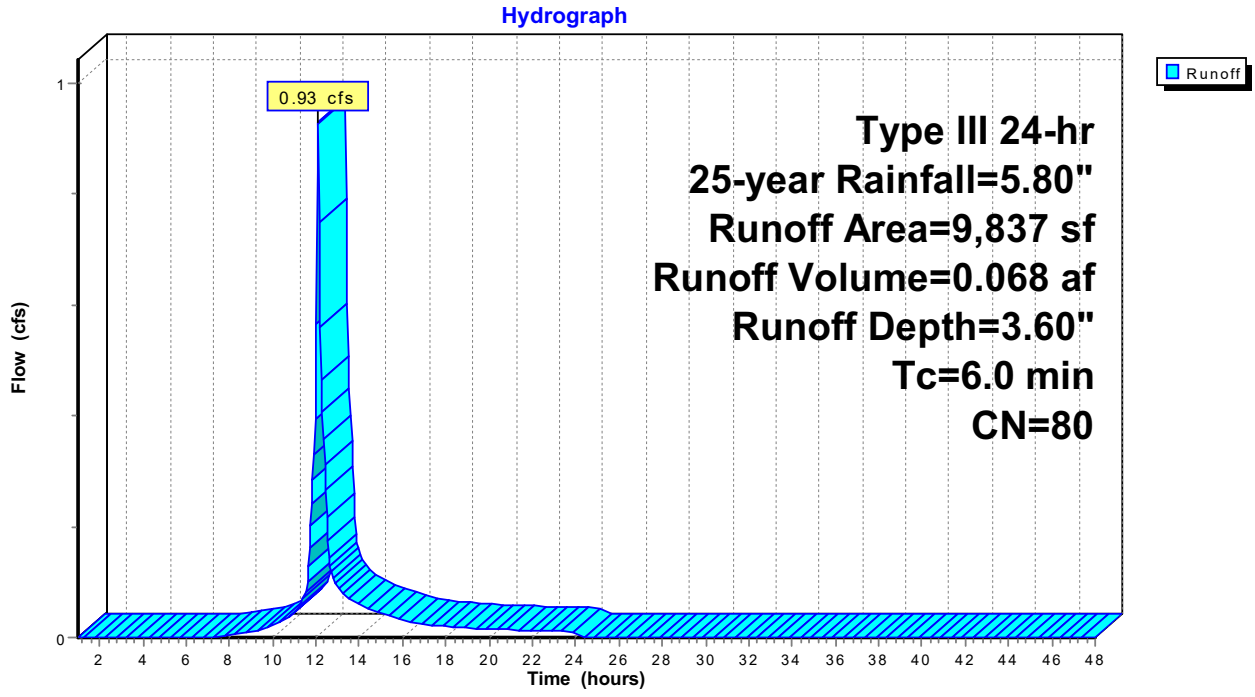
Runoff = 0.93 cfs @ 12.09 hrs, Volume= 0.068 af, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	3,797	98	Wash Ave
*	360	98	A.2 patios
*	2,543	98	sidewalk
*	23	98	pavers
*	99	80	grass pavers
*	3,015	39	Lawn/landscaping/HSG A
	9,837	80	Weighted Average
	3,114		31.66% Pervious Area
	6,723		68.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.2N: SC 1.2N



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Summary for Subcatchment 1.2S: Property Frontage

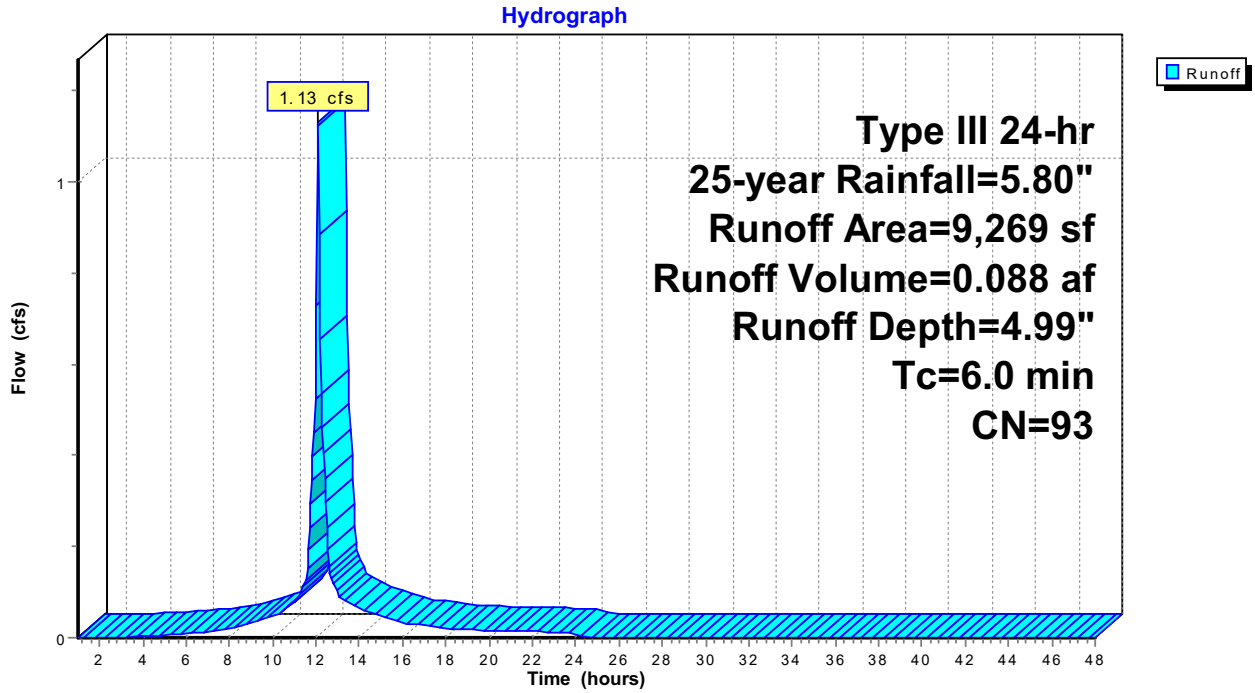
Runoff = 1.13 cfs @ 12.09 hrs, Volume= 0.088 af, Depth= 4.99"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	4,309	98	Wash. Ave
*	1,319	98	Sidewalk
*	436	98	patio
*	321	98	driveway
*	363	98	sidewalk
*	76	98	bus stop
	2,445	80	>75% Grass cover, Good, HSG D
	9,269	93	Weighted Average
	2,445		26.38% Pervious Area
	6,824		73.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.2S: Property Frontage



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Summary for Subcatchment 1.3N: SC 1.3N

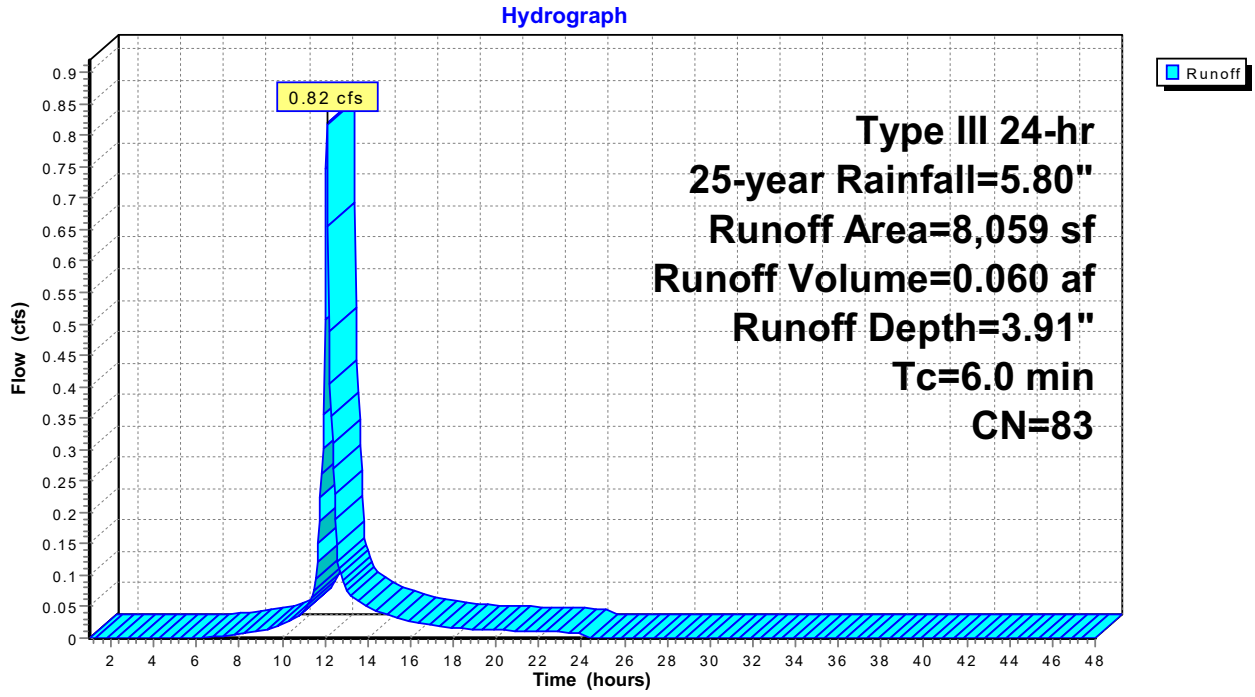
Runoff = 0.82 cfs @ 12.09 hrs, Volume= 0.060 af, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	3,859	98	Wash Ave
*	230	98	Patios
*	1,924	98	Sidewalk/driveway
*	2,046	39	Landscaping/lawn, HSG A
	8,059	83	Weighted Average
	2,046		25.39% Pervious Area
	6,013		74.61% Impervious Area

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

Subcatchment 1.3N: SC 1.3N



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Summary for Subcatchment 1.3S: West Parking Lot

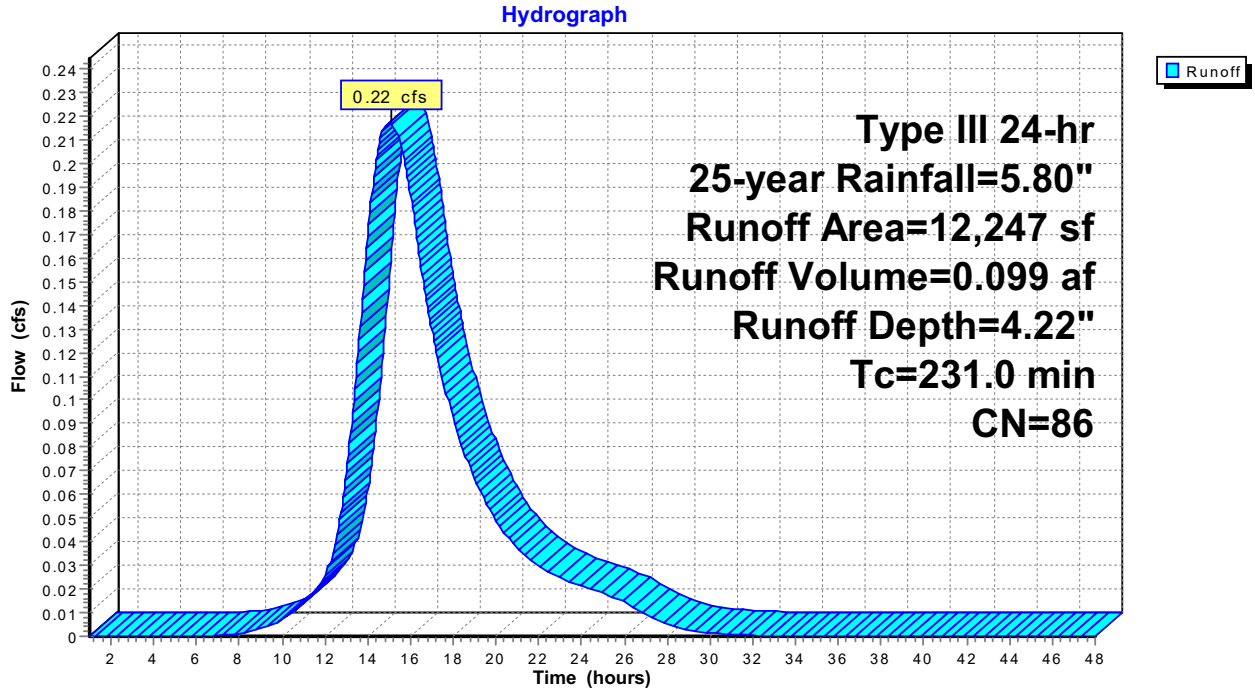
Runoff = 0.22 cfs @ 15.11 hrs, Volume= 0.099 af, Depth= 4.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	2,279	98	porous
*	6,635	98	paved drive aisle
*	1,068	98	walkway
*	1,197	30	crstone
	1,068	39	>75% Grass cover, Good, HSG A
	12,247	86	Weighted Average
	2,265		18.49% Pervious Area
	9,982		81.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
231.0					**Direct Entry, UNH**

Subcatchment 1.3S: West Parking Lot



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Summary for Subcatchment 1.4N: SC 1.4N

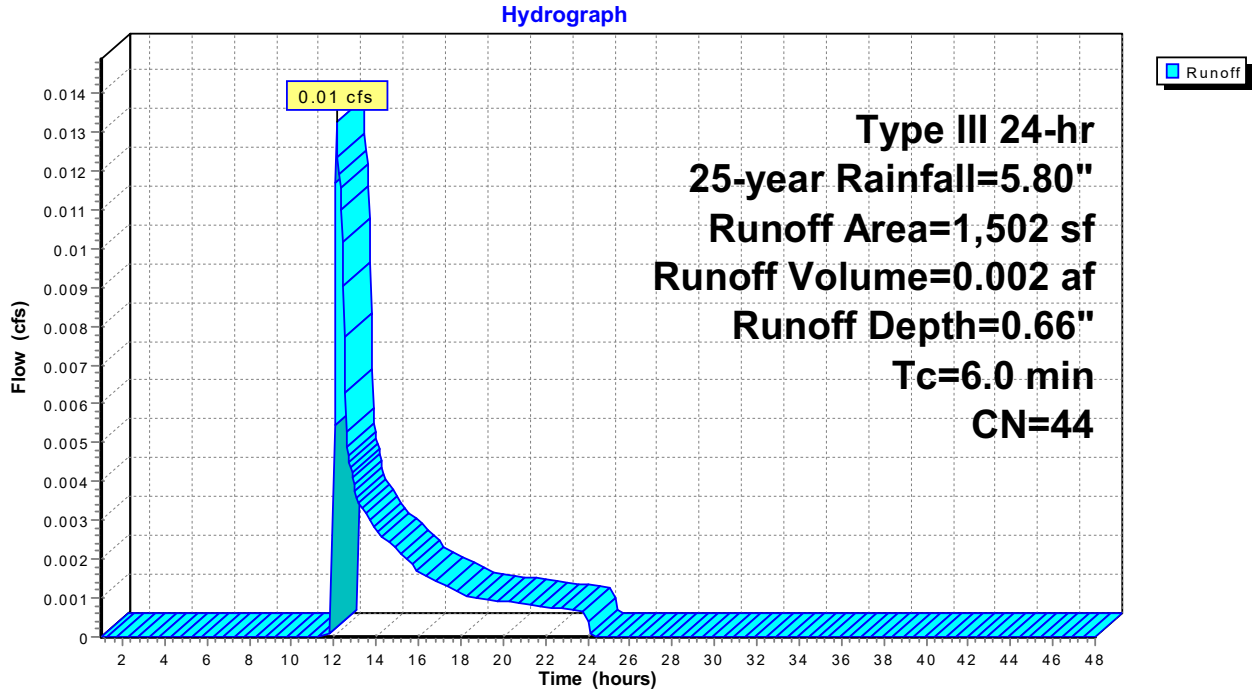
Runoff = 0.01 cfs @ 12.16 hrs, Volume= 0.002 af, Depth= 0.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	131	80	Grass paver
*	45	98	Paver walkway
*	1,326	39	Landscaping/open space/rain garden / HSG A
	1,502	44	Weighted Average
	1,457		97.00% Pervious Area
	45		3.00% Impervious Area

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

Subcatchment 1.4N: SC 1.4N



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Summary for Subcatchment 1.4S: Common

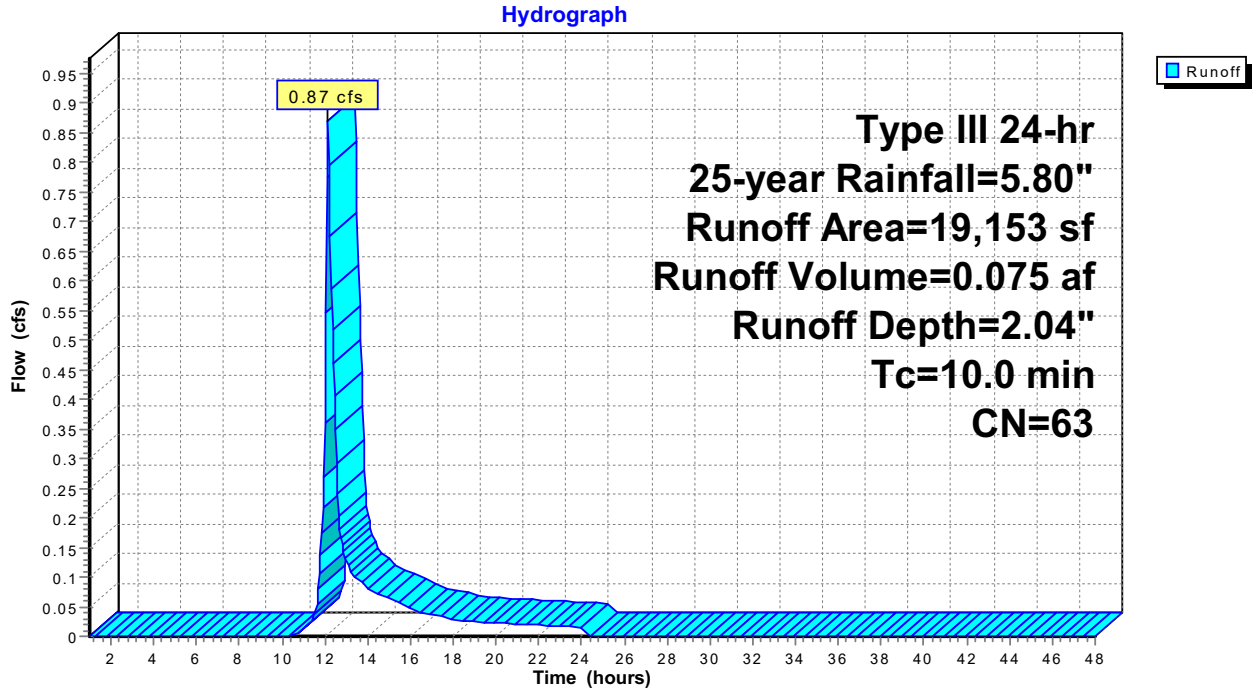
Runoff = 0.87 cfs @ 12.15 hrs, Volume= 0.075 af, Depth= 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	1,688	98	paved walkway
*	153	98	Rear Patio
*	112	98	Rear Patio
	8,600	39	>75% Grass cover, Good, HSG A
	8,600	80	>75% Grass cover, Good, HSG D
	19,153	63	Weighted Average
	17,200		89.80% Pervious Area
	1,953		10.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1.4S: Common



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Summary for Subcatchment 1.5N: Roofs

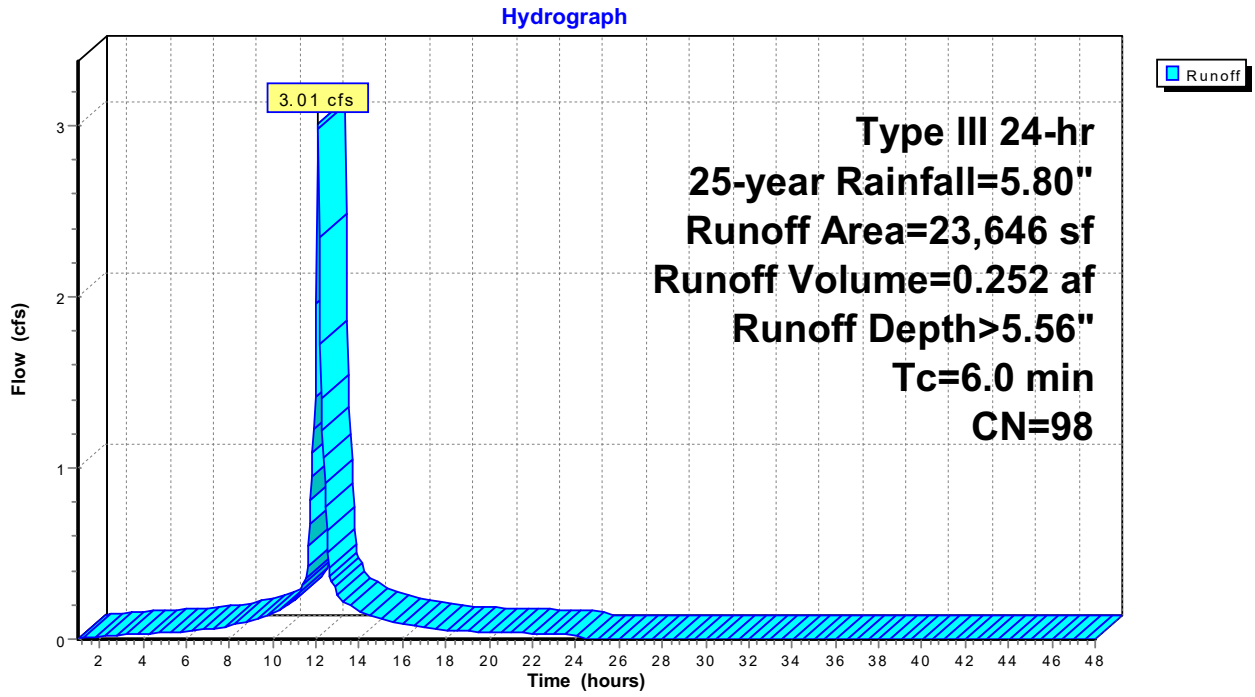
Runoff = 3.01 cfs @ 12.09 hrs, Volume= 0.252 af, Depth> 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	23,646	98	IMPERV
	23,646		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.5N: Roofs



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Summary for Subcatchment 1.5S: A.7, A.10, C.3, C.2 Aisle

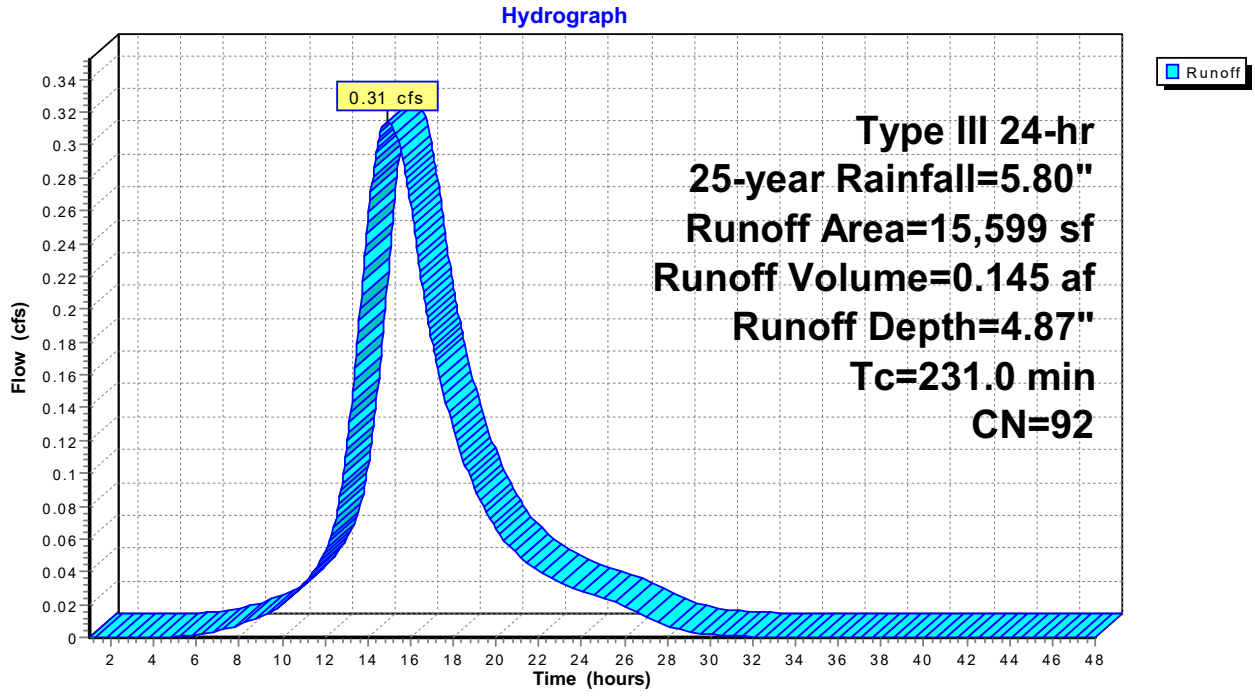
Runoff = 0.31 cfs @ 14.90 hrs, Volume= 0.145 af, Depth= 4.87"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	879	98	5' pavers/s. mews
*	3,722	98	porous
*	442	98	Front Patios
*	759	98	Front Patios
*	1,033	98	Long Patio
*	585	98	Curved Patio
*	536	98	Front Patios
*	592	98	Front Patios
*	1,360	98	Long Patio
*	679	80	Grass Pavers
*	425	98	Patios
*	16	98	Transformer
*	446	98	Sidewalks
*	4,125	80	>75% Grass cover, Good, HSG D
	15,599	92	Weighted Average
	4,804		30.80% Pervious Area
	10,795		69.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
231.0					**Direct Entry, UNH**

Subcatchment 1.5S: A.7, A.10, C.3, C.2 Aisle



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Summary for Subcatchment 1.6N: SC 1.6N

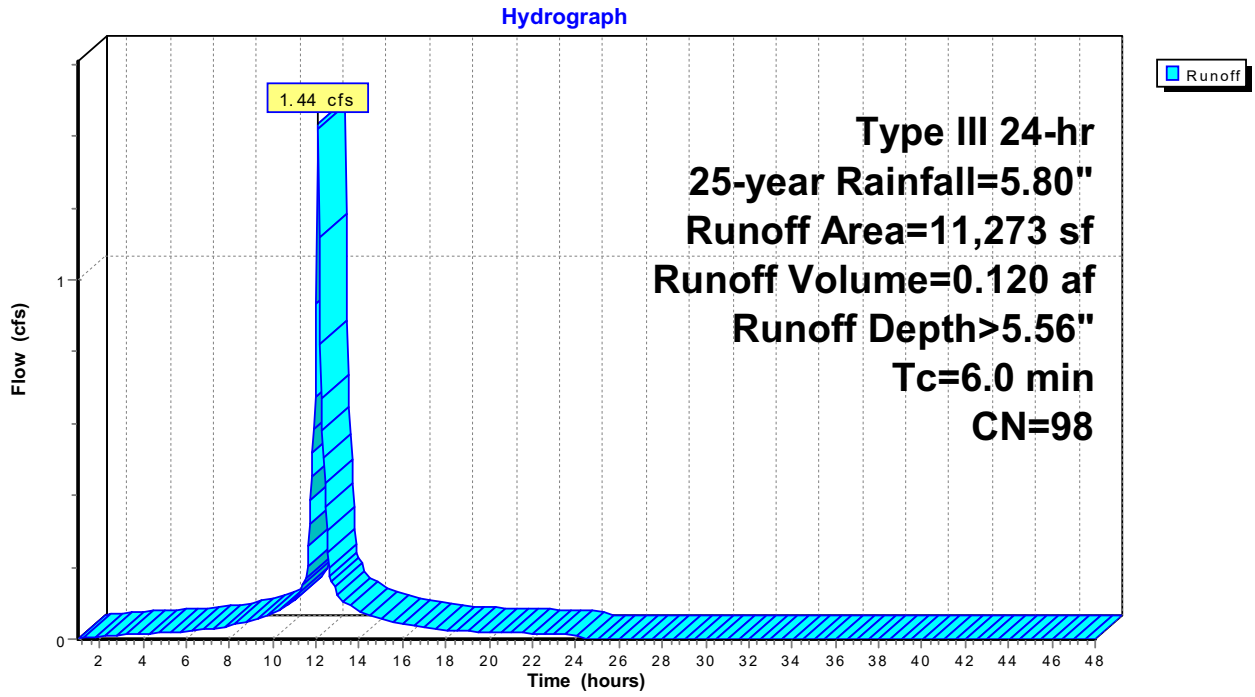
Runoff = 1.44 cfs @ 12.09 hrs, Volume= 0.120 af, Depth> 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	11,273	98	Wash Ave
	11,273		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.6N: SC 1.6N



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Summary for Subcatchment 1.6S: Developed/Undeveloped area

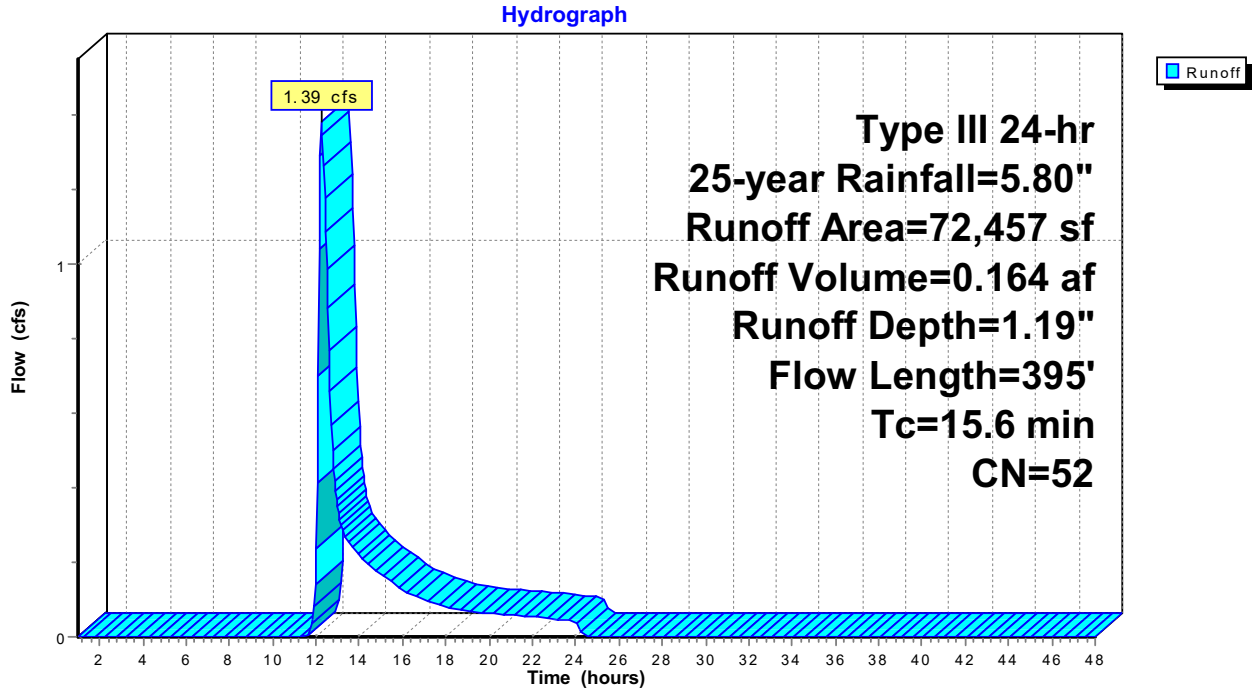
Runoff = 1.39 cfs @ 12.26 hrs, Volume= 0.164 af, Depth= 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
	37,858	30	Woods, Good, HSG A
*	5,348	39	Landscaped/open space
	311	98	Unconnected roofs, HSG A
*	5,781	39	Wash Ave ditch
*	15,509	98	Washington ave, cross walks
*	1,195	98	Patios
*	305	80	Grass pavers
*	6,150	80	Landscaping/HSG D
	72,457	52	Weighted Average
	55,442		76.52% Pervious Area
	17,015		23.48% Impervious Area
	311		1.83% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	100	0.0500	0.17		**Sheet Flow, Sheet flow (A to B)**
					Grass: Dense n= 0.240 P2= 3.27"
5.5	203	0.0600	0.61		**Shallow Concentrated Flow, SCF (B to C)**
					Forest w/ Heavy Litter Kv= 2.5 fps
0.3	92	0.0400	5.40	17.28	**Trap/Vee/Rect Channel Flow, Ditch Flow (C to D)**
					Bot.W=2.00' D=0.80' Z= 2.5'/' Top.W=6.00'
					n= 0.035
15.6	395	Total			

Subcatchment 1.6S: Developed/Undeveloped area



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Summary for Subcatchment 1.7N: SC 1.7N

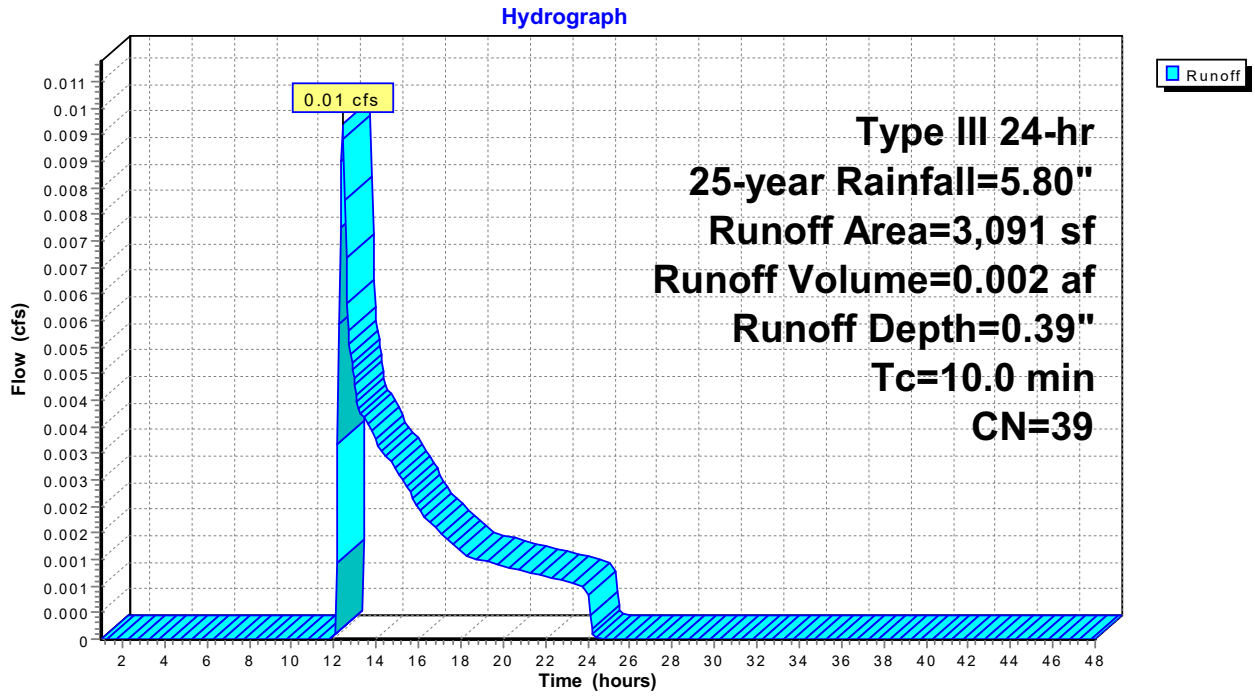
Runoff = 0.01 cfs @ 12.43 hrs, Volume= 0.002 af, Depth= 0.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	3,091	39	Lawn/landscaping/ditch, HSG A
	3,091		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1.7N: SC 1.7N



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Summary for Subcatchment 1.7S: SC 1.7S

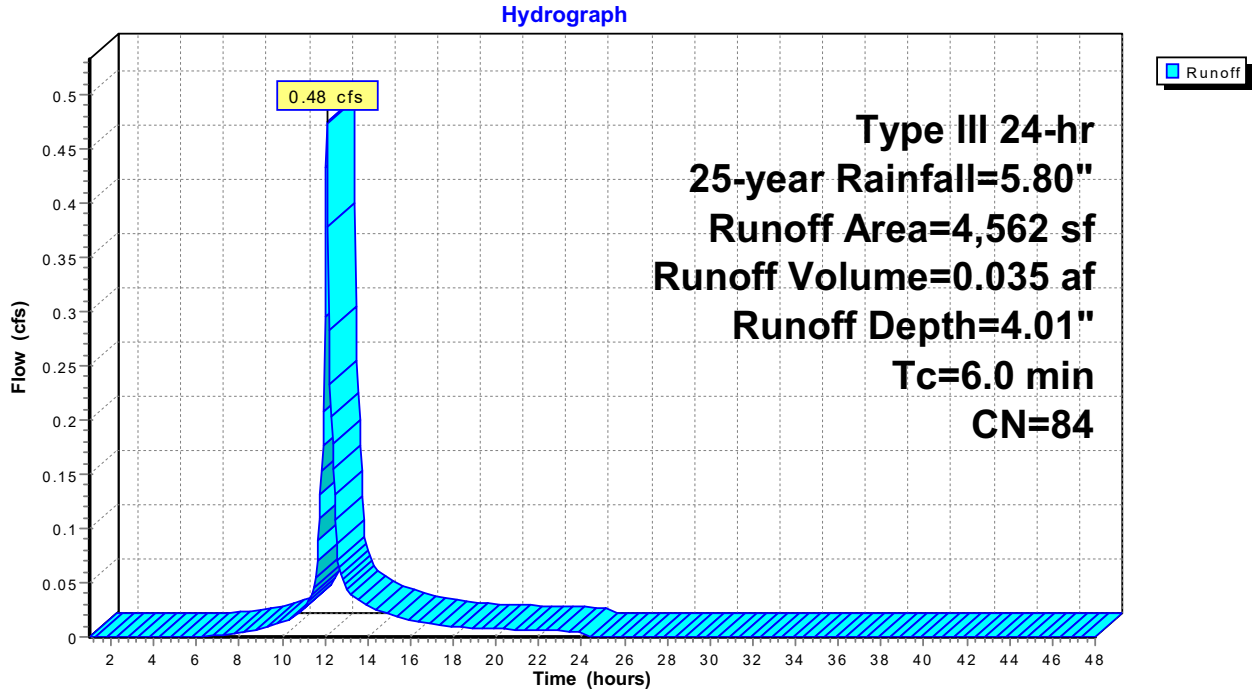
Runoff = 0.48 cfs @ 12.09 hrs, Volume= 0.035 af, Depth= 4.01"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	724	98	A.9/A.10 rear patios
*	356	98	Walkway
*	3,482	80	Lawn/landscaping, HSG D
	4,562	84	Weighted Average
	3,482		76.33% Pervious Area
	1,080		23.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.7S: SC 1.7S



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Summary for Subcatchment 1.8N: Common

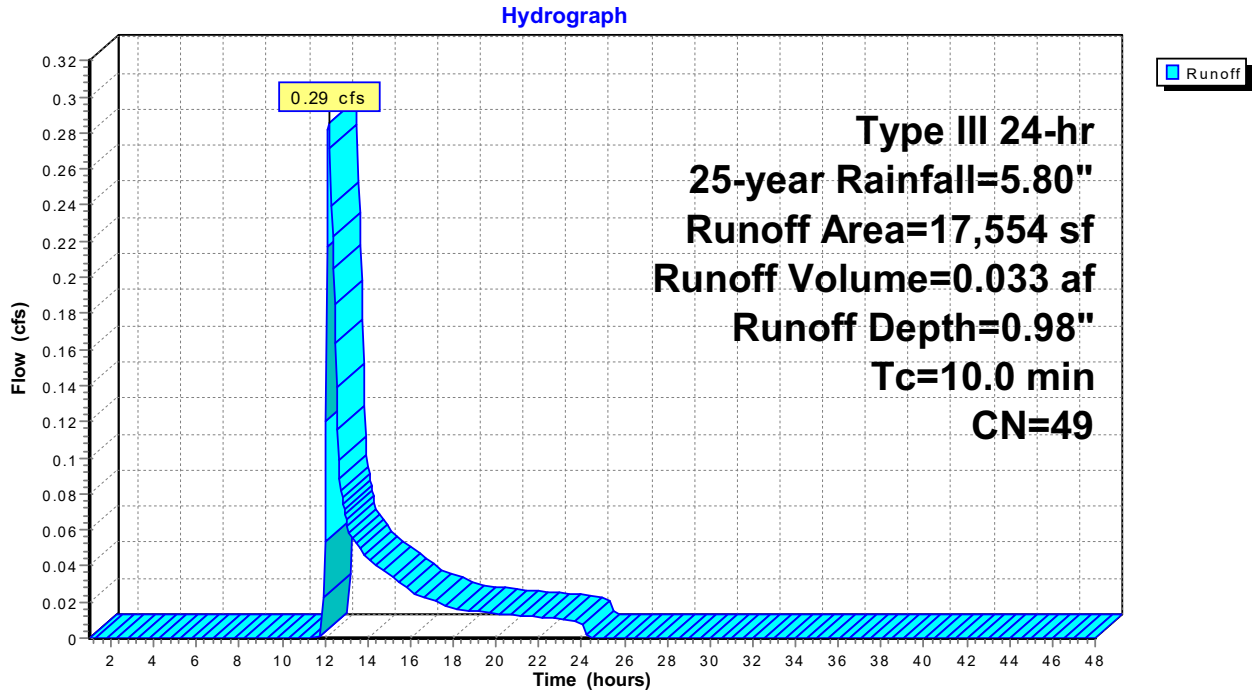
Runoff = 0.29 cfs @ 12.18 hrs, Volume= 0.033 af, Depth= 0.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	2,549	98	Paved walkway
*	472	98	patios
*	16	98	transformer
*	14,517	39	Open space, landscaping, HSG A
	17,554	49	Weighted Average
	14,517		82.70% Pervious Area
	3,037		17.30% Impervious Area

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

Subcatchment 1.8N: Common



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Summary for Subcatchment 1.8S: West Parking Lot

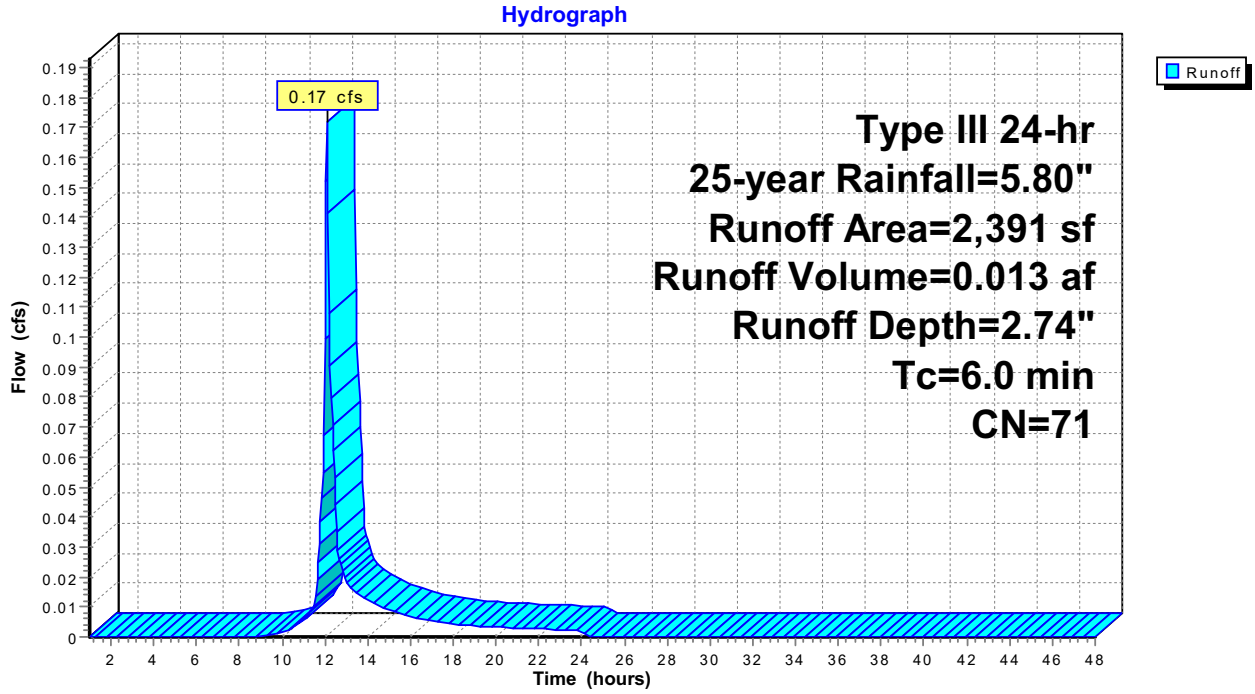
Runoff = 0.17 cfs @ 12.09 hrs, Volume= 0.013 af, Depth= 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	1,037	98	drive aisle
*	278	98	sidewalk
	1,076	39	>75% Grass cover, Good, HSG A
	2,391	71	Weighted Average
	1,076		45.00% Pervious Area
	1,315		55.00% Impervious Area

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

Subcatchment 1.8S: West Parking Lot



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Summary for Subcatchment 1.9N: SC 1.9N

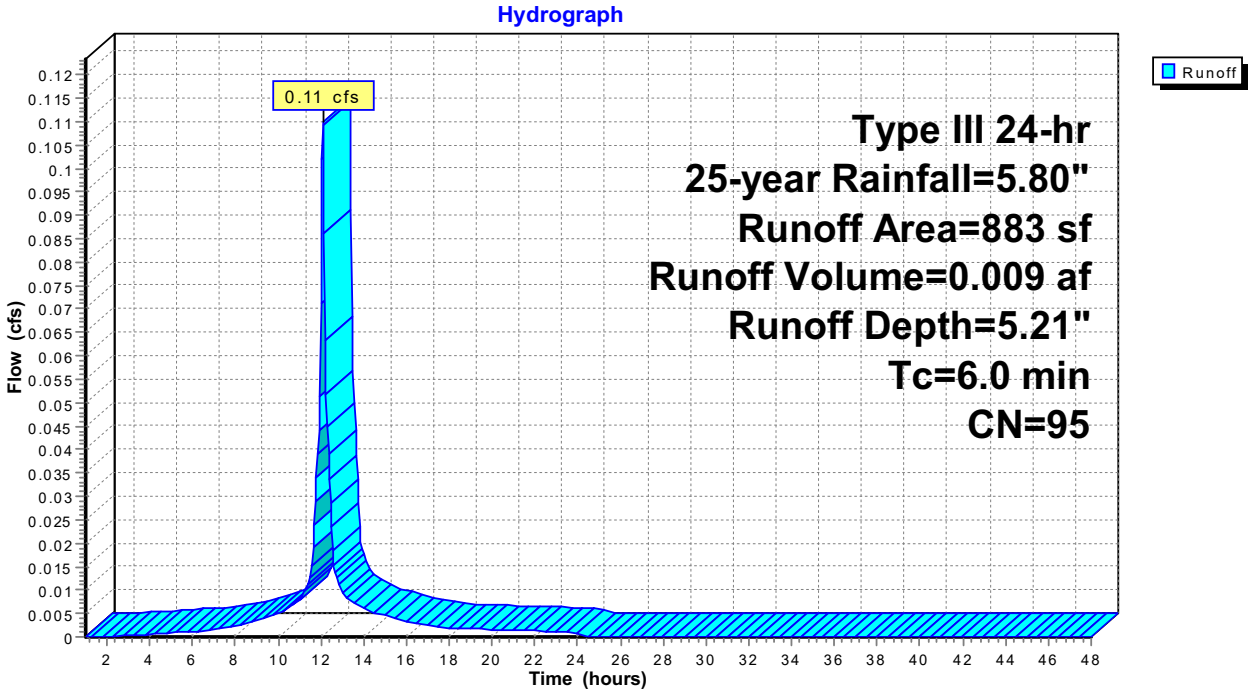
Runoff = 0.11 cfs @ 12.09 hrs, Volume= 0.009 af, Depth= 5.21"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	710	98	Wash Ave
*	123	98	sidewalk
*	50	39	Landscaping/esplanade
	883	95	Weighted Average
	50		5.66% Pervious Area
	833		94.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.9N: SC 1.9N



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Summary for Subcatchment 2.1N: SC 2.1N

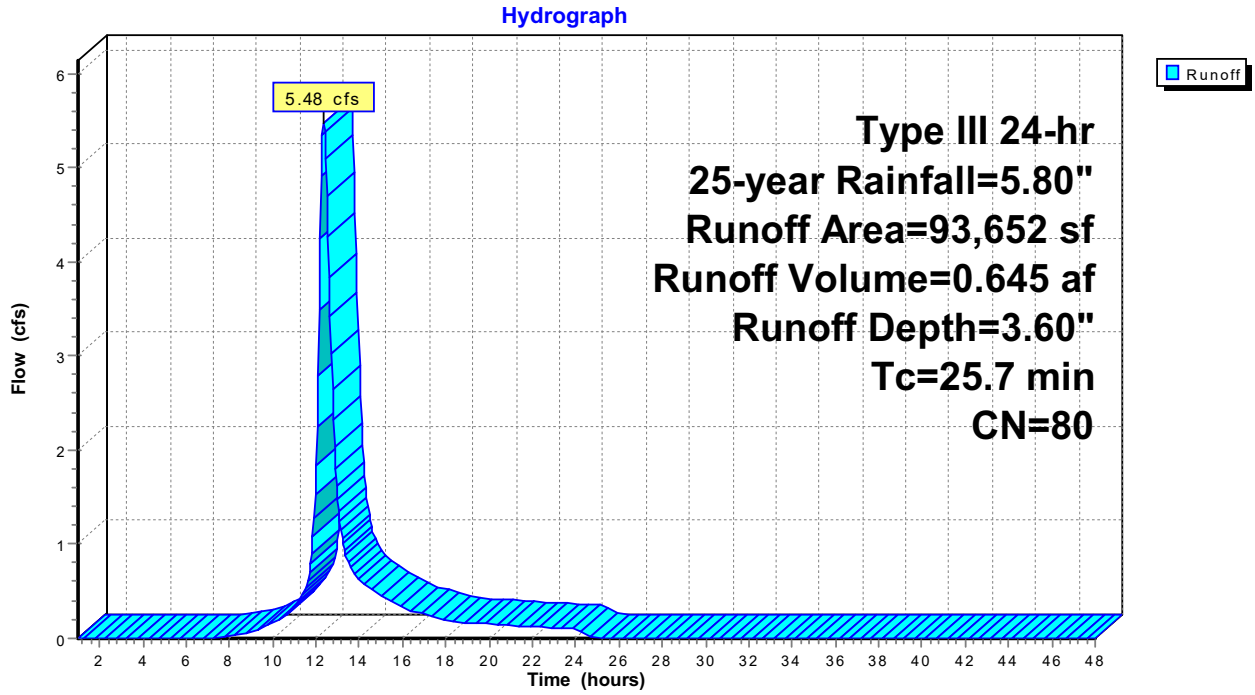
Runoff = 5.48 cfs @ 12.35 hrs, Volume= 0.645 af, Depth= 3.60"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	7,438	80	Roads iside lope
	37,683	77	Woods, Good, HSG D
*	2,842	98	N sidewalk
*	9,017	98	Wash. Ave and S. Conc apron
*	6,794	98	Rooftop and drivew ay
*	414	98	Rooftop
*	21,315	80	Lawns/landscaping, HSG D
	5,316	30	Woods, Good, HSG A
*	2,833	80	Landscaping/open space
	93,652	80	Weighted Average
	74,585		79.64% Pervious Area
	19,067		20.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7					**Direct Entry, Direct input of pre Tc**

Subcatchment 2.1N: SC 2.1N



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Summary for Subcatchment 2.1S: Eastern Parking Lot

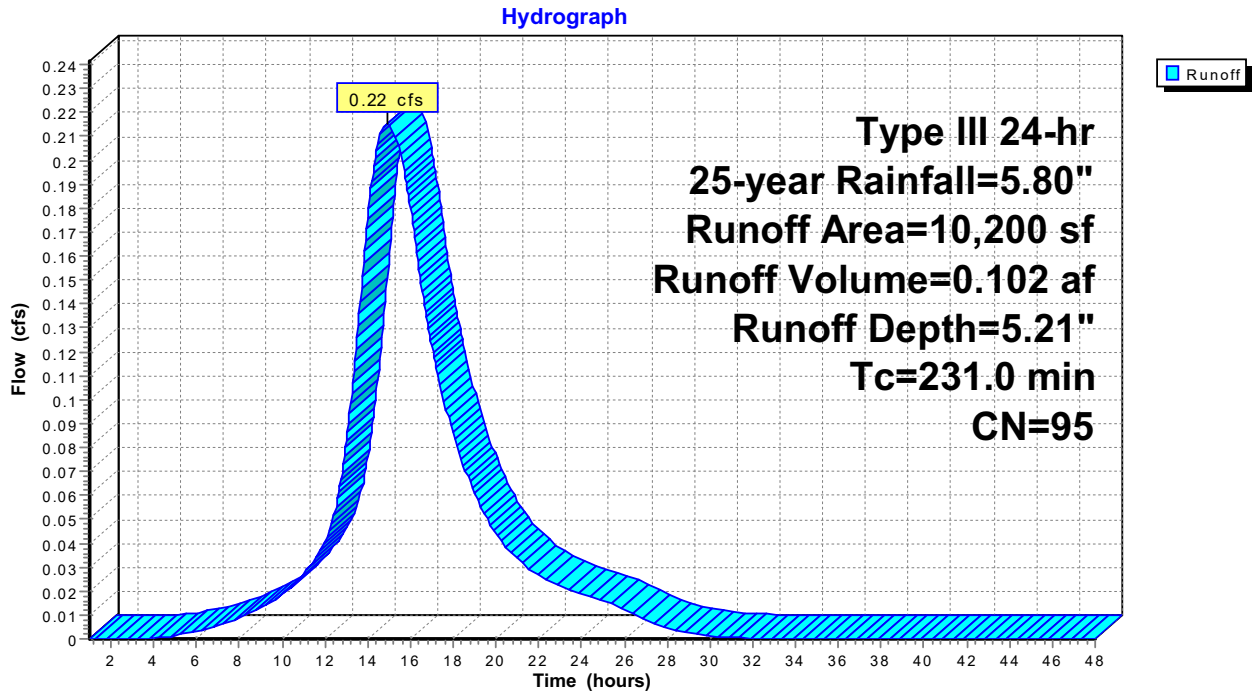
Runoff = 0.22 cfs @ 14.91 hrs, Volume= 0.102 af, Depth= 5.21"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	1,296	98	Porous Horizontal
*	4,187	98	Paved driveaisle
*	857	98	Walkway/patio
*	501	98	Rear walkway/patio
*	180	98	dumpster pad
*	1,134	98	Porous Vertical
*	234	98	Curbing
	1,811	80	>75% Grass cover, Good, HSG D
	10,200	95	Weighted Average
	1,811		17.75% Pervious Area
	8,389		82.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
231.0					**Direct Entry, UNH**

Subcatchment 2.1S: Eastern Parking Lot



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Summary for Subcatchment 2.2S: Developed/nondeveloped area

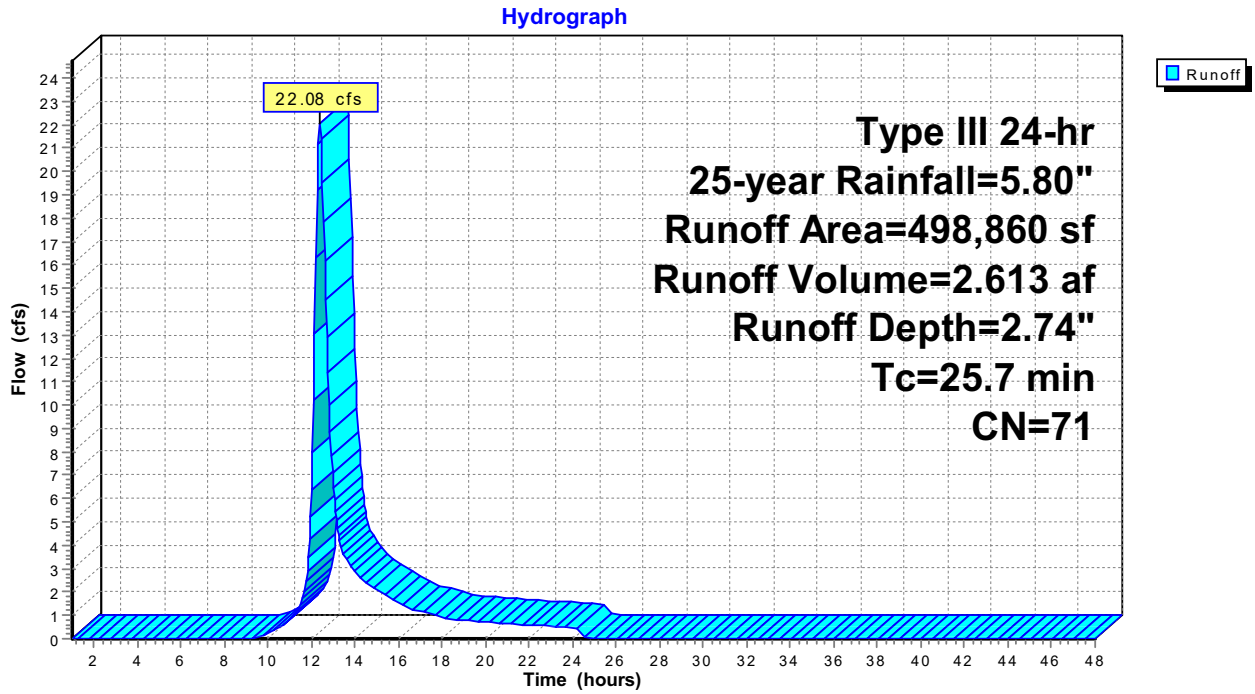
Runoff = 22.08 cfs @ 12.37 hrs, Volume= 2.613 af, Depth= 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	4,589	39	Slope behind patios, HSG A
*	30,826	39	>75% Grass cover, Good, HSG A
*	3,896	98	Roofs/driveways/patios (HSG A)
	24,173	55	Woods, Good, HSG B
	6,557	70	Woods, Good, HSG C
	146,595	70	Woods, Good, HSG C
	240,138	77	Woods, Good, HSG D
*	9,119	80	>75% Grass cover, Good, HSG D
*	3,503	98	Roofs/driveway s/patios (HSG D)
*	5,475	98	Wash Ave
*	3,729	98	Sidewalk
*	7,959	80	Roadside ditch/slope
*	820	80	Landscaping Auburn St
	9,281	39	>75% Grass cover, Good, HSG A
*	1,500	98	8' multiuse new imperv
*	700	98	stone dust
	498,860	71	Weighted Average
	480,057		96.23% Pervious Area
	18,803		3.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7					**Direct Entry, copy from pre**

Subcatchment 2.2S: Developed/nondeveloped area



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Summary for Subcatchment 3.1N: SC 3.1N

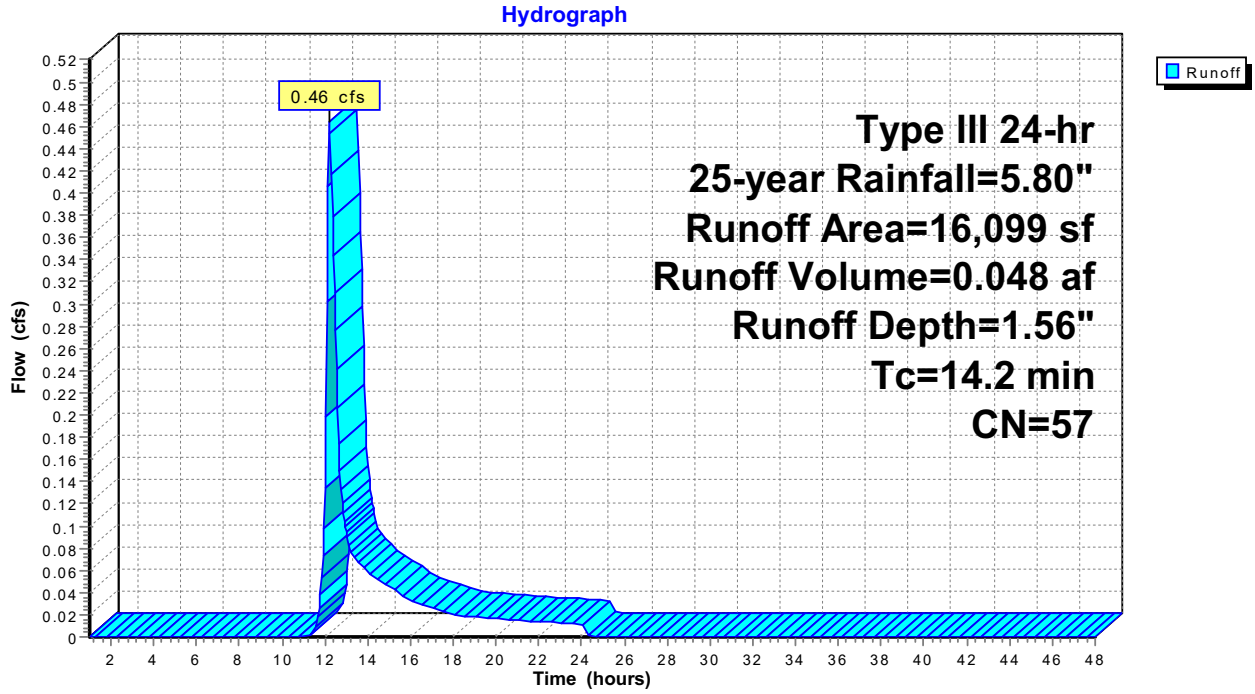
Runoff = 0.46 cfs @ 12.22 hrs, Volume= 0.048 af, Depth= 1.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span=1.00-48.00 hrs, dt=0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
	4,070	30	Woods, Good, HSG A
*	3,619	39	Landscaping/swale, HSG A
	5,115	77	Woods, Good, HSG D
*	3,295	80	Landscaping/slope, HSG D
	16,099	57	Weighted Average
	16,099		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2					**Direct Entry, Direct input of pre Tc**

Subcatchment 3.1N: SC 3.1N



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Summary for Subcatchment 4.1N: 4.1N

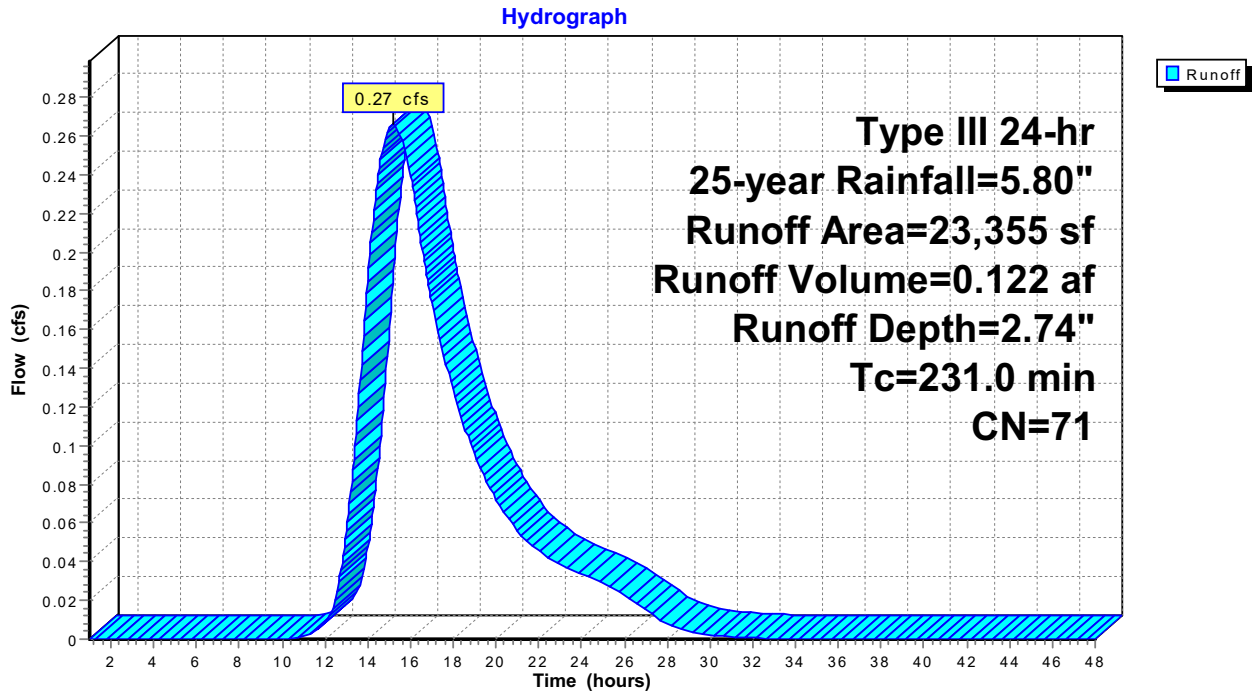
Runoff = 0.27 cfs @ 15.15 hrs, Volume= 0.122 af, Depth= 2.74"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	1,940	98	Curb & Pavement
*	5,213	98	Porous Pavement
*	2,866	98	Patios
*	612	98	Patios
*	16	98	transformer pad
*	185	98	Paved Walkway
*	394	98	Paved Walkway
*	408	98	Patios
*	655	98	Patios
*	128	98	Solid Waste Location
*	112	98	Patios
*	46	98	Paved Walkway
*	10,780	39	Lawn/landscaping, HSG A
	23,355	71	Weighted Average
	10,780		46.16% Pervious Area
	12,575		53.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
231.0					**Direct Entry, UNH**

Subcatchment 4.1N: 4.1N



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Summary for Subcatchment 4.2N: Eastern Parking Lot

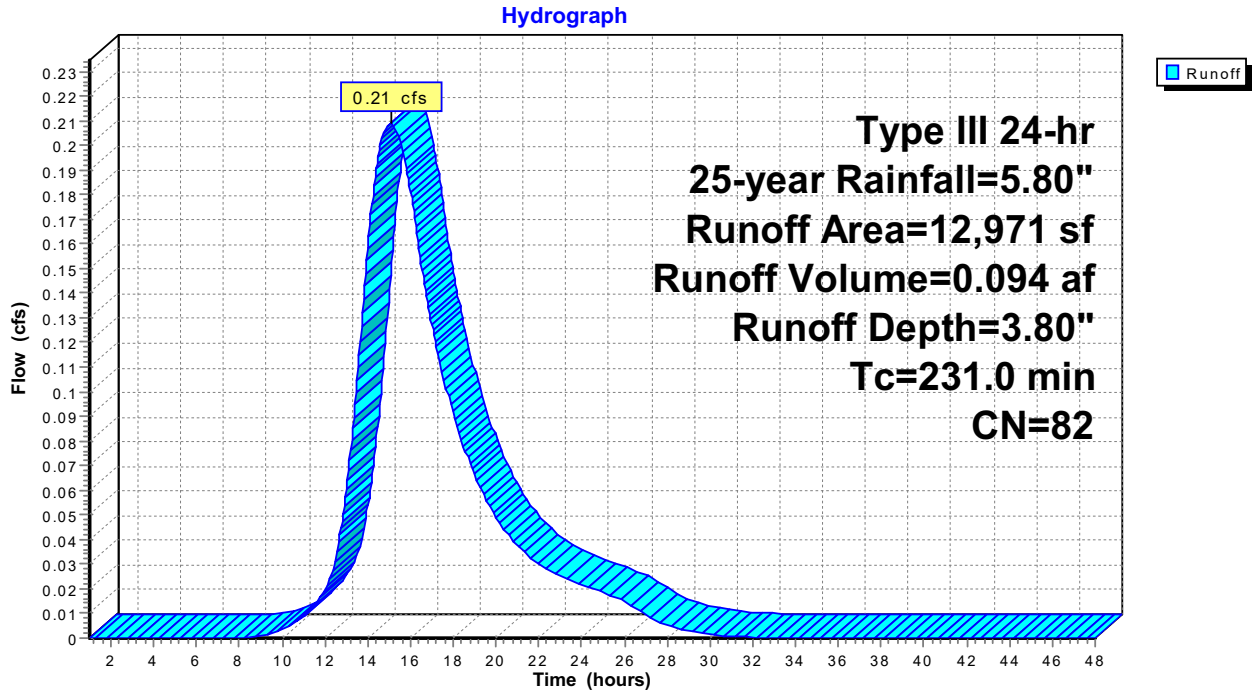
Runoff = 0.21 cfs @ 15.13 hrs, Volume= 0.094 af, Depth= 3.80"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	569	98	Sidewalk
*	2,420	98	Porous pavement
*	6,517	98	Parking lot
*	3,465	39	Landscaping/open space, HSG A
	12,971	82	Weighted Average
	3,465		26.71% Pervious Area
	9,506		73.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
231.0					**Direct Entry, UNH**

Subcatchment 4.2N: Eastern Parking Lot



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Summary for Subcatchment 4.3N: SC 4.3N

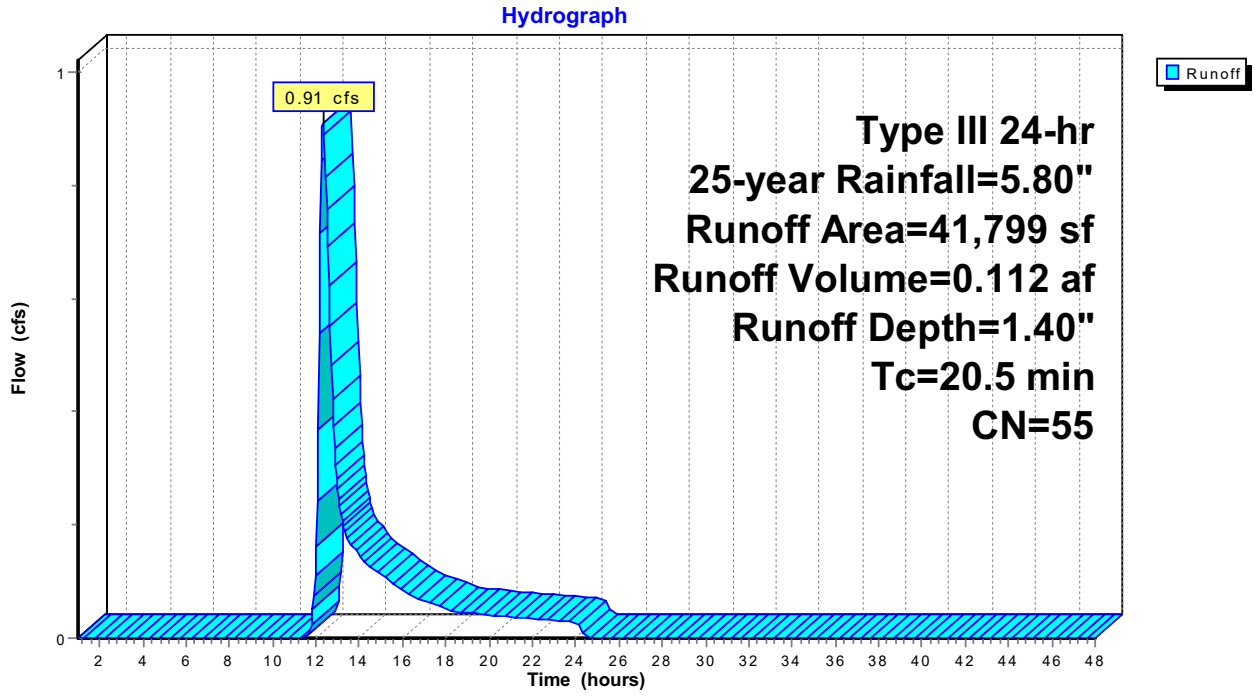
Runoff = 0.91 cfs @ 12.33 hrs, Volume= 0.112 af, Depth= 1.40"

Runoff by SCS TR-20 method, UH= SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
	4,033	80	>75% Grass cover, Good, HSG D
	6,717	77	Woods, Good, HSG D
	18,402	30	Woods, Good, HSG A
*	1,998	39	Landscaping/slope, HSG A
*	10,649	77	Woods, Good, HSG D
	41,799	55	Weighted Average
	41,799		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5					Direct Entry, copy from pre

Subcatchment 4.3N: SC 4.3N



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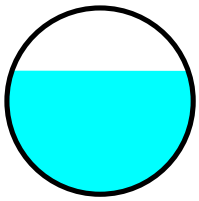
Summary for Reach 1: POI #1 - LAMBERT/WASH INTERSECTION

Inflow Area = 5.932 ac, 50.16% Impervious, Inflow Depth > 2.96" for 25-year event
Inflow = 5.60 cfs @ 12.17 hrs, Volume= 1.461 af
Outflow = 5.35 cfs @ 12.20 hrs, Volume= 1.461 af, Atten = 4%, Lag = 1.8 min

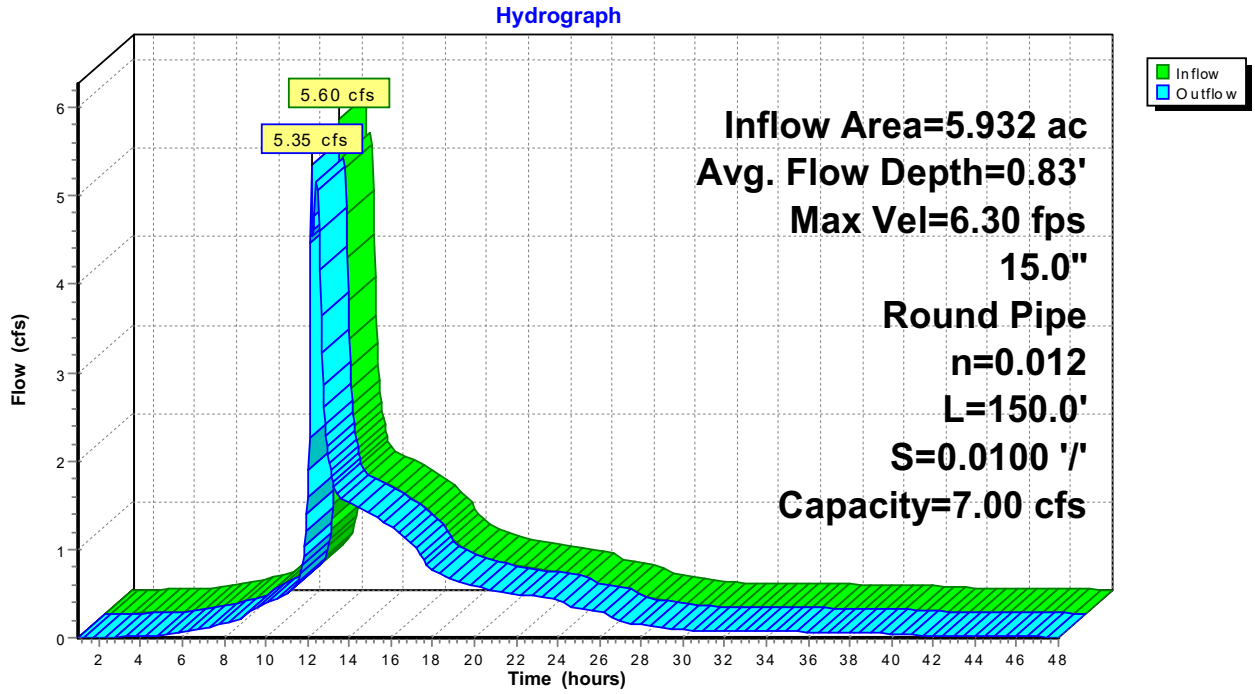
Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Max. Velocity= 6.30 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 2.40 fps, Avg. Travel Time= 1.0 min

Peak Storage= 130 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.83'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 7.00 cfs

15.0" Round Pipe
n= 0.012 Concrete pipe, finished
Length= 150.0' Slope= 0.0100 '/'
Inlet Invert= 87.18', Outlet Invert= 85.68'



Reach 1: POI #1 - LAMBERT/WASH INTERSECTION



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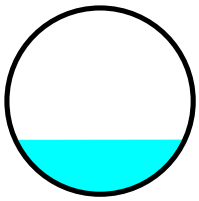
Summary for Reach 1R: N. DITCH CB OUTLET

Inflow Area = 0.673 ac, 39.31% Impervious, Inflow Depth > 2.27" for 25-year event
Inflow = 1.35 cfs @ 12.14 hrs, Volume= 0.127 af
Outflow = 1.34 cfs @ 12.14 hrs, Volume= 0.127 af, Atten = 0%, Lag = 0.2 min

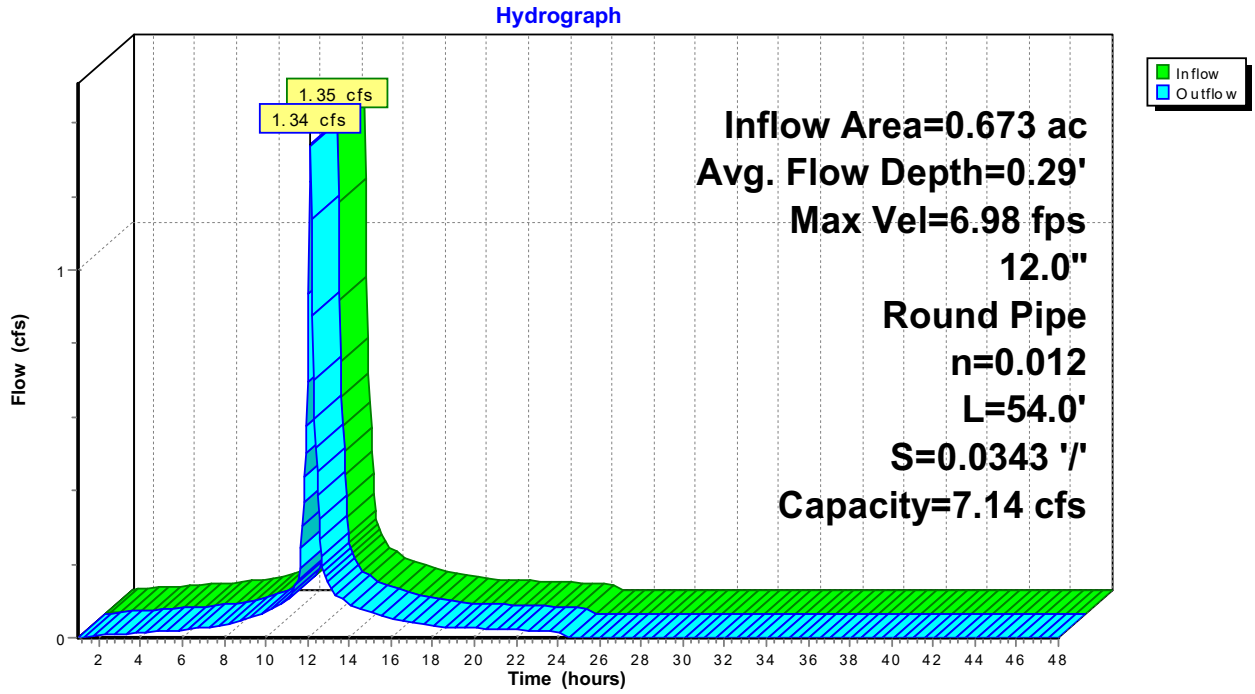
Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Max. Velocity= 6.98 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.41 fps, Avg. Travel Time= 0.4 min

Peak Storage= 10 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.29'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.14 cfs

12.0" Round Pipe
n= 0.012
Length= 54.0' Slope= 0.0343 '/'
Inlet Invert= 87.63', Outlet Invert= 85.78'



Reach 1R: N. DITCH CB OUTLET



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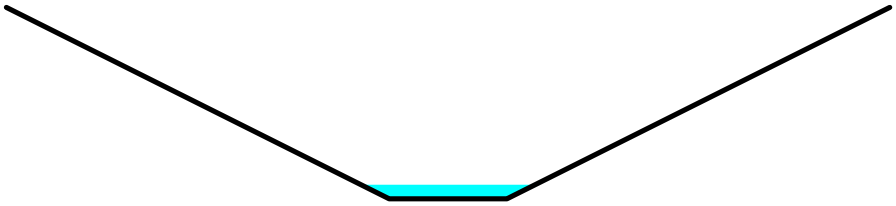
Summary for Reach 2R: N. DITCH

Inflow Area = 0.673 ac, 39.31% Impervious, Inflow Depth > 2.27" for 25-year event
Inflow = 1.44 cfs @ 12.09 hrs, Volume= 0.127 af
Outflow = 1.35 cfs @ 12.14 hrs, Volume= 0.127 af, Atten = 6%, Lag = 3.1 min

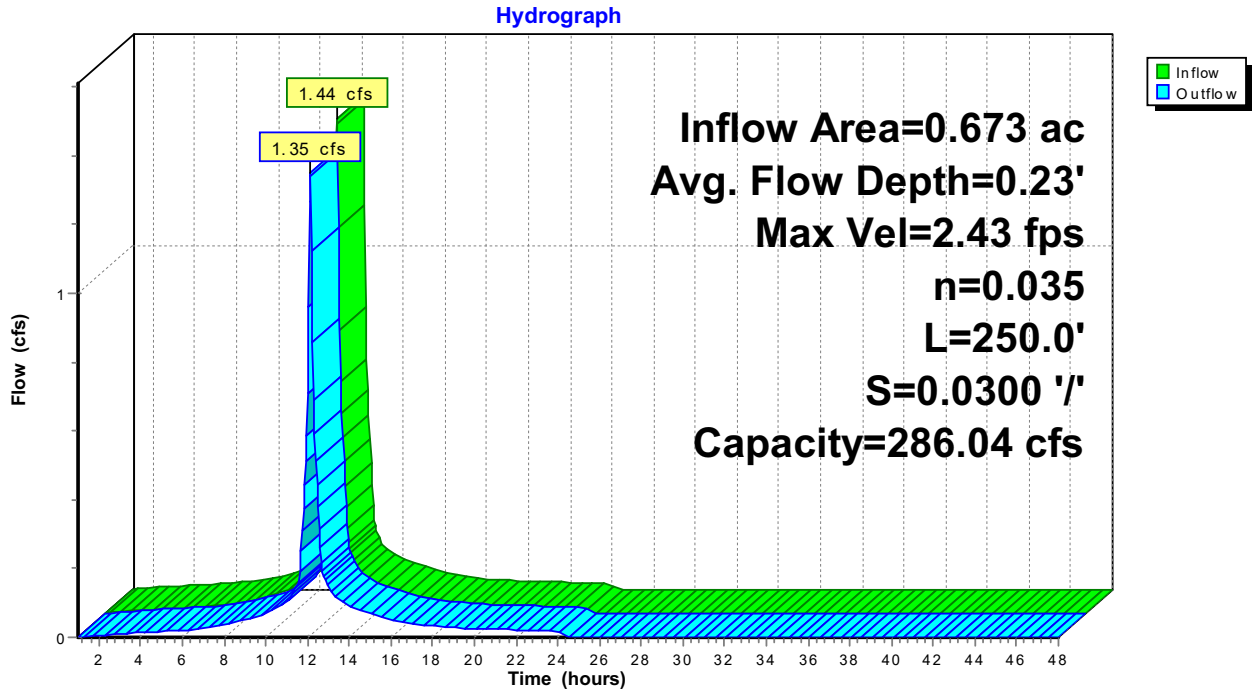
Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Max. Velocity= 2.43 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 0.83 fps, Avg. Travel Time= 5.0 min

Peak Storage= 144 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 3.25' Flow Area= 27.6 sf, Capacity= 286.04 cfs

2.00' x 3.25' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 2.0 '/' Top Width= 15.00'
Length= 250.0' Slope= 0.0300 '/'
Inlet Invert= 107.50', Outlet Invert= 100.00'



Reach 2R: N. DITCH



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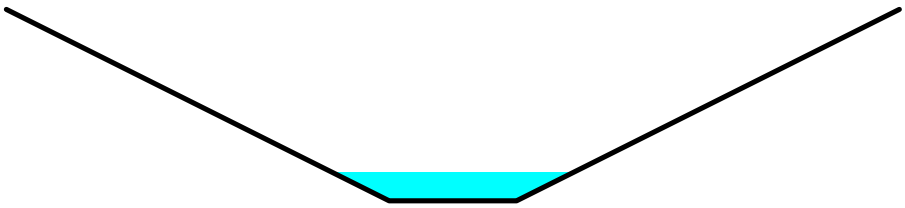
Summary for Reach 3R: S. DITCH

Inflow Area = 4.880 ac, 50.08% Impervious, Inflow Depth > 2.90" for 25-year event
Inflow = 4.66 cfs @ 12.39 hrs, Volume= 1.181 af
Outflow = 4.63 cfs @ 12.42 hrs, Volume= 1.181 af, Atten= 1%, Lag= 1.6 min

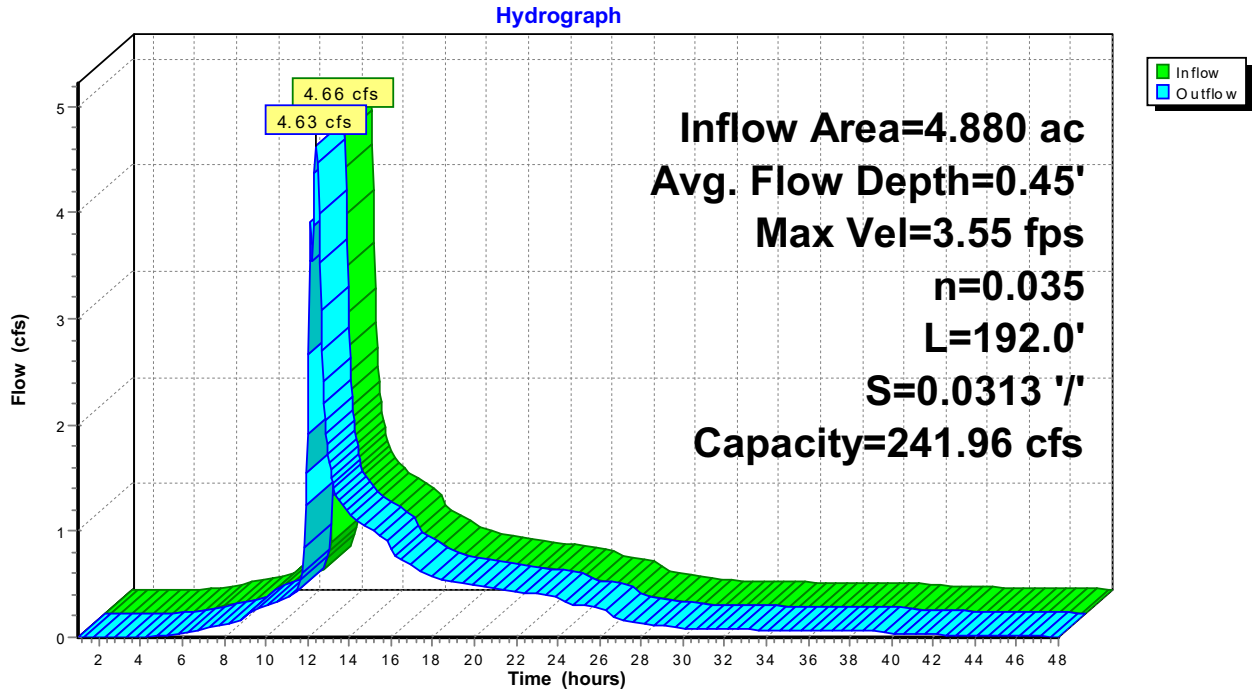
Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.55 fps, Min. Travel Time= 0.9 min
Avg. Velocity= 1.23 fps, Avg. Travel Time= 2.6 min

Peak Storage= 251 cf @ 12.40 hrs
Average Depth at Peak Storage= 0.45'
Bank-Full Depth= 3.00' Flow Area= 24.0 sf, Capacity= 241.96 cfs

2.00' x 3.00' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 2.0 '/' Top Width= 14.00'
Length= 192.0' Slope= 0.0313 '/'
Inlet Invert= 99.00', Outlet Invert= 93.00'



Reach 3R: S. DITCH



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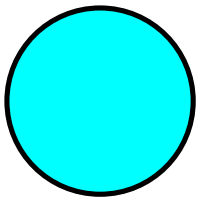
Summary for Reach 4R: WASH. CROSS CULVERT

Inflow Area = 2.150 ac, 20.36% Impervious, Inflow Depth = 3.60" for 25-year event
Inflow = 5.48 cfs @ 12.35 hrs, Volume= 0.645 af
Outflow = 4.16 cfs @ 12.22 hrs, Volume= 0.645 af, Atten = 24%, Lag = 0.0 min

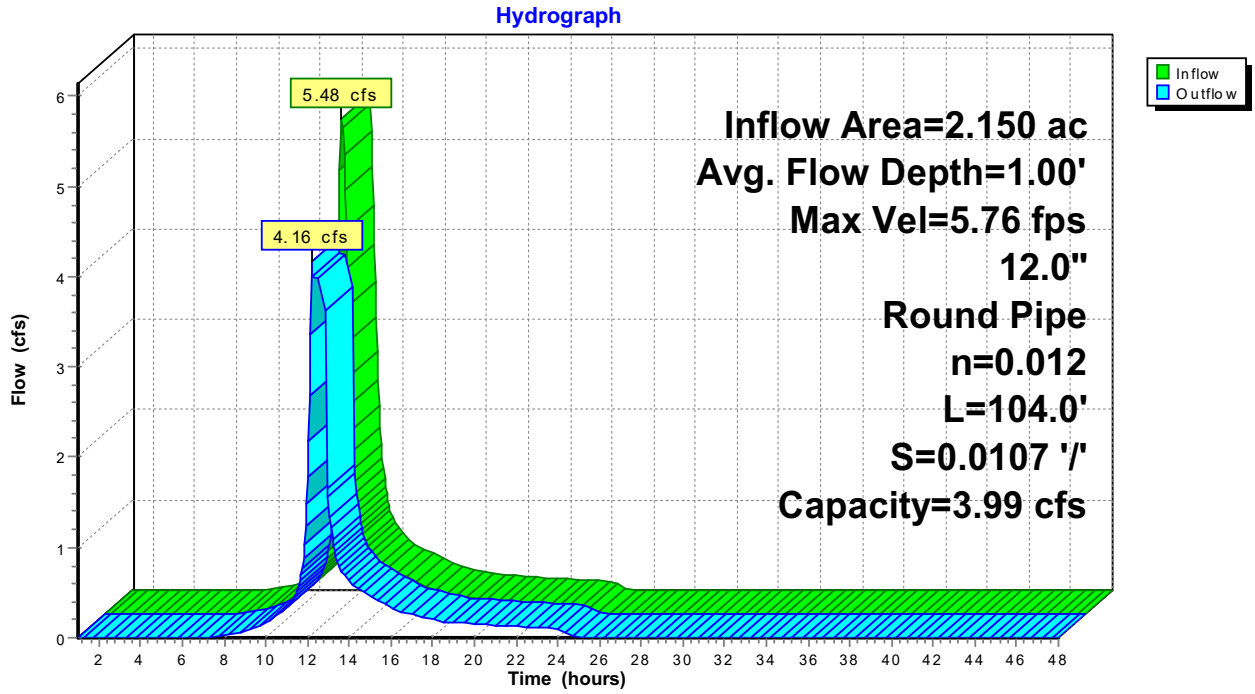
Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Max. Velocity= 5.76 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.65 fps, Avg. Travel Time= 0.7 min

Peak Storage= 82 cf @ 12.25 hrs
Average Depth at Peak Storage= 1.00'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.99 cfs

12.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 104.0' Slope= 0.0107 '/'
Inlet Invert= 113.80', Outlet Invert= 112.69'



Reach 4R: WASH. CROSS CULVERT



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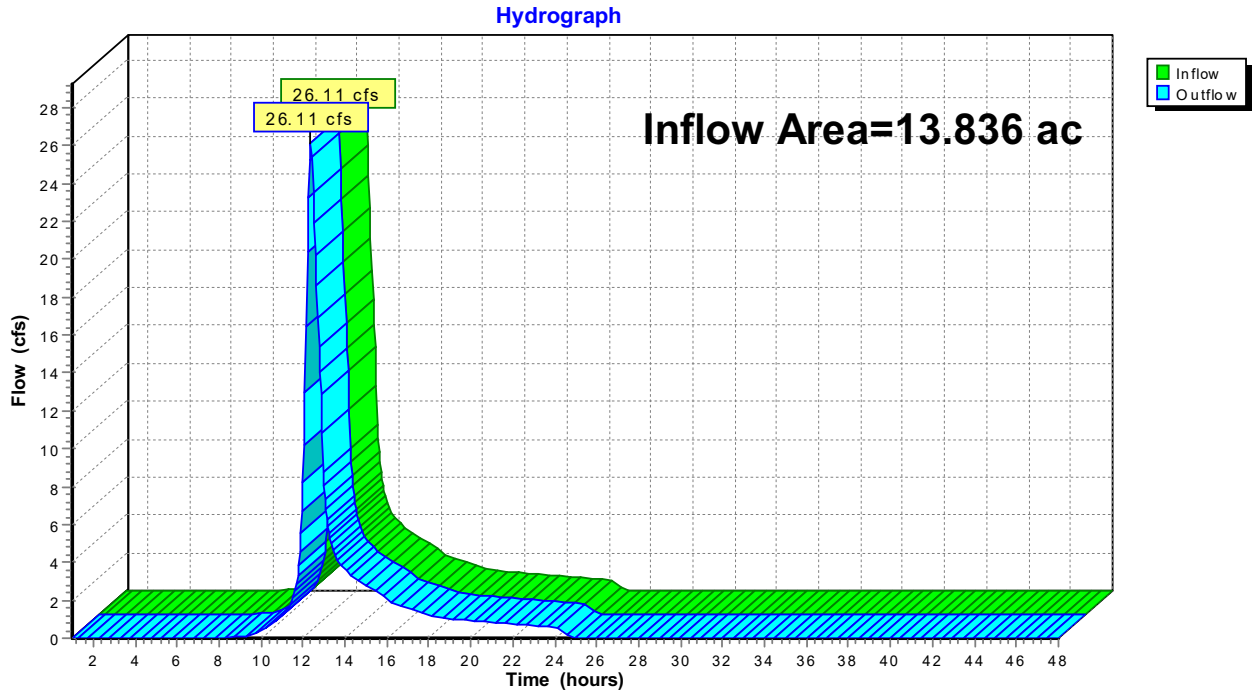
Summary for Reach POI 2: POI #2 - LAMBERT CROSS CULVERT

Inflow Area = 13.836 ac, 7.68% Impervious, Inflow Depth = 2.91" for 25-year event
Inflow = 26.11 cfs @ 12.37 hrs, Volume= 3.359 af
Outflow = 26.11 cfs @ 12.37 hrs, Volume= 3.359 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach POI 2: POI #2 - LAMBERT CROSS CULVERT



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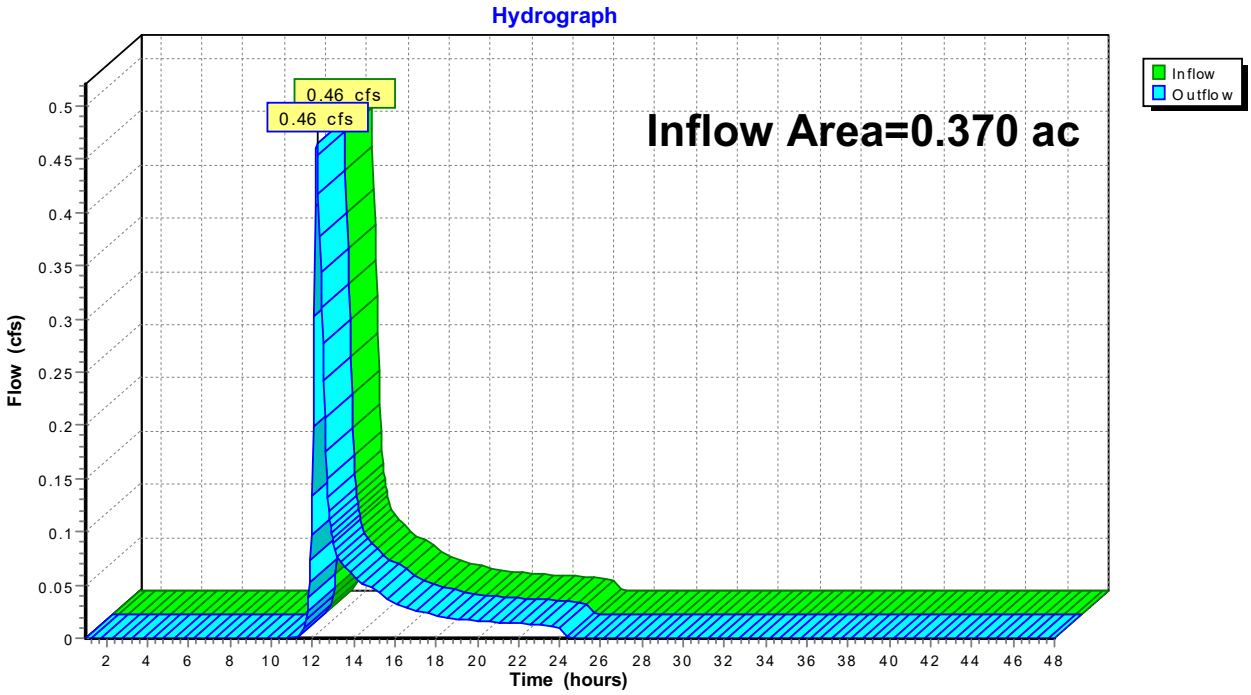
Summary for Reach POI 3: POI #3 - FALMOUTH WETLANDS

Inflow Area = 0.370 ac, 0.00% Impervious, Inflow Depth = 1.56" for 25-year event
Inflow = 0.46 cfs @ 12.22 hrs, Volume= 0.048 af
Outflow = 0.46 cfs @ 12.22 hrs, Volume= 0.048 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach POI 3: POI #3 - FALMOUTH WETLANDS



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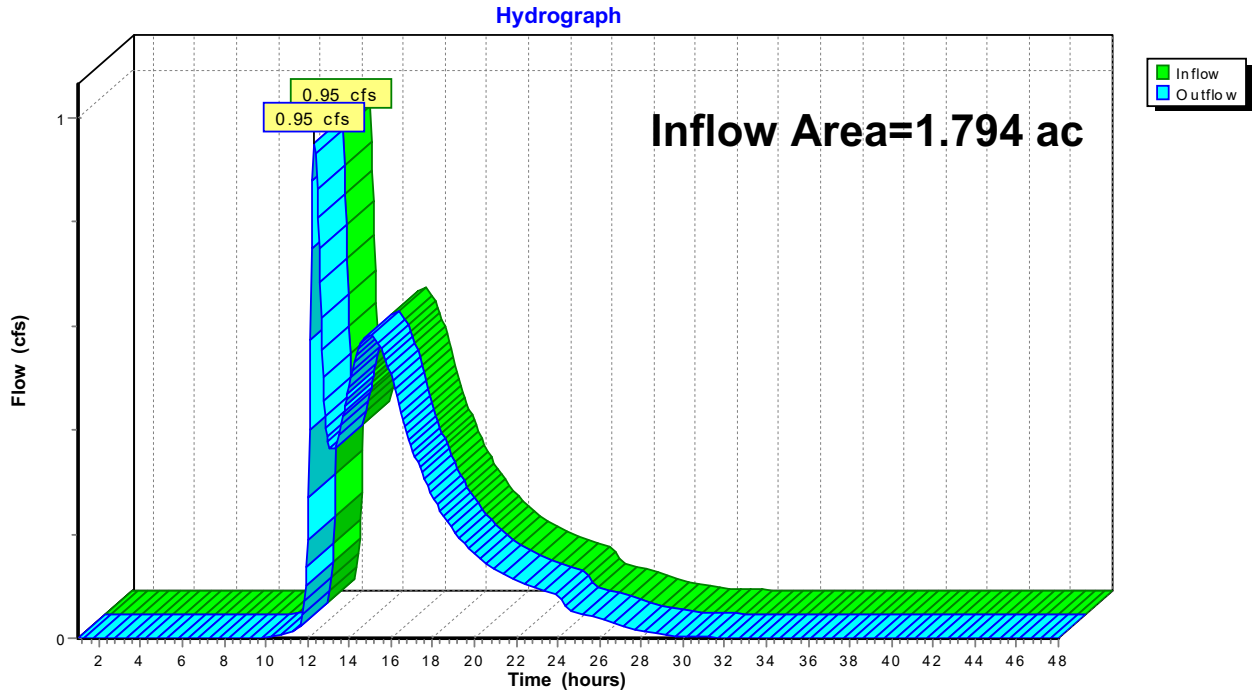
Summary for Reach POI 4: POI #4 - N STREAM

Inflow Area = 1.794 ac, 28.26% Impervious, Inflow Depth = 2.20" for 25-year event
Inflow = 0.95 cfs @ 12.33 hrs, Volume= 0.329 af
Outflow = 0.95 cfs @ 12.33 hrs, Volume= 0.329 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs

Reach POI 4: POI #4 - N STREAM



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Summary for Pond 1P: USSF 1 - StormTech 3500

Inflow Area = 1.017 ac, 60.24% Impervious, Inflow Depth > 3.38" for 25-year event
Inflow = 3.21 cfs @ 12.09 hrs, Volume= 0.287 af
Outflow = 0.86 cfs @ 12.49 hrs, Volume= 0.281 af, Atten = 73%, Lag = 23.8 min
Primary = 0.86 cfs @ 12.49 hrs, Volume= 0.281 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 108.46' @ 12.49 hrs Surf.Area= 5,880 sf Storage= 6,183 cf

Plug-Flow detention time= 559.5 min calculated for 0.281 af (98% of inflow)
Center-of-Mass det. time= 546.2 min (1,312.1-765.9)

Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	2,840 cf	**40.00'W x 49.00'L x 5.50'H Stone**
			10,780 cf Overall - 3,680 cf Embedded = 7,100 cf x 40.0% Voids
#2	105.25'	3,680 cf	**ADS_StormTech MC-3500 d +Cap @ 7.50' L** x 32 Inside# 1
			Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.50'L = 115.0 cf
			Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
#3	103.00'	147 cf	**40.00'W x 49.00'L x 1.50'H Sand**
			2,940 cf Overall x 5.0% Voids
#4	102.00'	779 cf	**40.00'W x 49.00'L x 1.00'H Crushed Stone**
			1,960 cf Overall - 13 cf Embedded = 1,947 cf x 40.0% Voids
#5	102.25'	13 cf	**4.0" Round Underdrain Storage** Inside #4
			L= 150.0'
		7,459 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	102.25'	**1.2" Vert. Underdrain/Orifice** C= 0.600
#2	Primary	108.02'	**6.0" Round Bypass Overflow X 2.00** L= 6.0' Ke= 0.600
			Inlet / Outlet Invert= 108.02' / 107.75' S = 0.0450 '/' Cc = 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=0.86 cfs @ 12.49 hrs HW=108.45' (Free Discharge)
1=Underdrain/Orifice (Orifice Controls 0.09 cfs @ 11.95 fps)
2=Bypass Overflow (Inlet Controls 0.76 cfs @ 2.11 fps)

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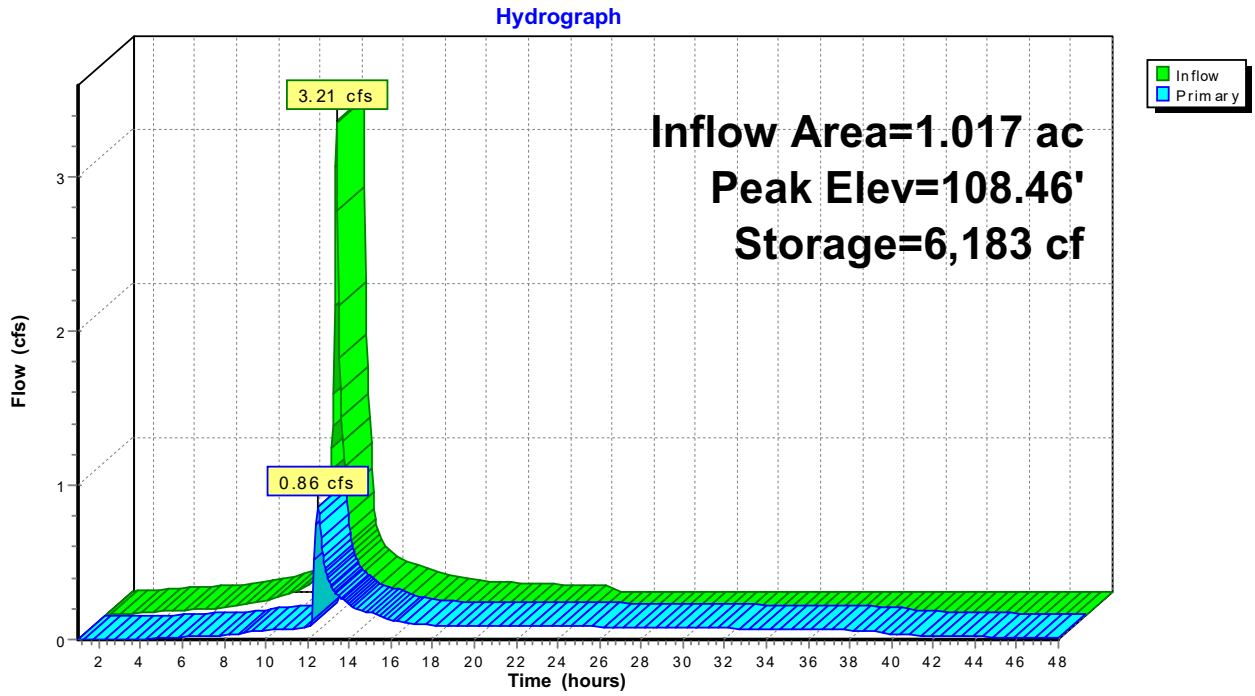
Pond 1P: USSF 1 - StormTech 3500



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Summary for Pond 2P: Pavement Profile/Drainage

Inflow Area = 0.298 ac, 73.29% Impervious, Inflow Depth = 3.80" for 25-year event
Inflow = 0.21 cfs @ 15.13 hrs, Volume= 0.094 af
Outflow = 0.21 cfs @ 15.14 hrs, Volume= 0.094 af, Atten = 0%, Lag = 0.8 min
Primary = 0.21 cfs @ 15.14 hrs, Volume= 0.094 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 108.05' @ 15.14 hrs Surf.Area= 180 sf Storage= 39 cf

Plug-Flow detention time= 6.9 min calculated for 0.094 af (100% of inflow)
Center-of-Mass det. time= 4.4 min (1,023.6 - 1,019.2)

Volume	Invert	Avail.Storage	Storage Description
#1	107.60'	147 cf	**1.33'W x 135.00'L x 2.19'H 6" Trench** 393 cf Overall - 27 cf Embedded = 367 cf x 40.0% Voids
#2	109.79'	243 cf	**18.00'W x 135.00'L x 0.25'H 3" - 3/4" Stone** 608 cf Overall x 40.0% Voids
#3	110.04'	122 cf	**18.00'W x 135.00'L x 1.00'H 12" - Filter MDOT Type D** 2,430 cf Overall x 5.0% Voids
#4	111.04'	321 cf	**18.00'W x 135.00'L x 0.33'H 4" - Choker 1-1/2"** 802 cf Overall x 40.0% Voids
#5	111.37'	160 cf	**18.00'W x 135.00'L x 0.33'H 4" - OGFC** 802 cf Overall x 20.0% Voids
#6	107.85'	27 cf	**6.0" Round 6 SD** Inside #1 L= 135.0'
		1,019 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	107.75'	**8.0" Round 6" Pipe** L= 39.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 107.75' / 107.55' S = 0.0051 '/' Cc = 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.21 cfs @ 15.14 hrs HW=108.05' (Free Discharge)
↳1=6" Pipe (Barrel Controls 0.21 cfs @ 1.99 fps)

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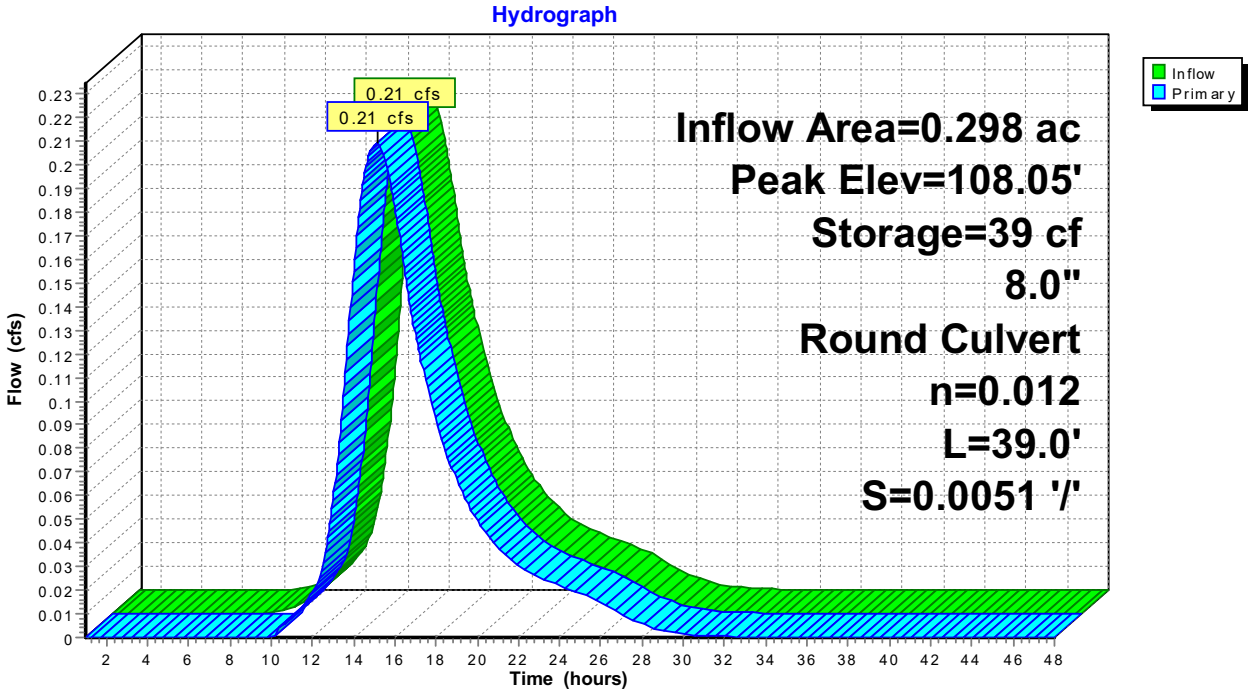
Pond 2P: Pavement Profile/Drainage



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Summary for Pond 3P: Pavement Profile/Drainage

Inflow Area = 0.536 ac, 53.84% Impervious, Inflow Depth = 2.74" for 25-year event
Inflow = 0.27 cfs @ 15.15 hrs, Volume= 0.122 af
Outflow = 0.27 cfs @ 15.15 hrs, Volume= 0.122 af, Atten = 0%, Lag = 0.0 min
Primary = 0.27 cfs @ 15.15 hrs, Volume= 0.122 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 106.81' @ 15.15 hrs Surf.Area= 625 sf Storage= 0 cf

Plug-Flow detention time= 0.0 min calculated for 0.122 af (100% of inflow)
Center-of-Mass det. time= 0.0 min (1,046.5 - 1,046.4)

Volume	Invert	Avail.Storage	Storage Description
#1	106.81'	213 cf	**1.33'W x 470.00'L x 1.00'H 6" Trench** 625 cf Overall - 92 cf Embedded = 533 cf x 40.0% Voids
#2	107.81'	517 cf	**11.00'W x 470.00'L x 0.25'H 3" - 3/4" Stone** 1,293 cf Overall x 40.0% Voids
#3	108.06'	259 cf	**11.00'W x 470.00'L x 1.00'H 12" - Filter MDOT Type D** 5,170 cf Overall x 5.0% Voids
#4	109.06'	1,034 cf	**11.00'W x 470.00'L x 0.50'H 6" - Choker 1-1/2"** 2,585 cf Overall x 40.0% Voids
#5	109.56'	341 cf	**11.00'W x 470.00'L x 0.33'H 4" - OGFC** 1,706 cf Overall x 20.0% Voids
#6	107.06'	92 cf	**6.0" Round 6 SD** Inside #1 L= 470.0'
		2,456 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	102.75'	**12.0" Round 12" Pipe** L= 46.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 102.75' / 102.50' S = 0.0054 '/' Cc = 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=5.63 cfs @ 15.15 hrs HW=106.81' (Free Discharge)
↳1=12" Pipe (Inlet Controls 5.63 cfs @ 7.17 fps)

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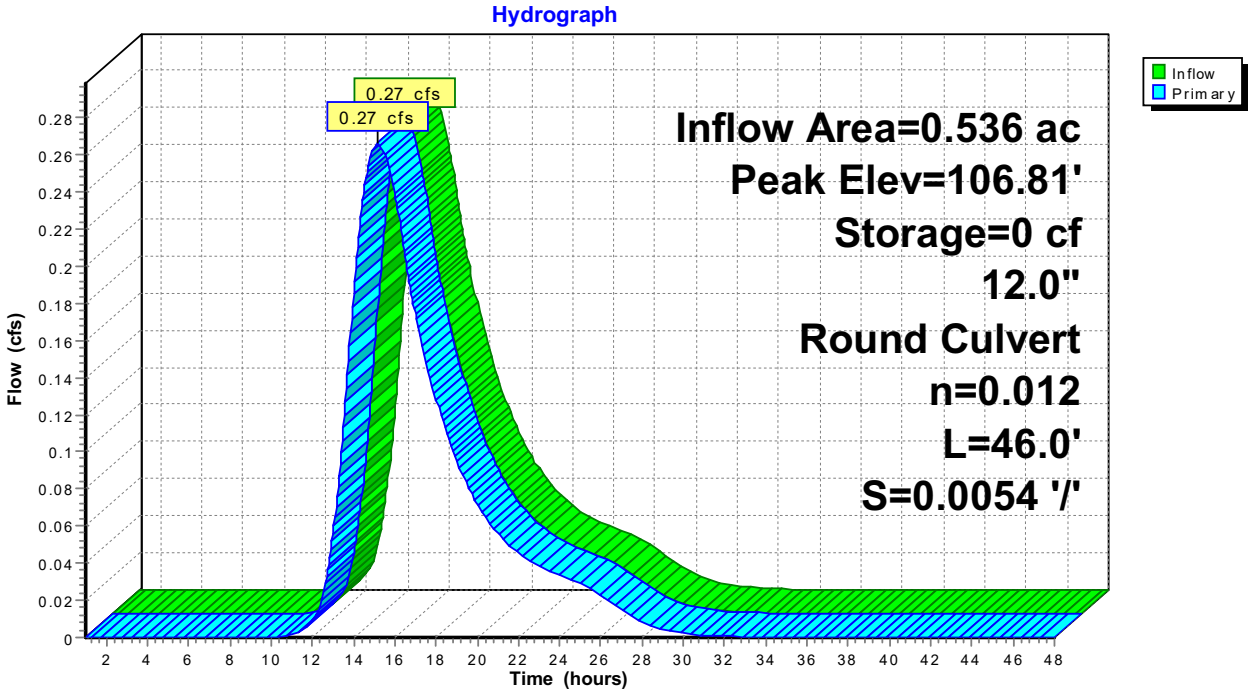
Pond 3P: Pavement Profile/Drainage



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Summary for Pond 4P: Pavement Profile/Drainage

Inflow Area = 0.358 ac, 69.20% Impervious, Inflow Depth = 4.87" for 25-year event
Inflow = 0.31 cfs @ 14.90 hrs, Volume= 0.145 af
Outflow = 0.31 cfs @ 14.90 hrs, Volume= 0.145 af, Atten = 0%, Lag = 0.0 min
Primary = 0.31 cfs @ 14.90 hrs, Volume= 0.145 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 108.68' @ 14.90 hrs Surf.Area= 525 sf Storage= 1 cf

Plug-Flow detention time= 0.1 min calculated for 0.145 af (100% of inflow)
Center-of-Mass det. time= 0.1 min (987.2-987.1)

Volume	Invert	Avail.Storage	Storage Description
#1	108.67'	183 cf	**1.50'W x 350.00'L x 1.00'H 6" Trench** 525 cf Overall - 69 cf Embedded = 456 cf x 40.0% Voids
#2	109.67'	560 cf	**16.00'W x 350.00'L x 0.25'H 3" - 3/4" Stone** 1,400 cf Overall x 40.0% Voids
#3	109.92'	280 cf	**16.00'W x 350.00'L x 1.00'H 12" - Filter MDOT Type D** 5,600 cf Overall x 5.0% Voids
#4	110.92'	1,120 cf	**16.00'W x 350.00'L x 0.50'H 6" - Choker 1-1/2"** 2,800 cf Overall x 40.0% Voids
#5	111.42'	370 cf	**16.00'W x 350.00'L x 0.33'H 4" - OGFC** 1,848 cf Overall x 20.0% Voids
#6	108.92'	69 cf	**6.0" Round 6 SD** Inside #1 L= 350.0'
		2,581 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	107.10'	**8.0" Round 6" Pipe** L= 70.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 107.10' / 106.25' S = 0.0121 '/' Cc = 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=1.48 cfs @ 14.90 hrs HW=108.68' (Free Discharge)
↳1=6" Pipe (Inlet Controls 1.48 cfs @ 4.24 fps)

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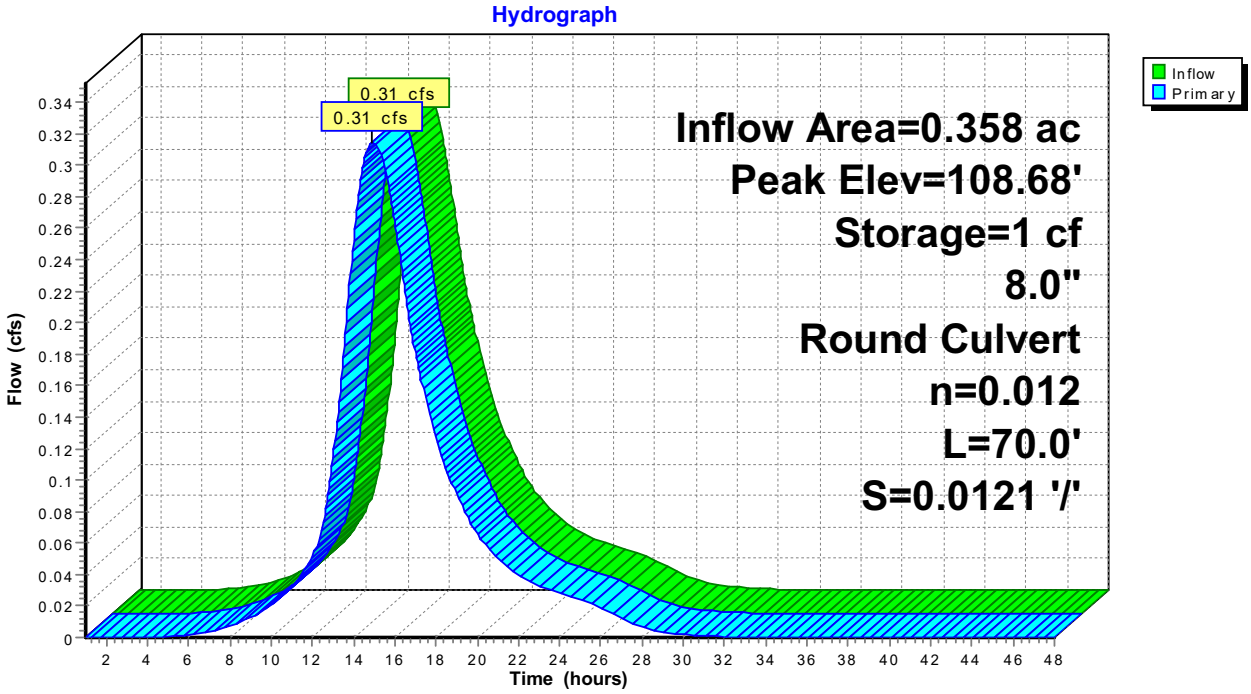
Pond 4P: Pavement Profile/Drainage



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Summary for Pond 5P: Pavement Profile/Drainage

Inflow Area = 0.281 ac, 81.51% Impervious, Inflow Depth = 4.22" for 25-year event
Inflow = 0.22 cfs @ 15.11 hrs, Volume= 0.099 af
Outflow = 0.22 cfs @ 15.11 hrs, Volume= 0.099 af, Atten = 0%, Lag = 0.0 min
Primary = 0.22 cfs @ 15.11 hrs, Volume= 0.099 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 104.67' @ 15.11 hrs Surf.Area= 188 sf Storage= 0 cf

Plug-Flow detention time= 0.0 min calculated for 0.099 af (100% of inflow)
Center-of-Mass det. time= 0.0 min (1,007.9 - 1,007.9)

Volume	Invert	Avail.Storage	Storage Description
#1	104.67'	65 cf	**1.50'W x 125.00'L x 1.00'H 6" Underdrained Trench** 188 cf Overall - 25 cf Embedded = 163 cf x 40.0% Voids
#2	105.67'	225 cf	**18.00'W x 125.00'L x 0.25'H 3" - 3/4" Stone** 563 cf Overall x 40.0% Voids
#3	105.92'	113 cf	**18.00'W x 125.00'L x 1.00'H 12" - Filter MDOT Type D** 2,250 cf Overall x 5.0% Voids
#4	106.92'	450 cf	**18.00'W x 125.00'L x 0.50'H 6" - Choker 1-1/2"** 1,125 cf Overall x 40.0% Voids
#5	107.42'	148 cf	**18.00'W x 125.00'L x 0.33'H 4" - OGFC** 742 cf Overall x 20.0% Voids
#6	104.92'	25 cf	**6.0" Round 4 SD** Inside #1 L= 125.0'
		1,026 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	101.35'	**12.0" Round 12" Pipe** L= 32.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 101.35' / 101.25' S = 0.0031 '/' Cc = 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=5.01 cfs @ 15.11 hrs HW=104.67' (Free Discharge)
↳1=12" Pipe (Inlet Controls 5.01 cfs @ 6.38 fps)

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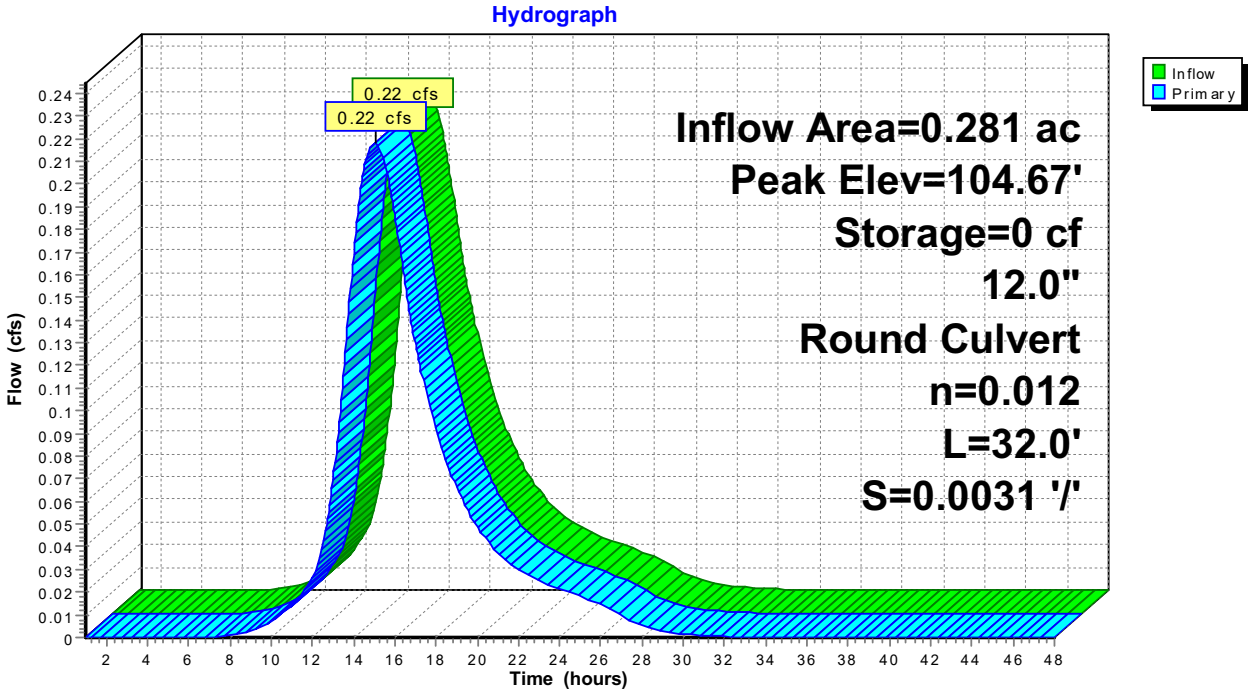
Pond 5P: Pavement Profile/Drainage



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Summary for Pond 6P: USSF 2 - StormTech 3500

Inflow Area = 1.261 ac, 60.39% Impervious, Inflow Depth > 4.08" for 25-year event
Inflow = 5.06 cfs @ 12.09 hrs, Volume= 0.429 af
Outflow = 1.73 cfs @ 12.42 hrs, Volume= 0.418 af, Atten= 66%, Lag= 19.3 min
Primary = 1.73 cfs @ 12.42 hrs, Volume= 0.418 af

Routing by Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 105.07' @ 12.42 hrs Surf.Area= 6,841 sf Storage= 7,654 cf

Plug-Flow detention time= 251.7 min calculated for 0.418 af (97% of inflow)
Center-of-Mass det. time= 237.0 min (1,010.3 - 773.3)

Volume	Invert	Avail.Storage	Storage Description
#1	101.00'	3,081 cf	**35.08'W x 65.00'L x 5.50'H Stone** 12,541 cf Overall - 4,839 cf Embedded = 7,702 cf x 40.0% Voids
#2	101.75'	4,839 cf	**ADS_StormTech MC-3500 d +Cap @ 7.50' L** x 40 Inside# 1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.50'L = 115.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 40 Chambers in 8 Rows Cap Storage= +14.9 cf x 2 x 8 rows = 238.4 cf
#3	99.50'	171 cf	**35.08'W x 65.00'L x 1.50'H Sand** 3,420 cf Overall x 5.0% Voids
#4	98.50'	907 cf	**35.08'W x 65.00'L x 1.00'H Crushed Stone** 2,280 cf Overall - 1,373 cf Embedded = 2,267 cf x 40.0% Voids
#5	99.00'	13 cf	**4.0" Round Underdrain Storage** Inside #4 L= 150.0'
		9,011 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	99.00'	**2.1" Vert. Underdrain/Orifice** C= 0.600
#2	Primary	104.52'	**6.0" Round Bypass Overflow X 3.00** L= 7.0' Ke= 0.600 Inlet / Outlet Invert= 104.52' / 103.75' S= 0.1100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.72 cfs @ 12.42 hrs HW=105.06' (Free Discharge)
1=Underdrain/Orifice (Orifice Controls 0.28 cfs @ 11.77 fps)
2=Bypass Overflow (Inlet Controls 1.44 cfs @ 2.44 fps)

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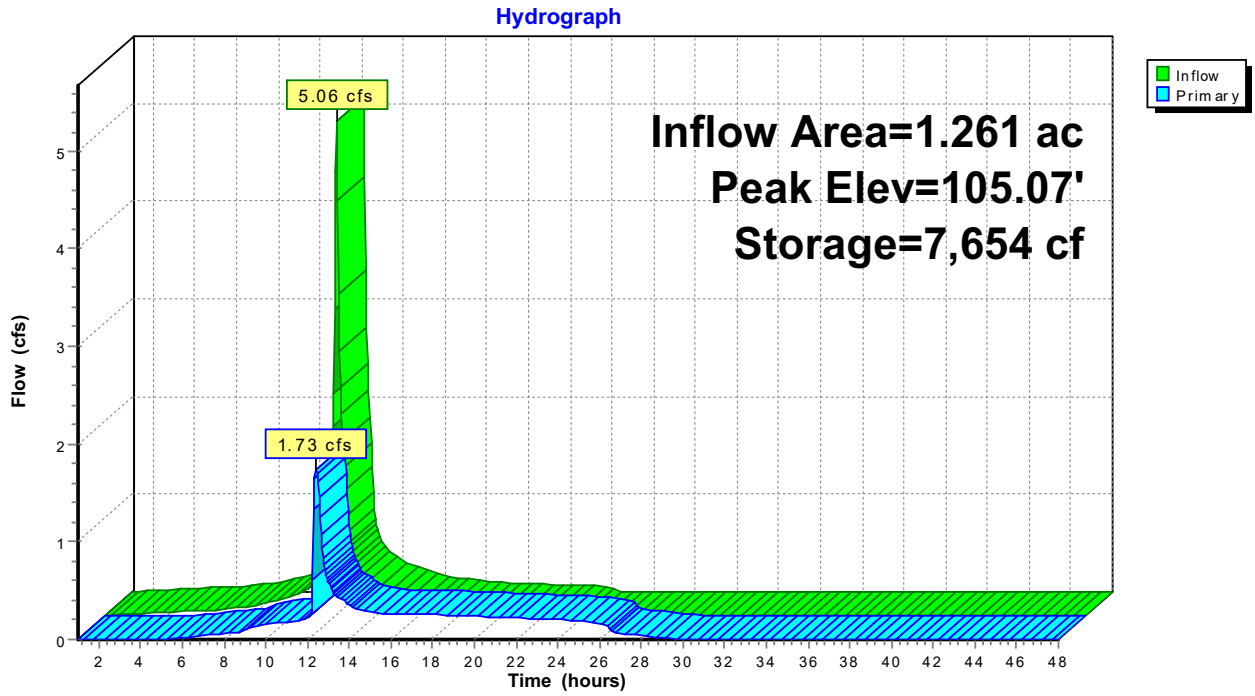
Pond 6P: USSF 2 - StormTech 3500



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Summary for Pond 7P: 6+00 Rain Garden

Inflow Area = 0.432 ac, 68.41% Impervious, Inflow Depth = 4.18" for 25-year event
Inflow = 1.96 cfs @ 12.09 hrs, Volume= 0.151 af
Outflow = 1.96 cfs @ 12.10 hrs, Volume= 0.151 af, Atten = 0%, Lag = 0.6 min
Primary = 1.96 cfs @ 12.10 hrs, Volume= 0.151 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 109.74' @ 12.10 hrs Surf.Area= 478 sf Storage= 393 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 10.4 min (799.7 - 789.3)

Volume	Invert	Avail.Storage	Storage Description
#1	108.00'	982 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	106.50'	16 cf	**Soil Filter/Loam Topsoil (Prismatic)** Listed below (Recalc)
			162 cf Overall x 10.0% Voids
		998 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
108.00	108	0	0
109.00	213	161	161
110.00	424	319	479
110.25	450	109	588
111.00	600	394	982

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
106.50	108	0	0
108.00	108	162	162

Device	Routing	Invert	Outlet Devices
#1	Primary	105.50'	**2.0" Round Culvert** L= 10.0' Ke= 0.600
			Inlet / Outlet Invert= 105.50' / 105.35' S= 0.0150 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.02 sf
#2	Device 1	106.50'	**0.13 cfs Exfiltration when above 106.50'**
#3	Primary	109.50'	**18.0" Horiz. Beehive Overflow** C= 0.600
			Limited to weir flow at low heads
#4	Primary	109.75'	**5.0' long (Profile 1) Broad-Crested Rectangular Weir**
			Head (feet) 0.49 0.98 1.48
			Coef. (English) 2.92 3.37 3.59

Primary OutFlow Max=1.96 cfs @ 12.10 hrs HW=109.74' (Free Discharge)
- **1=Culvert** (Passes 0.13 cfs of 0.17 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.13 cfs)
- **3=Beehive Overflow** (Weir Controls 1.83 cfs @ 1.61 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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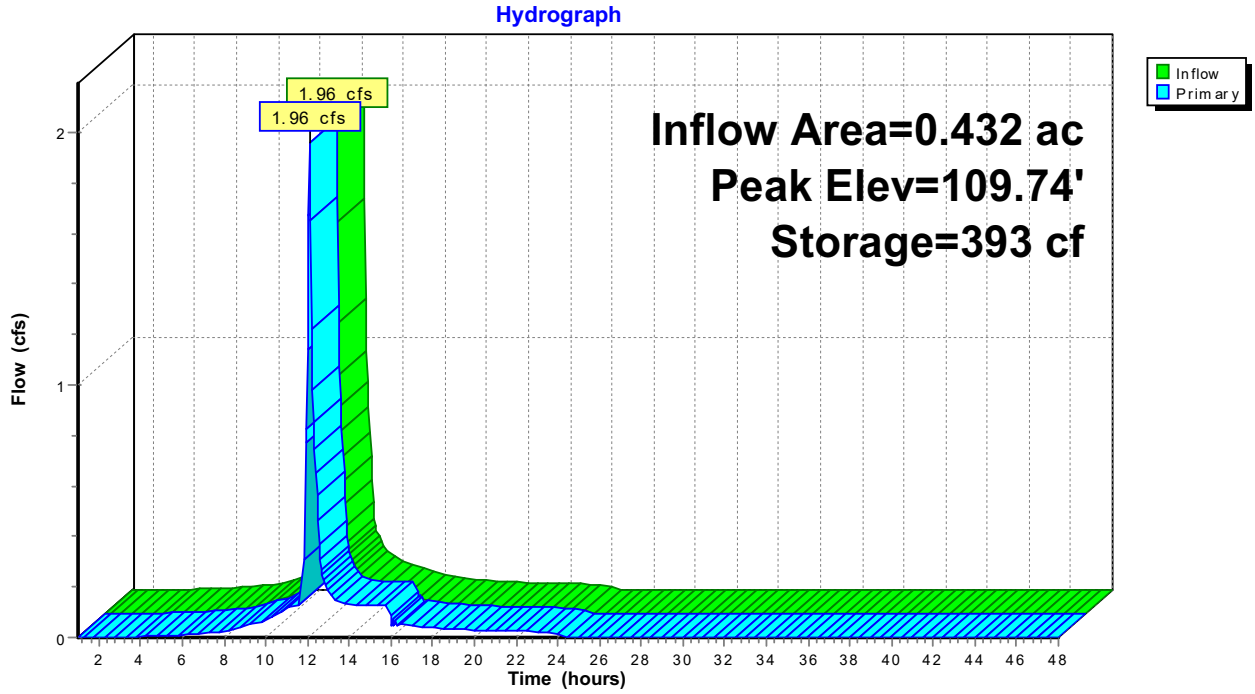
Pond 7P: 6+00 Rain Garden



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Summary for Pond 8P: Pavement Profile/Drainage

Inflow Area = 0.234 ac, 82.25% Impervious, Inflow Depth = 5.21" for 25-year event
Inflow = 0.22 cfs @ 14.91 hrs, Volume= 0.102 af
Outflow = 0.22 cfs @ 15.01 hrs, Volume= 0.100 af, Atten = 0%, Lag = 5.7 min
Primary = 0.22 cfs @ 15.01 hrs, Volume= 0.100 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 112.02' @ 15.01 hrs Surf.Area= 5,041 sf Storage= 346 cf

Plug-Flow detention time= 61.7 min calculated for 0.100 af (98% of inflow)
Center-of-Mass det. time= 49.2 min (1,022.6 - 973.4)

Volume	Invert	Avail.Storage	Storage Description
#1	110.67'	68 cf	**1.33'W x 135.00'L x 1.00'H Trench** 180 cf Overall - 10 cf Embedded = 170 cf x 40.0% Voids
#2	111.67'	243 cf	**49.30'W x 49.30'L x 0.25'H 3" - 3/4" Stone** 608 cf Overall x 40.0% Voids
#3	111.92'	243 cf	**49.30'W x 49.30'L x 1.00'H 12" - Filter MDOT Type D** 2,430 cf Overall x 10.0% Voids
#4	112.92'	486 cf	**49.30'W x 49.30'L x 0.50'H 6" - Choker 1-1/2"** 1,215 cf Overall x 40.0% Voids
#5	113.42'	160 cf	**49.30'W x 49.30'L x 0.33'H 4" - OGFC** 802 cf Overall x 20.0% Voids
#6	110.92'	10 cf	**6.0" Round 4 SD** Inside #1 L= 49.3' S= 0.0010 '/'
		1,210 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	111.67'	**6.0" Round 6" Pipe** L= 5.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 111.67' / 111.62' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.22 cfs @ 15.01 hrs HW=112.02' (Free Discharge)
↳1=6" Pipe (Barrel Controls 0.22 cfs @ 2.05 fps)

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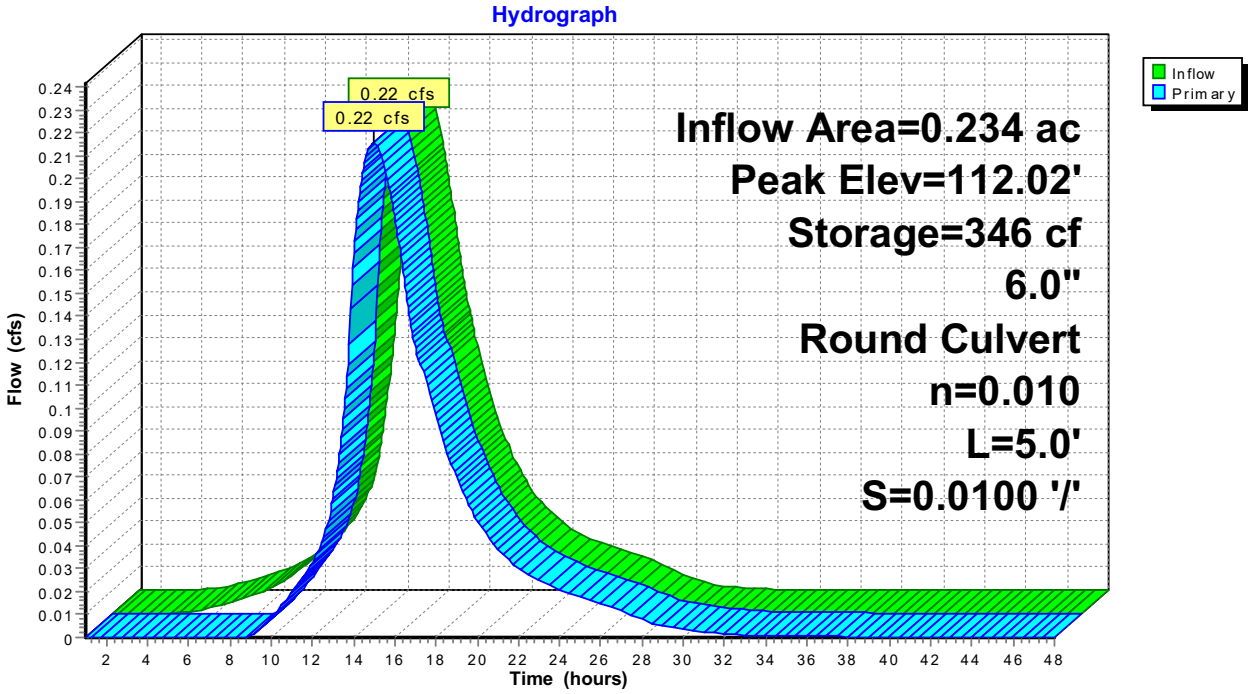
Pond 8P: Pavement Profile/Drainage



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Summary for Pond 9P: 4+25 Rain Garden

Inflow Area = 0.226 ac, 68.34% Impervious, Inflow Depth = 3.60" for 25-year event
Inflow = 0.93 cfs @ 12.09 hrs, Volume= 0.068 af
Outflow = 0.93 cfs @ 12.10 hrs, Volume= 0.068 af, Atten= 1%, Lag= 0.7 min
Primary = 0.93 cfs @ 12.10 hrs, Volume= 0.068 af

Routing by Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 104.65' @ 12.10 hrs Surf.Area= 432 sf Storage= 256 cf

Plug-Flow detention time= 66.9 min calculated for 0.068 af (100% of inflow)
Center-of-Mass det. time= 67.2 min (882.8 - 815.5)

Volume	Invert	Avail.Storage	Storage Description
#1	103.25'	1,050 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	101.75'	8 cf	**Soil Filter (Prismatic)** Listed below (Recalc)
			83 cf Overall x 10.0% Voids
		1,058 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
103.25	55	0	0
104.00	148	76	76
105.00	500	324	400
106.00	800	650	1,050

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
101.75	55	0	0
103.25	55	83	83

Device	Routing	Invert	Outlet Devices
#1	Primary	100.75'	**4.0" Round Culvert** L= 45.0' Ke= 0.600
			Inlet / Outlet Invert= 100.75' / 100.25' S= 0.0111 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.09 sf
#2	Device 1	101.75'	**0.01 cfs Exfiltration at all elevations**
#3	Primary	104.50'	**18.0" Horiz. Beehive Overflow** C= 0.600
			Limited to weir flow at low heads
#4	Primary	104.75'	**5.0' long (Profile 1) Broad-Crested Rectangular Weir**
			Head (feet) 0.49 0.98 1.48
			Coef. (English) 2.92 3.37 3.59

Primary OutFlow Max=0.91 cfs @ 12.10 hrs HW=104.65' (Free Discharge)
- **1=Culvert** (Passes 0.01 cfs of 0.54 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.01 cfs)
- **3=Beehive Overflow** (Weir Controls 0.90 cfs @ 1.27 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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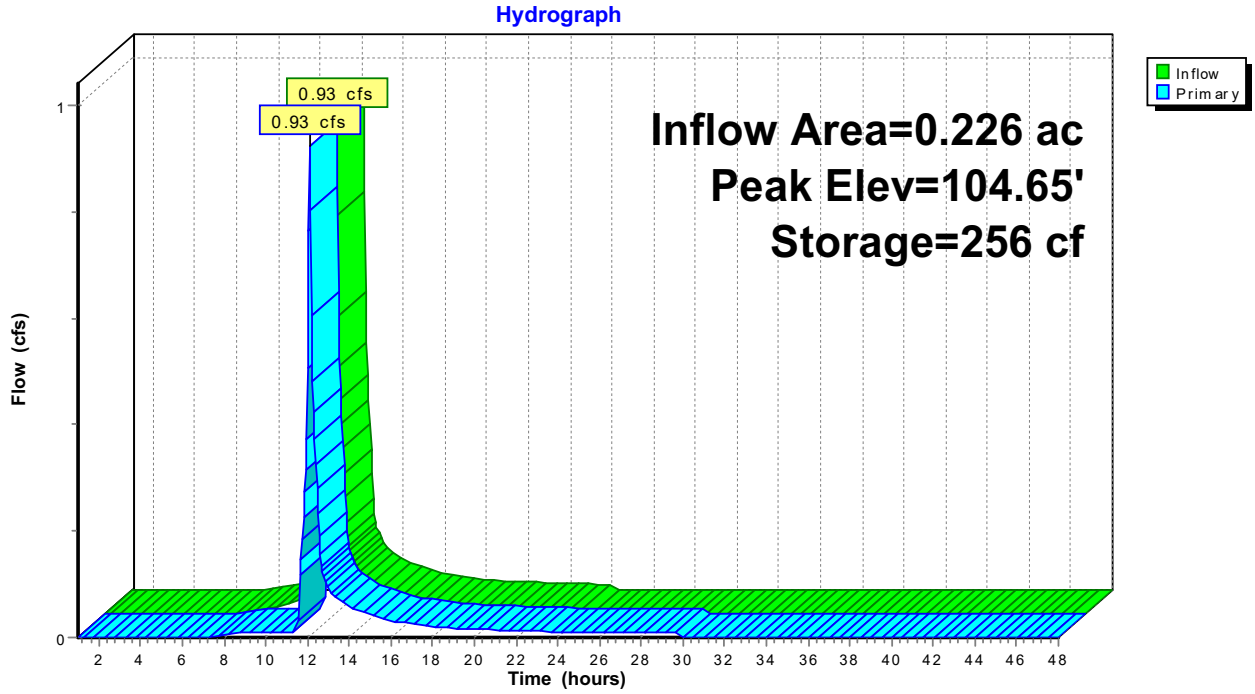
Pond 9P: 4+25 Rain Garden



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Summary for Pond 10P: Riprap Basin

Inflow Area = 4.880 ac, 50.08% Impervious, Inflow Depth > 2.90" for 25-year event
Inflow = 4.63 cfs @ 12.42 hrs, Volume= 1.181 af
Outflow = 4.62 cfs @ 12.44 hrs, Volume= 1.180 af, Atten = 0%, Lag = 0.9 min
Primary = 4.62 cfs @ 12.44 hrs, Volume= 1.180 af

Routing by Stor-Ind method, Time Span = 1.00-48.00 hrs, dt = 0.05 hrs
Peak Elev = 93.88' @ 12.44 hrs Surf.Area= 1,126 sf Storage= 1,556 cf

Plug-Flow detention time= 11.5 min calculated for 1.179 af (100% of inflow)
Center-of-Mass det. time= 10.3 min (1,045.1 - 1,034.8)

Volume	Invert	Avail.Storage	Storage Description
#1	88.00'	480 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
			1,200 cf Overall x 40.0% Voids
#2	92.00'	1,381 cf	**Ponding (Prismatic)** Listed below
		1,861 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.00	300	0	0
92.00	300	1,200	1,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.00	300	0	0
93.00	582	441	441
94.00	859	721	1,162
94.25	900	220	1,381

Device	Routing	Invert	Outlet Devices
#1	Primary	88.25'	**4.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	93.50'	**18.0" Horiz. CB OVERFLOW** C= 0.600
			Limited to weir flow at low heads

Primary OutFlow Max=4.59 cfs @ 12.44 hrs HW=93.88' (Free Discharge)
↑**1=Orifice/Grate** (Orifice Controls 0.98 cfs @ 11.25 fps)
└**2=CB OVERFLOW** (Weir Controls 3.61 cfs @ 2.02 fps)

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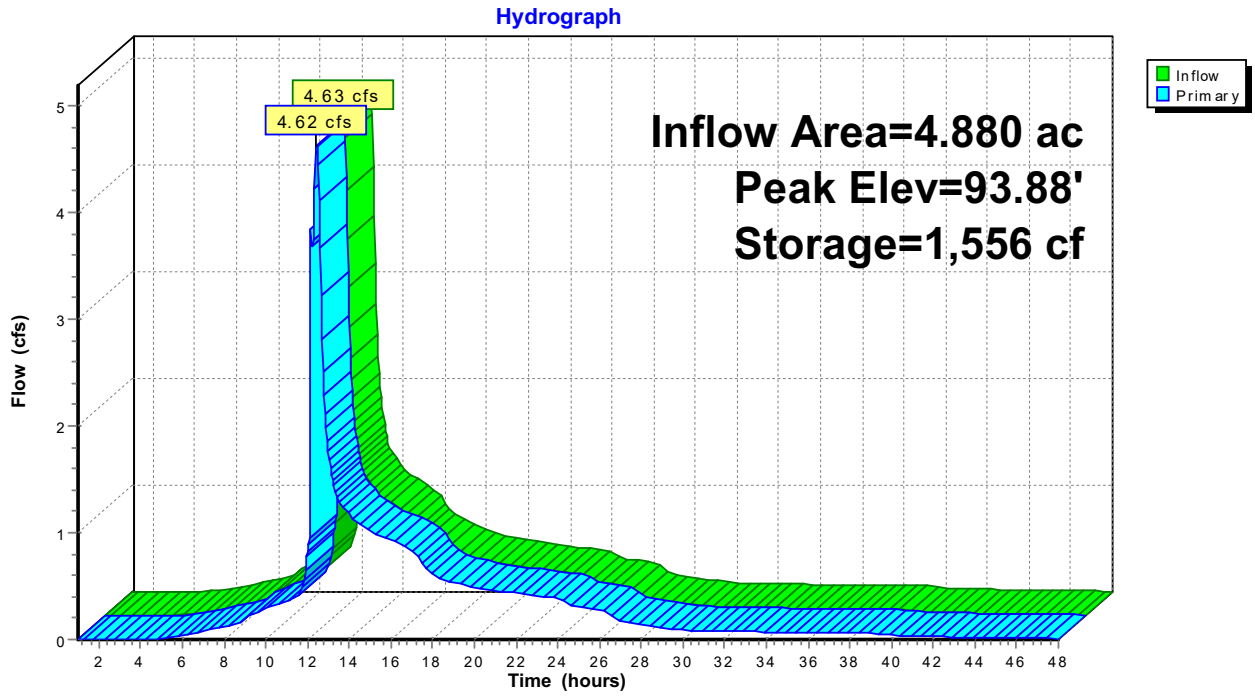
Pond 10P: Riprap Basin



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United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Cumberland County and Part of Oxford County, Maine

January 5, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

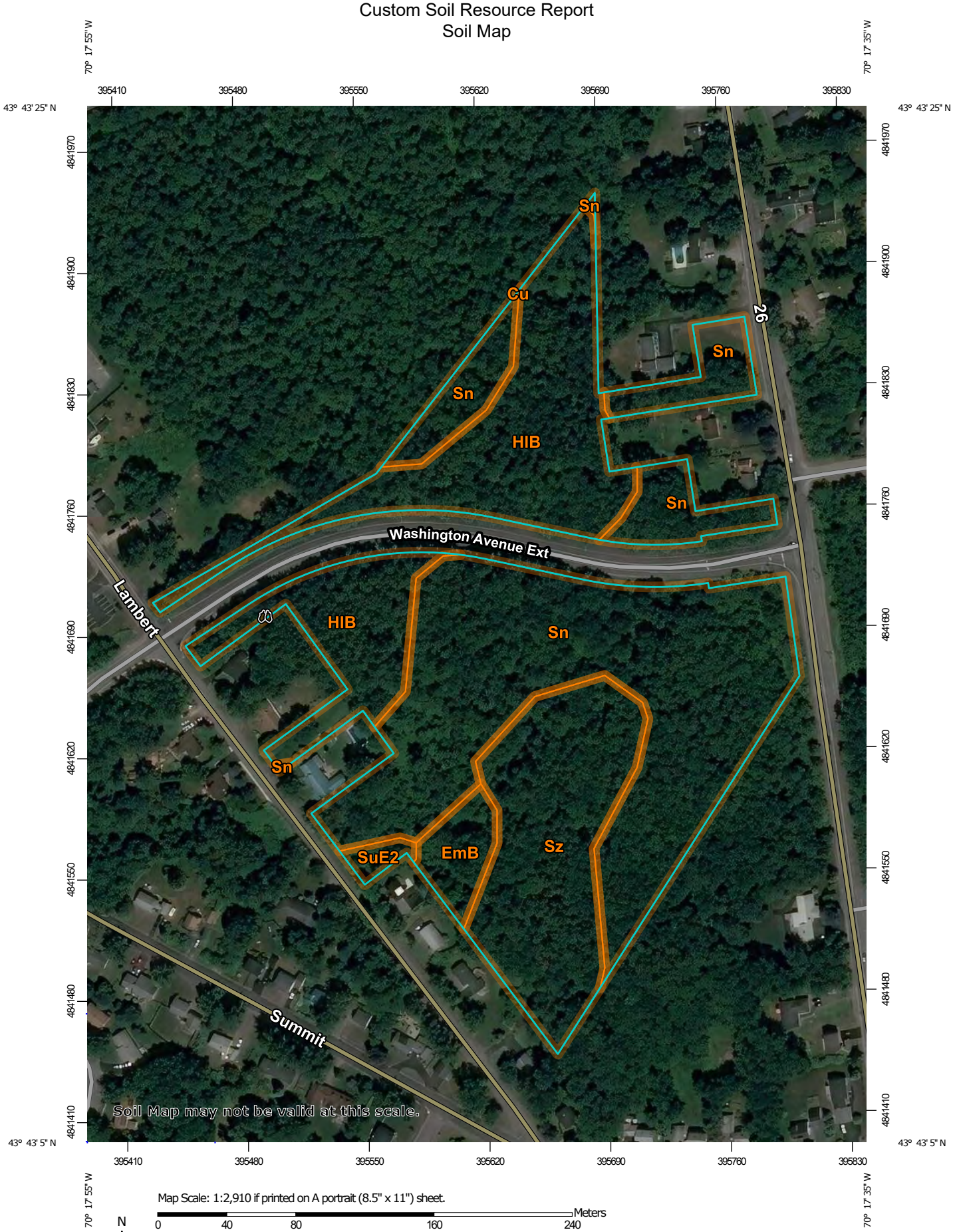
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



Map Scale: 1:2,910 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 18, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cu	Cut and fill land	0.0	0.0%
EmB	Elmwood fine sandy loam, 0 to 8 percent slopes	0.6	3.1%
HlB	Hinckley loamy sand, 3 to 8 percent slopes	5.0	27.8%
Sn	Scantic silt loam, 0 to 3 percent slopes	8.9	49.6%
SuE2	Suffield silt loam, 25 to 45 percent slopes, eroded	0.2	0.8%
Sz	Swanton fine sandy loam	3.4	18.7%
Totals for Area of Interest		**18.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Cumberland County and Part of Oxford County, Maine

Cu—Cut and fill land

Map Unit Composition

Cut and fill land: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cut And Fill Land

Typical profile

H1 - 0 to 65 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 35 percent
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 20.00 in/hr)
Depth to water table: About 24 to 42 inches
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

EmB—Elmwood fine sandy loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: blh8
Elevation: 10 to 900 feet
Mean annual precipitation: 38 to 55 inches
Mean annual air temperature: 43 to 46 degrees F
Frost-free period: 130 to 195 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Elmwood and similar soils: 88 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elmwood

Setting

Landform: Stream terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 25 inches: sandy loam
H3 - 25 to 65 inches: silty clay loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Ecological site: F144BY402ME - Clay Hills
Hydric soil rating: No

HIB—Hinckley loamy sand, 3 to 8 percent slopes

Map Unit Setting
National map unit symbol: 2svm8
Elevation: 0 to 1,430 feet
Mean annual precipitation: 36 to 53 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Hinckley and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting
Landform: Outwash plains, eskers, moraines, kame terraces, kames, outwash terraces, outwash deltas
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile
Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities
Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Sn—Scantic silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2slv3
Elevation: 10 to 900 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Scantic and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scantic

Setting

Landform: Marine terraces, river valleys
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Glaciomarine deposits

Typical profile

Ap - 0 to 9 inches: silt loam
Bg1 - 9 to 16 inches: silty clay loam
Bg2 - 16 to 29 inches: silty clay
Cg - 29 to 65 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Ecological site: F144BY304ME - Wet Clay Flat
Hydric soil rating: Yes

SuE2—Suffield silt loam, 25 to 45 percent slopes, eroded

Map Unit Setting

National map unit symbol: blk3
Elevation: 10 to 900 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 43 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Suffield and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Suffield

Setting

Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine glaciolacustrine deposits

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 23 inches: silt loam
H3 - 23 to 33 inches: silty clay
H4 - 33 to 65 inches: silty clay

Properties and qualities

Slope: 25 to 45 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None

Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.5 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: F144BY402ME - Clay Hills
Hydric soil rating: No

Sz—Swanton fine sandy loam

Map Unit Setting
National map unit symbol: blk4
Elevation: 10 to 900 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 39 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition
Swanton and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Swanton

Setting
Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy glaciolacustrine deposits

Typical profile
H1 - 0 to 9 inches: fine sandy loam
H2 - 9 to 32 inches: fine sandy loam
H3 - 32 to 65 inches: silty clay

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: C/D
Hydric soil rating: Yes

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ACORN ENGINEERING, INC.

K. EROSION & SEDIMENTATION CONTROL REPORT

Prepared For:

165 Lambert Street
Portland, Maine 04103

Prepared By:

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104

June 2022

INTRODUCTION

Acorn Engineering, Inc. has been retained by The Maine Cooperative Development Partners to provide civil engineering services for the proposed development at 165 Lambert Street and 622 Auburn Street. The property consists of approximately 17.95 acres of land and contains the following parcels (Chart, Book, Lot, 385-A-1, 386-C-1, 386-B-12, and 386-B-15).

The following Erosion and Sedimentation Control Report was developed in accordance with the City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards and the Maine DEP Chapter 500 Stormwater Management Appendix A and B (1), Amended August 12, 2015. This narrative also meets the standards required in the Maine DEP's Erosion & Sediment Control BMP's Manual, revised in 2016.

1.0 EXISTING CONDITIONS

The project site is bordered by Lambert Street, Auburn Street, and Washington Ave. A boundary plan has been prepared by Owen Haskell Inc., dated June 14th 2021 and revised December 21st, 2021. Two wetland investigations were performed (separate investigations for both parcels) by Jones Associates Inc., dated June 2021, October, 2021.

The property is in the R-3 Residential Zone. Abutting Uses include the R-2 Residential Zone in the abutting Portland properties, and Mixed Use Cluster in the abutting Falmouth properties.

The site currently consists of 17.95 acres of undeveloped land divided into to parcels bisected by Washington Ave. To the very north of the property the land slopes down to a stream. The approximate slope in this area is between 5-10% for a majority of the land with steeper slopes along the banks of the stream. The southern portion of the north parcel slopes towards the Washington Ave roadside ditch at an approximate slope of 3-6%. The northern portion of the southern parcel slopes towards a slight depression with the low point of the area occurring at the end of the Washington Ave roadside ditch. The slope of the valley is approximately 3-6%. The southern portion of the south parcel slopes down to a stream. The slopes vary from approximately 5-10% for a majority of the land with steeper slopes along the banks of the stream. There are also two wetlands within the northern parcel where one is considered a WOSS due to its close proximity to an identified stream. Jones associates identified multiple streams in both parcels, the southern parcel consists of four streams, with two stream converging at the eastern portion of the parcel creating one larger stream flowing from the east to west, said streams are a result of culverts flowing onto the property. Two feeder streams also contribute to the large stream and drain from the south to the north. One stream is located on the northern parcel and flows from east to northwest, this stream is formed from a culvert draining onto the property. The site is not in the watershed of an urban impaired stream.

1.1 Existing Soils

Onsite soil information includes the following:

- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County
- United States Department of Agriculture Web Soil Survey

Given the soils information, listed above, no onsite wastewater is proposed; the applicant does not intend to perform a more intense hydric soil boundary delineation because the waiver requirements set forth in the City of Portland Technical Manual – Section 7 – Soil Survey, Rev. 6/17/11 are met.

The area within and surrounding the project includes soil types listed in the table below. The susceptibility of soils to erosion is indicated on a relative "K" scale of values over a range of 0.02 to 0.69. Higher "K" values indicate more erodible soils.

Table 1 - "K" Value

Soils Type	Subsurface	Substratum
Elmwood fine sandy loam (EmB)	.32	.49
Hinkley Loamy Sand (HIC)	.17	.17
Suffield Silt Loam (SuE2)	.49	.49
Scantic silt loam (SN)	.49	.49
Swanton Fine Sandy Loam (SZ)	.32	.49

Implementation of the proposed Erosion & Sedimentation Measures by the contractor will be of the utmost importance given the sustained slope and natural resources in vicinity of the site.

1.2 Existing Erosion Problems

There are signs of erosion along the stream banks as a result of the culverts outletting into the property. This area is not proposed to be altered or disturbed as part of the project.

1.3 Critical Areas

Critical areas identified onsite include the identified wetlands and streams. A double row of sedimentation barriers will be proposed for all disturbance upgradient of critical areas.

1.4 Protected Natural Resource

The client is not aware of the presence of any existing significant natural features located on the site as listed in Section 14-526 (b) 1. of the Land Use Code. The project

is not located within a watershed classified as an Urban Impaired Stream by the Maine DEP.

1.5 Previous Construction Activity (5 years)

Acorn Engineering, Inc. is not aware of any construction related activities within the project limits within the past 5 years.

1.6 Timber Harvesting

Acorn Engineering, Inc. is not aware of any timber harvesting within the past five years.

2.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

As part of the site development, the following temporary and permanent erosion and sedimentation control devices shall be implemented. Devices shall be installed as described in this report or within the plan set. See the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices for further reference.

2.1 Temporary Erosion Control Measures

The following temporary erosion and sedimentation control measures are planned for the project's construction period:

2.1.1 Crushed stone stabilized construction entrances shall be placed at all access points to the project site where there are disturbed areas. The following specifications shall be followed at a minimum:

- Stone size shall be 2-3 inches, or reclaimed or recycled concrete equivalent.
- The thickness of the entrance stone layer shall be no less than 6 inches.
- The entrance shall not be less than 20 feet wide, however not less than the full width of points where ingress or egress occurs. The length shall not be less than 50 feet in length.
- Geotextile fabric (woven or non-woven) shall be placed over the entire entrance area.
- The entrance/exit shall be maintained to the extent that it will prevent the tracking of sediment onto public road ways.

2.1.2 Siltation fence or erosion control berm shall be installed downgradient of any disturbed areas to trap runoff borne sediments until permanent stabilization is achieved. The silt fence or erosion control berm shall be installed per the details provided in the plan set and inspected before and immediately after each rainfall and at least daily during prolonged rainfall. Repairs shall be made if there are any signs of erosion or sedimentation below the fence line or berm. If there are signs of undercutting at the center or the edges or

impounding large volumes of water behind the fence or berm, the barrier shall be replaced with a stone check dam. When time for removal, it is recommended that silt fences be removed by cutting the fence material at ground level to avoid additional soil disturbance.

2.1.3 Hay mulch, including hydroseeding, is intended to provide cover for denuded or seeded areas until revegetation is established. Temporary mulch should be applied to areas that will not be actively worked for more than 14 days (7 days in sensitive areas). Mulch placed between April 15th and November 1st on slopes of less than 15 percent shall be covered by fabric netting and anchored with staples in accordance with the manufacturer's recommendation. Mulch placed between November 1st and April 15th on slopes equal to or steeper than 8 percent and equal to or flatter than 2:1 shall use mats or fabric netting and anchored with staples in accordance with the manufacturer's recommendation.

2.1.4 At any time of the year, all slopes greater than 3:1 shall be stabilized with Double Net Erosion Control Blanket Bionet SC150BN by North American Green or Approved Equal, or Erosion Control Mix Slope Protection as detailed within the plans.

2.1.5 Lambert street (any of the other streets?) shall be swept to control mud and dust from the construction site as necessary. Add additional stone to the stabilized construction entrance to minimize the tracking of material off the site and onto the surrounding roadways.

2.1.6 During demolition, clearing and grubbing operations, stone check dams shall be installed at any areas of concentrated flow. The maximum height of the check dam shall not exceed 2 feet. The center of the check dam shall be 6 inches below the outer edges of the dam. The contractor shall mulch the side slopes and install stone check dams for all newly excavated ditch lines within 24 hours of their creation.

2.1.7 Silt fence stake spacing shall not exceed 6 feet unless the fence is supported with 14-gauge wire in which case the maximum spacing shall not exceed 10 feet. The silt fence shall be "toed" into the ground.

2.1.8 Storm drain inlet protection shall be provided to storm drains using any of the following: hay bale drop inlet structures, silt fence drop inlet sediment filter, gravel and wire mesh drop inlet sediment filter, or curb inlet sediment filter. Barriers shall be inspected after every rainfall event and repaired as necessary. Sediments shall be removed when accumulation has reached ½ the design height.

2.1.9 Dust control shall be accomplished using any of the following: water, calcium chloride, stone, or an approved MDEP product. Dust control shall be applied as needed to accomplish dust control.

2.1.10 Temporary loam, seed, and mulching shall be used in areas where no other erosion control measure is used. Application rates for seeding are provided at the end of this report.

2.1.11 Stockpiles shall be stabilized within 7 days of formation unless a scheduled rain event occurs prior to the 7-day window, in which case the stockpile shall be stabilized prior to the rain event. Methods of stabilization shall be mulch, erosion control mix, or erosion control blankets/mats. Silt fence or a wood waste compost filter berm shall be placed downhill of any soil stockpile location.

2.1.12 For disturbance between November 1 and April 15, please refer to winter stabilization plan in this report and the Maine Erosion and Sediment Control BMP manual for further information.

2.1.13 It is of the utmost importance that stormwater runoff and potential sediment from the construction site be diverted around the proposed underdrains until the trench is backfilled.

2.2 Permanent Erosion Control Measures

The following permanent erosion control measures are intended for post disturbance areas of the project.

2.2.1 All disturbed areas during construction, not subject to other proposed conditions, shall receive a minimum 4" of loam, limed, and mulched. Erosion control blankets or mats shall be placed over the mulch in areas noted in paragraph 4.1 of this report.

2.2.2 All stormwater devices shall be installed and tributary areas stabilized prior receiving stormwater.

2.2.3 Refer to the Maine Erosion and Sediment Control BMP manual for additional information.

3.0 EROSION AND SEDIMENTATION CONTROL PLAN

3.1 The Construction Management & Erosion Control Plan is included within the plan set.

4.0 DETAILS AND SPECIFICATIONS

4.1 Erosion & Sedimentation Control Details and Specifications are included in the plan set.

5.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

Winter Construction consists of earthwork disturbance between the dates of November 1 and April 15. If a construction site is not stabilized with pavement, a road gravel base, 75%

mature vegetation cover or riprap by November 15, then the site shall be protected with over-winter stabilization. Any area not stabilized with pavement, vegetation, mulching, erosion control mix, erosion control mats, riprap, or gravel base on a road shall be considered open.

The contractor shall limit the work area to areas that work will occur in during the subsequent 15 days and so that it can be mulched one day prior to a snow event. The contractor shall stabilize work areas prior to opening additional work areas to minimize areas without erosion control measures.

The following measures shall be implemented during winter construction periods:

5.1 Sediment Barriers

During frozen conditions, sediment barriers may consist of erosion control mix berms or any other recognized sediment barriers as frozen soil prevents the proper installation of hay bales or silt fences.

5.2 Mulching

All areas shall be considered to be denuded until seeded and mulched. Hay and straw mulch shall be applied at a rate of 150 lb. per 1,000 square feet or 3 tons/acre (twice the normal accepted rate of 75-lbs./1,000 s.f. or 1.5 tons/acre) and shall be properly anchored. Erosion control mix must be applied with a minimum 4-inch thickness. Mulch shall not be spread on top of snow. The snow shall be removed down to a one-inch depth or less prior to application. After each day of final grading, the area shall be properly stabilized with anchored hay or straw or erosion control matting. An area shall be considered to have been stabilized when exposed surfaces have been either mulched or adequately anchored so that ground surface is not visible through the mulch. Between the dates of November 1 and April 15, all mulch shall be anchored by either mulch netting, tracking or wood cellulose fiber. The cover will be considered sufficient when the ground surface is not visible through the mulch. After November 1st, mulch and anchoring of all exposed soil shall occur at the end of each final grading workday.

5.3 Soil Stockpiling

Stockpiles of soil or subsoil shall be mulched for over winter protection with hay or straw at twice the normal rate or with a four-inch layer of erosion control mix. This shall be done within 24 hours of stocking and re-established prior to any rainfall or snowfall.

5.4 Seeding

Between the dates of October 15th and April 1st, loam or seed shall not be required. During periods of above freezing temperatures finished areas shall be fine graded and

either protected with mulch or temporarily seeded and mulched until the final treatment can be applied. If the date is after November 1st and if the exposed area has not been loamed, final grading with a uniform surface, then the area may be dormant seeded at a rate of 3 times higher than specified for permanent seed and then mulched.

Dormant seeding may be placed prior to the placement of mulch or erosion control blankets. If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5 lbs./1,000 s.f. All areas seeded during the winter shall be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75% catch) shall be revegetated by replacing loam, seed and mulch. If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.

5.5 Over winter stabilization of disturbed soils

By September 15th, all disturbed soils on areas having a slope less than 15% shall be seeded and mulched. If the disturbed areas are not stabilized by this date, then one of the following actions shall be taken to stabilize the soil for late fall and winter:

- Stabilize the soil with temporary vegetation – By October 1st, seed the disturbed soil with winter rye at a seeding rate of 3lbs per 1,000 s.f., lightly mulch the seeded soil with hay or straw at 75 lbs per 1,000 s.f., and anchor the mulch with plastic netting. Monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or fails to cover at least 75% of the disturbed soil before November 1st, then mulch the area for over-winter protection.

- Stabilize the soil with sod – Stabilize the disturbed soil with properly installed sod by October 1st. Proper installation includes pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil.

- Stabilize the soil with mulch – By November 15th, mulch the disturbed soil by spreading hay or straw at a rate of at least 150 lbs per 1,000 s.f. on the area so that no soil is visible through the mulch. Immediately after applying the mulch, anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.

5.6 Over winter stabilization of disturbed slopes

All stone-covered slopes shall be constructed and stabilized by November 15th. All slopes to be vegetated shall be seeded and mulched by September 1st. A slope is considered a grade greater than 15%. If a slope to be vegetated is not stabilized by September 1st, then one of the following action shall be taken to stabilize the slope for late fall and winter:

- Stabilize the soil with temporary vegetation and erosion control mats – By October 1st the disturbed slope shall be seeded with winter rye at a seeding rate of 3 lbs per 1,000 s.f. and then install erosion control mats or anchored mulch over the seeding. If the rye fails to grow at least three inches or fails to cover at least 75% of the slope by November 1st, then the contractor shall cover the slope with a layer of erosion control mix or with stone riprap.

- Stabilize the soil with sod – The disturbed slope shall be stabilized with properly installed sod by October 1st. Proper installation includes the contractor pinning the sod onto the slope with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil. The contractor shall not use late-season sod installation to stabilize slopes having a grade greater than 3H:1V or having groundwater seeps on the slope face.

- Stabilize the soil with erosion control mix – Erosion control mix shall be properly installed by November 15th. The contractor shall not use erosion control mix to stabilize slopes having grades greater than 2H:1V or having groundwater seeps on the slope face.

- Stabilize the soil with stone riprap – Place a layer of stone riprap on the slope by November 15th. A registered professional engineer shall be hired to determine the stone size needed for stability on the slope and to design a filter layer for underneath the riprap.

6.0 INSPECTION AND MAINTENANCE

A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct periodic visual inspections of installed erosion control measures. The frequency of inspection shall occur at least once every two weeks, as well as after a "storm event". A "storm event" shall consist 0.5 inches of rain within a 24-hour period. The following Erosion and Sediment Control - Best Management Practices (BMP's) shall inspected in the manner as described.

6.1 Sediment Barriers

Hay bale barriers, silt fences and filter berms shall be inspected and repaired for the following if there are any signs of erosion or sedimentation below them. If there are signs of undercutting at the center or the edges of the barrier, or impounding of large volumes of water behind them, sediment barriers shall be replaced with a temporary check dam. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits should be removed when deposits reach approximately one-half the height of the barrier. Filter berms should be reshaped as needed. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared and seeded.

6.2 Stabilized Stone Construction Entrances

The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way. When the control pad becomes ineffective, the stone shall be removed along with the collected soil material and redistributed on site in a stable manner. The entrance should then be reconstructed. The contractor shall sweep or wash pavement at exits, which have experienced mud-tracking on to the pavement or traveled way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment trapping device. All sediment shall be prevented from entering storm drains, ditches, or waterways. All sweeping conducted shall not be sweep into the existing wetland.

6.3 Mulched Areas

All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied. Nets must be inspected after rain events for dislocation or failure. If washouts or breakage occur, re-install the nets as necessary after repairing damage to the slope. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface. Repair as needed.

6.4 Dust Control

When temporary dust control measures are used, repetitive treatment shall be applied as needed to accomplish control. Frequent reapplication of water may be necessary to mitigate dust occurring on warm sunny days, the distribution of water should not cause turbid runoff. Sweeping of paved road surface should occur during dry conditions and shall be swept from the centerline to the edge of the travel way, and shall not to be swept into a waterbody or wetland. Public roads may also require sweeping when necessary.

6.5 Stormwater Appurtenances

All underdrains, storm drains, and catch basins need to be operating effectively and free of debris.

6.6 Erosion and Sedimentation Control Inspections:

Acorn Engineering has personnel qualified to conduct Erosion and Sedimentation Control Inspections. For further information, contact:

Contact: Will Savage, PE
Telephone: (207) 775-2655

Qualifications:

- Maine Professional Engineering License #11419
- Maine DEP - Certified in Maintenance & Inspection of Stormwater BMP's Cert #14
- Certified Erosion, Sediment and Storm Water Inspector (CESSWI) Cert #0293
- Certified Professional in Erosion and Sediment Control (CPESC) Cert. #4620

The Contractor has sole responsibility for complying with the Erosion and Sedimentation Report/Plan, including control of fugitive dust. The Contractor shall be responsible for any monetary penalties resulting from failure to comply with these standards.

7.0 IMPLEMENTATION SCHEDULE

The following implementation sequence is intended to maximize the effectiveness of the above described erosion control measures. Contractors should avoid overexposing disturbed areas and limit the amount of stabilization area.

1. Install a stabilized construction entrance in all locations where construction traffic will enter and exit the site.
2. Install perimeter silt fence or erosion control berm.
3. Install all other erosion control devices as necessary throughout the remainder of this schedule.
4. Commence installation of drainage infrastructure.
5. Prioritize the downhill side to contain runoff within the site while providing an engineered outlet to the municipal storm drain system within Lambert Street.
6. Commence earthwork operations, associated with the parking lot construction.
7. Commence installation of utilities.
8. Continue earthwork and grading to subgrade as necessary for construction.
9. Complete installation of drainage infrastructure, as well as other utility work.
10. Complete remaining earthwork operations.
11. Install sub-base and base gravels in paved areas.
12. Install paving, curbing and brickwork.
13. Loam, lime, fertilize, seed and mulch disturbed areas and complete all landscaping.
14. Once the site is stabilized and mulching of landscape areas is complete, remove all temporary erosion control measures.
15. Touch up areas without a vigorous catch of grass with loam and seed.
16. Complete site signage and striping.
17. Execute proper maintenance of all temporary and permanent erosion control measures throughout the project.

The above implementation sequence should be generally followed by the site contractor. However, the contractor may construct several items simultaneously. The contractor shall submit to the owner a schedule of the completion of the work. If the contractor is to commence the construction of more than one item above, they shall limit the amount of exposed areas to those areas in which work is expected to be undertaken during the following 30 days.

The contractor shall re-vegetate disturbed areas as rapidly as possible. All areas shall be permanently stabilized within 7 days of final grading or before a storm event. The contractor shall incorporate planned inlets and drainage systems as early as possible into the construction phase.

8.0 CONCLUSION

The above erosion control narrative is intended to minimize the development impact by implementing temporary and permanent erosion control measures. The contractor shall also refer to the Maine Erosion and Sediment Control BMP manual for additional information.

9.0 ATTACHMENTS

- Temporary Seeding Plan

TEMPORARY SEEDING PLAN

Site Preparation

The seeded areas shall be feasibly graded out to provide the use of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. If necessary, the site may require additional temporary erosion control measures outlined in the Erosion Control report.

Seedbed Preparation

Fertilizer shall be applied to the site at a rate of 13.8 pounds per 1,000 square feet. The composition of the fertilizer shall be 10-10-10 (N-P2O5-K2O) or equivalent.

Limestone shall be applied to the site at a rate of 138 pounds per 1,000 square feet.

Seeding

The composition and amount of temporary seed applied to a site shall be determined by the following table:

Seed	Pounds / 1,000 S.F.	Recommended Seeding Dates
Winter Rye	2.57	Aug-15 to Oct-1
Oats	1.84	Apr-1 to Jul-1 Aug-15 to Sep-15
Annual Ryegrass	0.92	Apr-1 to Jul-1
Sudangrass	0.92	May-15 to Aug-15
Perennial	0.92	Aug-15 to Sep-15

Mulching

Mulch shall be applied at a rate of 70 lbs – 90 lbs per 1,000 square feet. The mulch shall be installed at a minimum depth of 4 inches. The seeded area shall be mulched immediately after seed is applied. Mulching during the winter season shall be double the normal amount.

Conclusion

Please refer to the Maine Erosion and Sediment Control BMP manual for additional information pertaining to temporary seeding and mulching.

ACORN ENGINEERING, INC.

Chief Keith Gautreau
City of Portland Fire Department
380 Congress St.
Portland, ME 04101

June 17, 2022

Subject: Lambert Woods Development – Fire Department Checklist
Section L of Application

On behalf of Maine Cooperative Partners, LLC, the design team is pleased to respond to the Portland Fire Department Site Review Checklist.

1. Name, address, telephone number of applicant

   Maine Cooperative Development Partners
   6 City Center, Fl. 3
   Portland, Maine 04101
   (207) 415-3870

2. Name, address, telephone number of architect

   Kaplan Thompson Architects
   102 Exchange Street, Fl. 2
   Portland, ME 04101
   (207) 842-2888

3. Proposed uses of any structures [NFPA and IBC classification]

   NFPA: Apartment Building IBC: R-2

4. Square footage of all structures, including decks [total and per story]

Community Flats (10)		
Ground	3,016	sf
2nd Floor	3,404	sf
3rd Floor	3,404	sf
Total	**9,824**	**sf**

Rowhouse (5)		
Ground	2,515	sf
2nd Floor	2,467	sf
3rd Floor	2,432	sf
Total	**7,414**	**sf**

Townhomes (3)		
Ground	2,759	sf
2nd Floor	2,432	sf
Total	**5,191**	**sf**

5. Elevation of all structures

   The proposed building heights are consistent with the R3 PRUD Zoning and do not exceed the maximum allowance of 35'.

6. Proposed fire protection of all structures

   All buildings will be serviced with a private fire service. Fire flows and requirements for system storage or booster pumping are subject to the fire professional design which will be performed prior the request for a building permit.

7. Hydrant locations

   There is not an existing hydrant along the length of Washington Ave. The site anticipates the addition of a new hydrant within the development located 450' from the furthest proposed structure. Hydrant flow data from the Portland Water District once received may be made available to the Fire Department upon request.

8. Water main size and location

   Water services of 6" and 8" are proposed for the north and south parcels respectively. A domestic meter pit and above ground backflow enclosure are located along the access drive as well. Each building will be served via a fire and domestic service that tap into the service extending through the site.

9. Access to all structures [min. 2 sides]

   Access to the structures is provided from the access drive and mews section. A grass paver drive aisle has been provided for emergency access circulation

10. Code summaries will be provided by the Architects upon request.

NFPA 1 – Chapter 18 Fire Department Access and Water Supply

18.2 Fire Department Access:

The north and south parcels can be accessed from the paved driveways. The drive aisles reduce from 22' to 16' in the mews section with a grass paver drive aisle provided at the end of the mews to allow for complete site circulation for emergency access scenarios. The following pavement street widths to the site are as follows:

- Washington Avenue: 21-22 feet
- Access Driveways: 22 feet

Per NFPA 1 – Chapter 18.2.3.2.2.1, all first story floors shall be located not more than 450 feet from a Fire Department access road.

City of Portland Technical Manual – Section 3 Public Safety

3.4.1 Every dead-end roadway more than one hundred fifty (150') feet in length shall provide a turnaround at the closed end. Turnarounds shall be designed to facilitate future street connectivity and shall always be designed to the right (refer to Figure I-5).

Response: The site has been designed to accommodate the turning movements required from a 40' ladder truck maneuvering the site.

3.4.2 Where possible, developments shall provide access for Fire Department vehicles to at least two sides of all structures. Access may be from streets, access roads, emergency access lanes, or parking areas.

Response: As depicted on the site plan, the proposed site layout is compact with multiple access points via the parking lot, public right-of-way, or mews section.

3.4.3 Building setbacks, where required by zoning, shall be adequate to allow for emergency vehicle access and related emergency response activities and shall be evaluated based on the following factors:

- *Building Height.*
- *Building Occupancy.*
- *Construction Type.*
- *Impediments to the Structures.*
- *Safety Features Provided.*

Response: The proposed development layout has contemplated emergency access conditions and provides for safe and efficient access along a circuitous route through the site for emergency vehicles.

3.4.4. Fire Dept. access roads shall extend to within 50' of an exterior door providing access to the interior of the structure.

Response: The building will be provided with exterior doors that will be within 50' of a Fire Department access route.

3.4.5. Site access shall provide a minimum of nine (9) feet clearance height to accommodate ambulance access.

Response: The proposed site maintains the required clearance height of nine feet in all cases.

3.4.6. Elevators shall be sized to accommodate an 80 x 24-inch stretcher.

Response: Elevators are not proposed for this project.

3.4.7. All structures are required to display the assigned street number. Numbers shall be clearly visible from the public right of way.

Response: The applicant is currently working with the City's Public Works Division to assign street addresses and numbering to meet City Standards.

Thank you for your review. Please let me know if you have any additional questions or comments.

Sincerely,

Sam Lebel

Sam Lebel, P.E.
Project Manager
Acorn Engineering, Inc.

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

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

Date: 6/14/22

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

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

Site Address: 165 Lambert Street and 622 Auburn Street

Chart Block Lot Number: 385-A-1, 386-C-1, 385-D-8, 386-B-12, 386-B-15

Proposed Use: Residential
Previous Use: Undeveloped
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.

Washington Street (10" SS)

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: Charles Tetelman Phone: 207-874-8719
Owner/Developer Name: Maine Cooperative Development Partners
Owner/Developer Address: P.O. Box 15235, Portland, ME 04112
Phone: Fax: E-mail: liztrice@gmail.com
Engineering Consultant Name: Acorn Engineering
Engineering Consultant Address: 65 Hanover Street, Portland, ME 04010
Phone: 207-775-2655 Fax: E-mail: slebel@acorn-engineering.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 29,700 GPD
Peaking Factor/ Peak Times: Diurnal
Specify the source of design guidelines: *(i.e.__"Handbook of Subsurface Wastewater Disposal in Maine," "Plumbers and Pipe Fitters Calculation Manual," __ Portland Water District Records, __ Other (specify)*
Handbook of Subsurface Wastewater Disposal in Maine

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

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values: 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.

M. Calculation of Wastewater Flowrate

The proposed project will include the development of a site that is currently undeveloped. The lot is proposed to be developed with 18 buildings consisting of 165 residential units. The units will be split into two separate parcels with 8 buildings with 74 units located in the north parcel, and 10 buildings with 91 units located in the south parcel. Based upon Section 4 of the Maine Subsurface Wastewater Disposal Rules, the project anticipates the following daily flows:

Estimate of Design Flows			
Classification of Water Demand	**Number of Units**	**Gallons per Day per Unit**	**Total Gallons per Day**
Existing - None			
Proposed – North Parcel			
Multiple family dwelling unit (Studio)	2	120	240
Multiple family dwelling unit (1-bedroom)	30	120	3,600
Multiple family dwelling unit (2-bedroom)	20	180	3,600
Multiple family dwelling unit (3-bedroom)	22	270	5,940
Proposed – South Parcel			
Multiple family dwelling unit (Studio)	3	120	360
Multiple family dwelling unit (1-bedroom)	34	120	4,080
Multiple family dwelling unit (2-bedroom)	30	180	5,400
Multiple family dwelling unit (3-bedroom)	24	270	6,480
		Total Existing	**0**

Total Proposed – North Parcel	**13,380**
Total Proposed – South Parcel	**16,320**
Net Change	**+29,700 GPD**
*Values based on STATE OF MAINE: SUBSURFACE WASTEWATER DISPOSAL RULES, most recent edition	

As seen above, the project anticipates an increase in daily flow rate of approximately 29,700 gallons per day. Please see attached for the formal application template.

Luminaire Schedule (note fixture catalogue numbers are not complete)						
Type	**Qty**	**Lum. Lumens**	**LLF**	**Lum. Watts**	**Mounting Height**	**Description**
A	126	1145	0.900	12.89	8	LBSE-6RD-RM-30K8
C	21	731	0.870	10.886	10	AR-LED-x53-WFL-12
CSL	1	3900	0.900	31	28	ERL1_04E330 ESTIMATE City street light
ES	3	3900	0.900	31	28	ERL1_04E330 ESTIMATE OF EXISTING
S3	5	3863	0.900	46.1	16	K4X-T3-MO-5030
S4	11	4297	0.900	45.9	16	K4X-T4-MO-5030
SP3	14	2563	0.900	32.7	12	MK4-T3-MO-3030
SP4	4	2886	0.900	32.7	12	MK4-T4-MO-3030

Calculation Summary					
Label	**Avg**	**Max**	**Min**	**Avg/Min**	**Max/Min**
north	0.71	8.3	0.0	N.A.	N.A.
south	0.80	8.1	0.0	N.A.	N.A.
north park	1.45	3.4	0.3	4.83	11.33
south park 1	1.69	3.6	0.3	5.63	12.00
south park 2	1.53	4.1	0.2	7.65	20.50

NOTE: TYPE ES IS ONLY APPROXIMATION OF EXISTING STREET LIGHT

NOTES:
1) EXACT MOUNTING DETAILS TO BE DETERMINED AT JOBSITE BY OTHERS.
2) CALCULATIONS MAY or MAY NOT SHOW THE EFFECT OF SHADOWING CAUSED BY BUILDINGS AND OBJECTS WITHIN THE CALCULATED SPACE OR IN THE SITE AREA.
3) READINGS SHOWN ARE INITIAL HORIZONTAL FOOTCANDLES ON A FLAT SITE WITHOUT REFLECTIONS OR OBSTRUCTIONS UNLESS OTHERWISE INDICATED.
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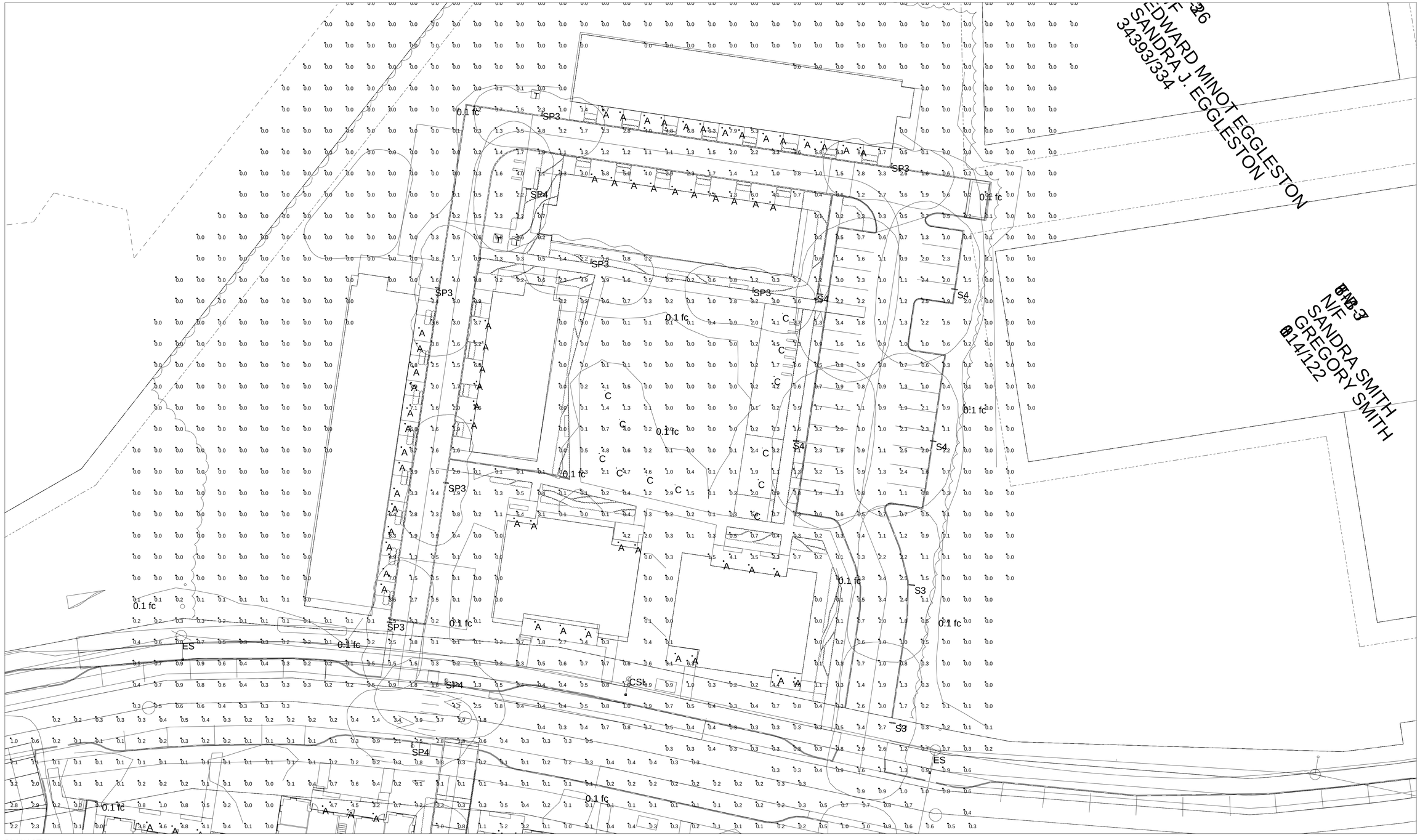
5) CONFORMANCE TO CODES AND OTHER LOCAL REQUIREMENTS AS DETERMINED BY THE AHJ ARE THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.
6) THIS LAYOUT DRAWING MUST BE COORDINATED WITH THE SITE LOCATION FOR CORRECT FIXTURE ORIENTATION.
7) DOCUMENTS PRINTED OR PLOTTED FROM ELECTRONIC FILES MAY APPEAR AT OTHER THAN THE DESIRED OR ASSUMED GRAPHIC SCALES. IT IS THE RESPONSIBILITY OF THE RECIPIENT TO VERIFY THAT THE PRINTED OR PLOTTED-TO-SCALE DRAWING IS PRINTED TO SCALE.

Att. N



PLAN VIEW

TITLE
LAMBERT WOODS
PORTLAND, ME
PARTIAL SITE LIGHTING LAYOUT

site ltg 12-15-22.AGI

GENERATED BY SWANEY LIGHTING, SCARBOROUGH ME - 207-883-7100 - swaneylighting.com

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Calculation Summary					
Label	**Avg**	**Max**	**Min**	**Avg/Min**	**Max/Min**
north	0.71	8.3	0.0	N.A.	N.A.
south	0.80	8.1	0.0	N.A.	N.A.
north park	1.45	3.4	0.3	4.83	11.33
south park 1	1.69	3.6	0.3	5.63	12.00
south park 2	1.53	4.1	0.2	7.65	20.50

NOTES:
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PLAN VIEW

LAMBERT WOODS
PORTLAND, ME
PARTIAL SITE LIGHTING LAYOUT

TITLE

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Luminaire Schedule (note fixture catalogue numbers are not complete)						
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A	126	1145	0.900	12.89	8	LBSE-6RD-RM-30K8
C	16	731	0.870	10.886	10	AR-LED-x53-WFL-12
CSL	1	3900	0.900	31	28	ERL1_04E330 ESTIMATE City street light
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S3	10	3863	0.900	46.1	16	K4X-T3-MO-5030
S4	17	4297	0.900	45.9	16	K4X-T4-MO-5030
SP3	23	2563	0.900	32.7	12	MK4-T3-MO-3030
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Calculation Summary					
Label	**Avg**	**Max**	**Min**	**Avg/Min**	**Max/Min**
north	0.87	8.4	0.0	N.A.	N.A.
south	1.00	8.2	0.0	N.A.	N.A.
north park	1.45	3.5	0.5	2.90	7.00
south park 1	1.69	3.6	0.3	5.63	12.00
south park 2	1.53	4.1	0.2	7.65	20.50

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PLAN VIEW

TITLE
LAMBERT WOODS
PORTLAND, ME
PARTIAL SITE LIGHTING LAYOUT

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Calculation Summary					
Label	**Avg**	**Max**	**Min**	**Avg/Min**	**Max/Min**
north	0.87	8.4	0.0	N.A.	N.A.
south	1.00	8.2	0.0	N.A.	N.A.
north park	1.45	3.5	0.5	2.90	7.00
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PLAN VIEW

LAMBERT WOODS
PORTLAND, ME
PARTIAL SITE LIGHTING LAYOUT

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102 Exchange Street Portland, ME 04101 | (207) 842-2888 | kaplanthompson.com

June 13, 2022

Att. O

LAMBERT WOODS
Architectural Narrative

We are proposing three different building types on the site for both the North and South side of Washington Avenue. The three-story Community Flats buildings are arranged along Washington Avenue to create an activated street frontage and help establish a strong connection between the North and the South sides of the site. The three-story Rowhouse buildings are arranged between the community flats buildings and the two-story townhouses to form the two large community greenspaces. The intent is to gradually decrease the scale of the buildings from the center of the site to the southwestern and northeastern extents of the property, where the shorter buildings are close to the current residential neighborhoods.

Our approach to the roof form of the height-limited Community Flats building is to develop a series of low-pitched roof planes that undulate across the facade of the buildings and are occasionally tipped down to denote the entrances below. This undulating roof form carries across the site from building to building, which establishes a language that is reflected in the Townhouses and Rowhouses where roofs are occasionally tipped up to highlight corners and connections. The Townhouse entrances are highlighted by a simple entry canopy that matches the pitch of the larger Community Flats buildings. The Rowhouse has a more elaborate series of similarly pitched entrance canopies that dance along the facade to individualize the unit entries as well as to help reduce the scale of the overall building.

We intend to use common siding materials and alter their installation methods to help break up the facades by a change in texture, spacing, and orientation. There are shared cladding materials between buildings that reinforce their connection and establish the rhythm of textural and material changes at the unit entrances. We've also altered the heights of the windows at various locations in reference to the undulating roof forms.

The Community Flats buildings provide exterior deck spaces on the upper levels, which add visual interest and provide a recessed area for a specific cladding treatment. The entry spaces are clad with a locally sourced natural Eastern White Cedar in locations where the building is experienced in close proximity.

The building's architectural design details, along with the careful attention to landscape design and public circulation spaces, will provide a welcoming and interactive neighborhood experience for this unique site.

Phil Kaplan
Maine Licensed Architect, AIA
Kaplan Thompson Architects

Kaplan Thompson Architects

P. Utilities

The proposed project will include installation of multiple utility services to the proposed buildings.

Water:

Based on the City archive plans, there is an existing 12" water main within Washington Ave along the project's frontage. It is proposed to connect into the existing 12" main with two 6" (or 8") services to feed into the North and South sides of the development. Two (2) above-ground double-check backflow assemblies and two (2) meter pits are proposed. Each structure will be served via a domestic and fire service. Additionally, a public fire hydrant is proposed at this time with an additional 6" connection to the main and is subject to approval from Portland Water District. Ability to serve confirmation will be submitted upon receipt.

Sewer:

A new 8" PVC lateral will be installed throughout the site on both sides of the road to accept the wastewater from each unit and will both tap the existing manhole in Washington Ave.

Stormwater:

Stormwater management for the development will be provided by under drained sand filters and porous pavement. Additionally, runoff from a portion of Washington Ave. will be redirected to a detention area with plantings to provide attenuation. Please refer to the Grading & Drainage plans as well as the Stormwater Management Report for more information.

Electric/Communications:

It is proposed to install a new utility pole on the north site and to route electric and communications from an existing pole for the south site. The services will be provided with underground primaries to transformers located throughout both parcels. New conduits are proposed for telephone, fiber, and cable that will run down from the existing and proposed utility poles on Washington Street. See the Sheet C-20, Utility Plan, for more information.

Ability to serve letters have been sent out to the respective utility companies in accordance with the City of Portland Code of Ordinances Chapter 14 Land Use, Section 14-527(g)(7). Responses from the utility companies are forthcoming.

Q. Construction Management Plan

Project Address: 165 Lambert Street and 622 Auburn Street

Project Description:

The proposed project includes the construction of eighteen (18) stand-alone residential buildings to be occupied by 165 units. The project will include the construction of parking lots and stormwater management features.

Project Team Summary:

Owner:	Maine Cooperative Development Partners
General Contractor:	Penobscot General Contractors
Civil & Environmental Engineer:	Acorn Engineering, Inc.
Architect:	Kaplan Thompson Architects
Structural Engineer:	Structural Integrity Consulting Engineers
Geotechnical Engineer:	Summit Geoengineering Services

The Owner/GC and all subcontractors will work with the City of Portland and adjacent landowners to minimize any project impacts.

The GC will remain responsible for enforcement of all compliance with 1) all contract plans and specifications in their scope of work and 2) all site working conditions and safety requirements, day and night, for both persons and property, in each case for the duration of their work. These include OSHA, NIOSH, U.S. EPA, local ordinance and any other applicable governmental regulations. Both the Owner/GC and any subcontractors will remain responsible for safeguarding the general public.

The GC shall review all permits and conditions associated with the project. Refer to the Civil/Site Plan Set, Sheet C-03 Construction Management Plan for visual representation of the measures to be taken during construction.

The following outline has been developed in accordance with the City of Portland Construction Management Plan General Template and shall be referenced by the GC during construction.

A. Construction Management Principles

The control of noise, vibrations, ground movement, truck traffic, and other construction related factors will be of utmost importance. Care shall be taken to minimize these effects in the best interest of neighbors and the general public. GC to ensure that work hours conform to the City of Portland's Ordinance.

B. Development Review of Construction Management Plan

Logistics and safety program shall be submitted at or prior to the preconstruction meeting by the GC with all pertinent information required by the Maine Department of Transportation's Traffic Control Plan Standard Specification 652.3.3.

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

Guarantees and fees will be paid at the time of the respective application. Sections 14-530 and 13-532 will be complied with all necessary permits will be obtained prior to work.

1. Street Opening and Street Occupancy Permits:

   Required permits regarding street opening and occupancy will be obtained from the Department of Public Works. The requests shall conform to the approved Construction Management Plan.

2. Blasting:

   Although not anticipated, if blasting occurs, it shall conform to Article VIII. In Chapter 14 of the City Code and Section 3.7 in the City's Technical Manual.

3. Building Code:

   Employ the best practices, as applicable, of Chapter 33 Safeguards During Construction, from the 2009 International Building Code.

D. Construction Administration and Communication

The Contractor will work closely with adjacent abutters, businesses, and all parties informed, as far in advance as possible, of scheduled work, particularly work anticipated to cause significant noise, vibrations, or dust. Communication in order to comply with all agreements, ordinances, and special permits will be of the utmost importance. Contractor and Subcontractor contact information shall be posted somewhere along the project's street frontage. Additional signage necessary for communication shall be provided but will be temporary and removed upon completion of the project.

E. Construction Schedule

The GC shall submit a construction timeline at or prior to the preconstruction meeting. Construction may occur during the daytime hours as defined in Section 17-18. Construction Activities for Building permit and City Code Section 25-129, Noise, dust and debris. Between September 1 and May 31, the following year, no person shall engage in construction activities generating noise exceeding 50 decibels, between the hours of 7 pm and 7 am of the following day within 500 feet of any buildings. From June 1 to August 31, construction activity may continue until 8 pm. No construction activity shall begin before 8 am on a Saturday, Sunday, or legal holiday. Extended hours or night work may be requested for special circumstances and street utility work if needed. These requests will be subject to approval by the Public Works Authority. Deliveries will be scheduled between 7 am and 5 pm.

The estimated timeframe of the proposed project is outlined below:

Project Start Date:	Spring 2023
Project End Date:	Spring 2025

A more detailed work schedule shall be provided by the GC at or before the pre-construction meeting with the City.

F. Security

1. The Construction Management Plan, Sheet C-03, depicts all proposed fencing and other barriers, with the intent of separating pedestrian and vehicle circulation from the construction site. Construction entrances per detail shall be installed.

2. Structures undergoing construction, alteration, or demolition operations, including those in underground locations, shall comply with NFPA 1 Chapter 16. *Safeguarding Construction, Alteration, and Demolition Operations.*

3. Fire Safety Program: Prior to construction, an overall construction and demolition fire safety program shall be developed. Essential items to be emphasized include the following:
    - Good Housekeeping
    - On-site security
    - Installation of new fire protection systems as construction progresses
    - Preservation of existing systems during demolition
    - Organization and training of an on-site fire brigade
    - Development of a pre-fire plan with the local fire department
    - Rapid communication
    - Consideration of special hazards resulting from previous occupancies
    - Protection of existing structures and equipment from exposure fires resulting from construction, alteration, and demolition operations.

4. Blasting, if required, shall conform with all measures of Article VIII. Regulation of Explosives in the Land Use Code and Section 3.7 Standards for Blasting and Regulation of Explosives in Portland's Technical Manual.

5. Temporary security lighting shall be shown on the Construction Management Plan, and all fixtures shall be full cutoffs.

G. Construction Permitting and Traffic Control Plans

1. Construction Activity in Public Streets

   Construction activity in the public right-of-way shall be compliant with Chapter 25 Article VII of the City Code. At no time will it be permissible for construction activity including delivery vehicle to close or block streets or affect public safety access without prior notice and approval of the Department of Public Works.

2. Sewer and Stormwater

   Sewer and stormwater system connections are controlled by Chapters 24 and 32 of the City code of Ordinance. Required permits for new connections and/or abandonment of existing connections are available through the Street Opening Clerk at the Department of Public Works. Rules and Regulations for these utility systems are available through the City Engineer's office of the Department of Public Works and in Section II of the Technical Manual.

3. Traffic Control Plans

   Construction activity that impacts the existing public street system must be controlled to protect the safety of the construction workers and all modes of the traveling public. The contractor shall submit a satisfactory "Maintenance of Traffic" (MOT) plan prior to any street opening permit approval. This document shall contain all pertinent information from the Maine Department of Transportation's Traffic Control Plan Standard Specification 652.3.3.

   The MOT will address the work required for utility connections in Washington Street. Traffic will be channelized utilizing drums and cones. Proper signage will be installed prior to the through work zone. Alternating traffic will be controlled with flaggers. Trenches will be patched with pavement daily.

   The MOT plan shall provide for the safe passage of the public through or along the construction work zone. It may be permissible to close a portion of Washington Street during utility connections and/or detour a mode of traffic when absolutely necessary for safety. All requests shall be subject to City approval. MOT plans shall employ the appropriate techniques and devices as called for in the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). In addition:

   - Construction speed signing may be used as needed to slow traffic.
   - Traffic Control signs shall not be placed where they would create any obstructions to bicycles or pedestrians.
   - Flaggers will be utilized when necessary.

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

   - Traffic control bicycle and pedestrian facilities or routes through work zones shall be maintained until the bicycle and pedestrian facilities or

routes are ready for safe operation. Traffic control will not be removed to allow auto travel at the expense of bicycle and pedestrians.
- Barrier systems utilized to separate the construction activity from the public street and /or sidewalk shall not inhibit sight distances, particularly for visibility of pedestrians and bicyclists.
- ADA compliance in all capacities shall be maintained.

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

H. Site Management and Controls

1. Regular trash and debris shall be managed appropriately, and its removal shall comply with all local, state, and federal regulations.

2. Street cleaning and sweeping shall be followed as outlined in the erosion and sedimentation control notes and report. Damage to the street shall be avoided and shall be the responsibility of the contractor.

3. Dust shall be controlled and shall comply with Section 25-129 and the erosion and sedimentation control notes, plan, and details.

4. Noise shall be controlled and shall comply with Section 17-18 and Section 25-129.

5. Rodent Control shall be provided, if applicable, by a professional exterminator and shall be consistent with Chapter 22 of the City Code.

6. Snow and Ice Removal shall be provided. Pursuant to Section 25-173, the Contractor shall ensure a safe means of travel within the work zone by the following steps:

    a. Snow/ice removal or commence automatically from 1" or greater of snow or ice
    b. Remove snow as needed within the work zone, including parking spaces. Driveways and site lines shall not be blocked by piles of snow.
    c. Clear all walks and ramps within the work zone
    d. Sand or salt as needed
    e. Clear all basin or drainage to help snow melt
    f. The above steps shall be carried out Sunday-Saturday including holidays.

I. Erosion & Sedimentation Control

1. The Contractor shall install all erosion and sedimentation controls as depicted on the approved Construction Management Plan, C-03, and the approved erosion and sedimentation control report, prior to the pre-construction meeting for inspection by the City. The Contractor shall regularly inspect the control measures, no less than weekly and after storm events (0.5" or more in 24 hours). Additionally,

temporary or permanent stormwater management systems shall be inspected and maintained to ensure working order. The Contractor shall document all inspection activities and corrective actions and be prepared to provide these documents for inspection by the City, Maine Department of Environmental Protection (MDEP) or the U.S. Environmental Protection Agency (EPA) upon request.

2. Due to the existing, sparse landscaping on site, no protection during construction will be necessary.

3. Stored materials shall be identified and avoid being located under/near trees.

J. Construction Staging Area

1. The Contractor shall submit a plan with locations depicted for the location of material staging areas, the location of on-site temporary construction trailers, the location of on-site truck delivery holding areas, the location of on-site truck washing stations, masonry mixing stations, the general location of the construction security fence and the general location of temporary construction dumpsters. This plan shall be submitted at or prior to the pre-construction meeting. Any open storage areas shall be shown on the plan.

2. Delivery Truck Holding Areas On-Site: The majority of materials delivered to the site will be scheduled such that they are able to be off-loaded immediately. On days when the construction activities require multiple truck deliveries, these deliveries will be carefully scheduled so that there is always adequate on-site area for the holding of trucks until they can be unloaded. Once at the site all vehicles will be brought within the fence line and will make every attempt to avoid queuing on public streets. If, for any reason, on-site holding of trucks is not feasible, an off-site location must be designated and shown on the submitted plan referenced above in J.1.

3. All deliveries for materials shall comply with the City's noise requirements.

K. Parking During Construction

1. Adequate parking for construction workers shall be provided on site or arrangements for off-street parking at an off-site location shall be provided.

2. Truck Routes and Volumes: The following quantities are estimated as part of the reconstruction:

   - Gravel & Stone – 3,640 CY. Earthwork subcontractor(s) pit to project site.
   - Hot Mix Asphalt – 460 Tons. Paving subcontractor pit to project site.

L. Dewatering Plans

1. A basic dewatering plan for any construction work is required and shall be submitted by the Contractor. The plan must cover construction sites where

groundwater is not expected but the impact of rainwater may require dewatering. The plan must include operating procedures, equipment to be used, including filters, erosion and sediment control measures, or other methods of removing sediment from approved discharges.

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

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

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

M. Special Measures as Necessary

Buckthorn Shrubs, an invasive species, have been identified within the project parcel. Measures to remove the species are to be implemented to mitigate more spread. The Buckthorn shrub is troublesome to remove and can take up to two years to kill if herbicides are not used. Uprooting measures can be implemented and have been shown to kill the plant where trees are below an inch in diameter, however it has not shown to be effective on larger shrubs.

Given the project location in relation to wetlands and waterbodies, the use of herbicides is not recommended. The following provides the steps for removal of the Buckthorn Shrub without the use of herbicides. The removal process begins by cutting the shrub down to a stump less than 6 inches off the ground, and then cover the stump with an opaque material (buckthorn baggie, black plastic bag, tin can, etc.). This method could take up to a year or two to kill the plant and prevent it from growing.

Please note, no matter what method of removal is implemented that the species can spread if composted, therefore proper disposal of the plant reminiscences is critical. In the event herbicides are to be used the contractor shall consult with the Maine Board of Pesticide Control and the Maine Natural Areas Program prior.

R. Solid Waste Disposal

The property management company or Owner shall be responsible for locating the solid waste and recyclable material to the spaces allocated for solid waste storage as noted on the Site Plans (C-10, C-11).

The solid waste containers will be fully enclosed and screened from the public view. A private hauler will be contracted with for removal.

Barton & Loguidice

Att. S

Traffic Impact Study

Date: September 27, 2022

To: **Sam Lebel, PE, Project Manager**
Acorn Engineering, Inc.

From:
Jacob Sirois
Engineer 1
Barton & Loguidice, LLC.

John Q. Adams, P.E., PTOE
Associate, Senior Transportation Engineer
Barton & Loguidice, LLC.

Re: **Proposed Lambert Woods Development**
Washington Street Extension, Portland, Maine
B&L #2491.001.001

Introduction

Lambert Woods Residential development is proposed a 165-unit affordable housing complex on Washington Avenue Extension in the City of Portland (refer to Image 1 for the location of the proposed project). The proposed apartment complex will be accessed via five (5) proposed driveways; two (2) on the north side of Washington Avenue Extension, and three (3) on the south side. The program for this affordable housing development will have all 165-units income and rent restricted

This traffic impact study will evaluate and measure the level of impact on traffic operations and safety resulting with the development of the proposed project. Site generated trip projections are provided for "key" peak hour time periods throughout a typical week; road safety conditions were determined based upon a review of MaineDOT's latest road safety data and intersection sight distance was field reviewed and measured to ensure safe and acceptable sight distance is provided at the proposed entrances on Washington Avenue Extension.

Image 1 Proposed Development Site

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Site Access

The site will be accessed from Washington Avenue Extension, with portions of the site located on both the north and south sides of the roadway. Access to the site via the area roadway network will generally be from Auburn Street located east of the site, Riverside Street and Washington Avenue located west and south of the site and Blackstrap Road to the north. Washington Avenue in the area of the project is a two-lane bi-directional roadway with 12-ft. travel lanes and 8-ft. shoulders and a posted speed limit of 25 mph. A review of Maine DOT Traffic Volume information indicates that this section of Washington Avenue Extension has an AADT of 3,190 vehicles.

Site Trip Generation

Daily and peak hour trip generation was determined for the proposed project based upon trip tables presented in the eleventh edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION MANUAL**". The ITE publication provides numerous land use categories and the average volume of trips generated by each category.

Site trip estimates for the Lambert Woods Residential Development Apartment Project are based upon LUC #223 – Affordable Housing, which is described in the ITE publication as all multi-family housing that is rented at below market rate. Calculation of the total trips generated per each corresponding time period are summarized below in Table 1.1.

Table 1.1
ITE Trip Generation Calculations

Land Use	Affordable Housing - Income Limits - LUC 223					
Time Period	Dwelling Units	Trip Generation Rate Trips/Dwelling Units	Trips Generated	Distribution Entering / Exiting	Enter	Exit
Weekday	165	4.81	794	50% / 50%	397	397
AM Weekday Peak Hour (Street)	165	0.36	60	29% / 71%	17	43
PM Weekday Peak Hour (Street)	165	0.46	76	59% / 41%	45	31
AM Weekday Peak Hour (Generator)	165	0.36	60	26% / 74%	16	44
PM Weekday Peak Hour (Generator)	165	0.50	83	58% / 42%	48	35
Saturday Peak Hour*	165	0.50	83	59% / 41%	49	34

*Saturday Peak Hour assumed to be similar to the PM Peak Hour of Generator

It should be noted that above in Table 1.1 (LUC 223) we have assumed the Saturday peak hour rate to be similar to the weekday PM peak hour rate. This land use code, 223 Affordable Housing, is a new use that has been added to the current edition (11th) of the ITE Trip generation Manual and has very limited data for the Saturday peak hour time period. In fact, there is only one data point shown for Saturday for which the rate is based on which in our judgement is not reliable. In comparison, the weekday AM and PM peak hour time periods, which had 6 to 10 data points, give a higher confidence in their accuracy. Additionally, the Saturday peak hour rate (1.28 trips per dwelling unit) was abnormally higher than the rates for the weekday AM and PM peak hours, which ranged from 0.36 to 0.50 trips per dwelling unit. This specific issue was discussed with the City Transportation Systems Engineer, Jeremiah Bartlett, PE, PTOE, and he was in agreement with our concerns and conclusions to use the weekday PM peak hour rate in lieu of the Saturday peak hour rate provided in the ITE Trip Generation Manual. This methodology should provide a more accurate estimation of expected trip generation.

As presented in the preceding table, this development will generate 60 trips during the Weekday AM peak hour, 83 trips during the Weekday PM peak hour, and 83 trips during the Saturday peak hour. This indicates that a Maine DOT Traffic Movement Permit will not be required as the development will not generate the minimum threshold of 100 new peak hour trips.

Vehicle Sight Distance

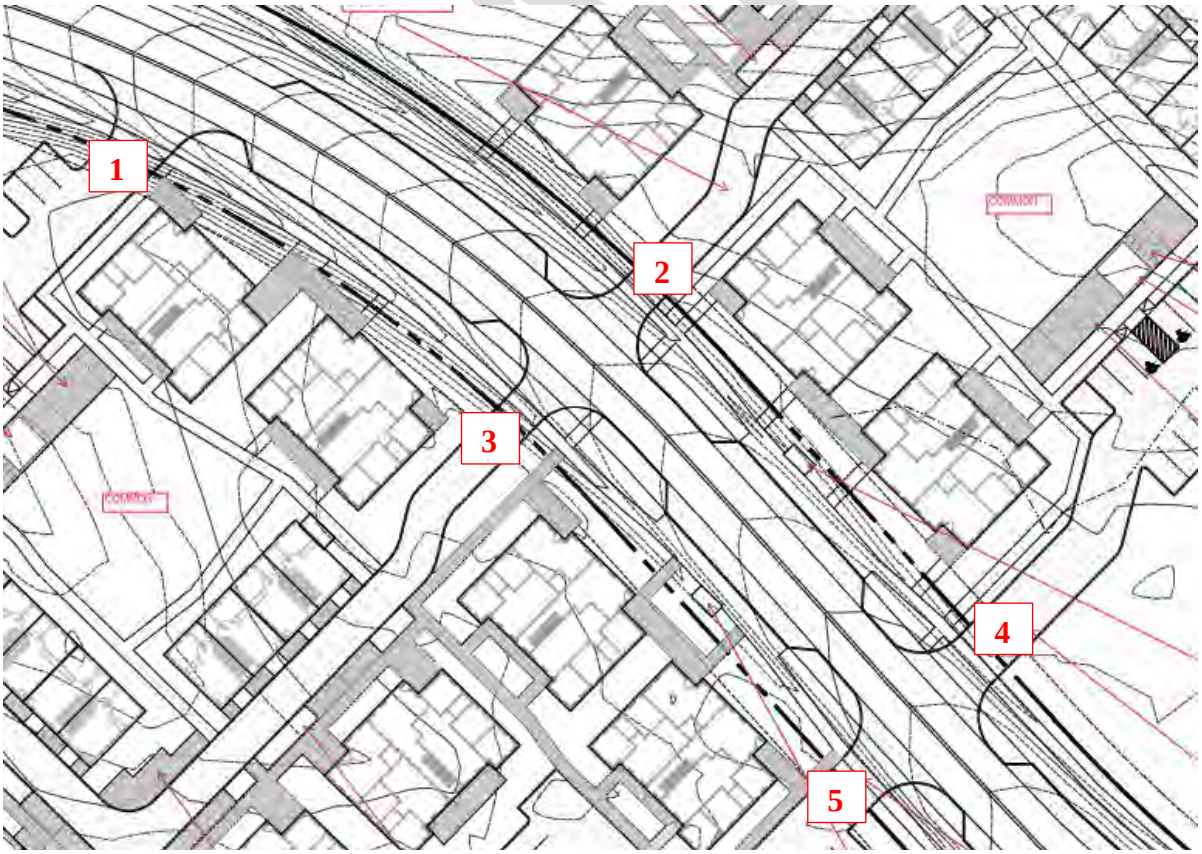
The Maine Department of Transportation's Highway Entrance and Driveway Rules require the following sight distances for a non-mobility roadway:

Sight Distance Standards

Speed Limit	Sight Distance
25 mph	**200 feet**
30 mph	250 feet
35 mph	305 feet
40 mph	360 feet
45 mph	425 feet
50 mph	495 feet

The section of Washington Avenue Extension fronting the proposed driveways is presently posted at 25mph, which requires a sight distance of 200-feet. MaineDOT's Rules and Regulations require sight distance to be measured in accordance with the following procedures: *"Sight distance is measured to and from the point on the centerline of the proposed access that is located 10-feet from the edge of traveled way. The height of the hypothetical person's view is considered to be 3½ feet above the pavement and the height of the object being viewed is considered to be 4¼ feet above the pavement."*

The proposed driveway entrances are numbered and sight distances are listed below.



Driveway #1
Looking Left: 360'
Looking Right: 370' – Can be increased to 440' with minor clearing – See circled branch in photograph.

Driveway #2
Looking Left: 450'
Looking Right: 400'

Driveway #3
Left: 280' – can be increased to 330' with minor clearing – See circled branch in photograph
Right: Can see through intersection (600')

Driveway #4
Left: Can see through intersection (425')
Right: 450'

Driveway #5
Left: 375'
Right: can see through intersection (425')

Our field measurements looking both left and right from of each of the proposed site driveway entrances directly onto Washington Avenue Extension indicate existing sight distances are in excess of the requirements based on a posted speed limit of 25mph. See photos below.

Driveway #1 Looking Right Out of Entrance

Driveway #1 Looking Left Out of Entrance

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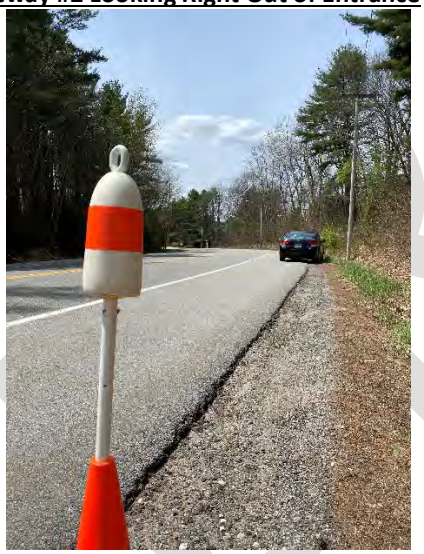
Driveway #2 Looking Right Out of Entrance



Driveway #2 Looking Left Out of Entrance

Driveway #3 Looking Right Out of Entrance

Driveway #3 Looking Left Out of Entrance

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Driveway #4 Looking Right Out of Entrance

Driveway #4 Looking Left Out of Entrance

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Driveway #5 Looking Right Out of Entrance

Driveway #5 Looking Left Out of Entrance

Existing Road Safety Conditions

The Maine Department of Transportation's (MaineDOT) Accident Records Section provided the latest three-year (2019 through 2021) crash data in the vicinity of the proposed project for a distance of approximately 2.60 miles. The defined study area is shown in Appendix A. Their report is presented as follows:

2019 -2021 Traffic Accident Summary

Location	Total Crashes	Critical Rate Factor
1. Washington Avenue Ext @ Auburn Street	1	0.25
2. Auburn Street @ Garsoe Drive	1	0.25
3. Auburn Street @ Summit Street	2	0.58
4. Eugene Street @ Gray Road	3	0.72
5. Washington Avenue @ Riverside Street	3	1.02
6. Lambert Street @ Summit Street	1	0.63
7. Lambert Street @ Washington Avenue and Washington Avenue East	5	2.60
8. Auburn Street btw. Falmouth City Line and Garsoe Drive	1	0.13
9. Gray Road btw. Eugene Street and Falmouth City Line	1	0.63
10. Washington Avenue btw. Lester Drive and Road INV 3210279	1	0.20
11. Washington Avenue Extension btw. Lambert Street and Auburn Street	1	0.29

The MaineDOT considers any roadway intersection or segment a high crash location if both of the following criteria are met:

- ***8 or more accidents in a three-year period***
- ***A Critical Rate Factor greater than 1.00***

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As the data in the chart shows, there are no identified high crash locations within the study area.

Location 7, Lambert Street at Washington Avenue Extension was previously reported as a high crash location during the 3- year period from 2016-2018, with **8** crashes and a CRF of **3.35**. The collision diagram prepared for this historic 3-year period shows 6 out of the 8 crashes were "*angle*" movement crashes, with 4 of the "*angle*" crashes caused by vehicles entering the intersection from the Washington Avenue Extension approach, striking vehicles traveling northbound on Lambert Street. The remaining two (2) "*angle*" movement crashes were caused by vehicles entering the intersection from the Washington Avenue approach. The remaining two (2) crashes shown on the 2016-2018 HCL collision diagram involve a pedestrian hit and run on the Washington Avenue approach, and a sideswipe crash involving a vehicle crossing the centerline while entering Washington Avenue Extension from the northern Lambert Street approach. The historic HCL collision diagram is attached in the appendix for reference. Out of the eight (8) crashes, four (4) were property damage only, three (3) were minor injury or "*Type C*", and the crash involving the pedestrian caused a Type B injury.

During the most recent 3-year period (2019-2021) five (5) crashes occurred at the intersection. MaineDOT's Public Crash Query Tool indicates that four (4) of the crashes were intersection movement crashes ("*angle crashes*"), with a property damage only injury classification. One crash was a rear-end/sideswipe type crash, with property damage only. Refer to the image on the following page.

MaineDOT Public Crash Query Tool – Lambert Street @ Washington Avenue/Washington Avenue Extension
2019 – 2021 Crash Report

Location LAMBERT ST
Int of LAMBERT ST WASHINGTON AV WASHINGTON AV EX, PORTLAND

Report #/Police Dept.	Injury Level	Crash Date/Time	Type of Crash	MDOT ID
19-253/ FALMOUTH POLICE DEPARTMENT	P	1/3/2019 11:07 AM	Intersection Movement	2019-202
19-000796/ PORTLAND POLICE DEPARTMENT	P	3/6/2019 10:46 AM	Rear End / Sideswipe	2019-44671
19-001562/ PORTLAND POLICE DEPARTMENT	P	5/23/2019 8:48 PM	Intersection Movement	2019-52839
20-000007/ PORTLAND POLICE DEPARTMENT	P	1/2/2020 8:09 AM	Intersection Movement	2020-85
21-002526/ PORTLAND POLICE DEPARTMENT	P	11/8/2021 4:18 PM	Intersection Movement	2021-30652

Existing traffic control is provided at the intersection via four-way stop control, with stop signs on all approaches and an overhead flashing beacon with red indications on all approaches.

Existing Conditions

Manual turning-movement traffic counts were conducted at the sites study intersections to establish "*peak*" travel conditions. The weekday count at Auburn Street at Washington Avenue Extension/Garsoe Drive were collected on October 7th of 2021, and the weekday AM and PM traffic count data for Lambert Street at Washington Avenue/Washington Avenue Extension were collected on October 5th of 2021.

From a summary of the data, peak hour times were established for all "*peak*" commuter travel periods. All vehicular traffic entering each of the sites study intersections was recorded in 15 minute intervals. At Washington Avenue Extension and Auburn/Garsoe, vehicular traffic was recorded between the hours of 6:00 AM and 6:00 PM. The vehicular traffic data recorded at the intersection of Lambert Street at Washington Avenue/Washington Avenue Extension was recorded between 7:00 and 9:00 AM, and again between 3:00 PM and 6:00 PM. From a summary of the data, peak hour times were established for all "*peak*" commuter travel periods. The morning peak hour at the Auburn Street intersection occurs between 7:30 and 8:30 AM, and the morning peak hour for the intersection at Lambert Street falls between 7:15 and 8:15 AM. The evening peak hours occurs between 4:30 and 5:30 at Auburn Streets intersection, and 4:00 to 5:00 at the Lambert Street intersection. Copies of the peak hour summary reports are attached in the appendix for reference.

Traffic data collected during the weeks of our counts requires an adjustment to the 6th highest week to reflect "*peak*" travel conditions for analysis. MaineDOT provides weekly mean factors for adjusting traffic data to this time-period. MaineDOT utilizes highway classifications of I, II or III for all State and Local roadways. The classifications for the roadways are provided in MaineDOT's Count Book. MaineDOT's Count Book classifies Lamert Street and Auburn Street as a Group II Roadway which is defined as: : *Urban roadways or roads that typically see commuter traffic and experience minimal fluctuation from week to week throughout the typical year.* The weekday traffic movement counts taken on these Group I roadways require a seasonal adjustment factor of 1.024. The seasonal adjustment factors are only applied to the major streets through volumes at each of the study intersections.

Because Washington Avenue Extension presently serves as solely an undeveloped connecter roadway, the traffic volumes entering/exiting the Washington Avenue Extension approaches were balanced to the higher recorded entering/exiting traffic volume.

Site Trip Distribution

It is our opinion that the observed travel patterns on Washington Avenue Extension are not representative of proposed Lambert Woods site trip distributions, given that Washington Avenue Extension is presently undeveloped and solely used as connector road. From an analysis of the north and south directional splits of the recorded traffic movement data on Auburn Street and Lambert Street, it is in our opinion that during the morning peak hour 60% of the site-generated trips, at the study intersections, will travel south, while the remaining 40% travel north. During the PM peak hour, we have assumed that 60% of site-generated trips, at the study intersections, travel north while 40% travel south.

An evaluation of the west and east direction splits on Washington Avenue Extension was performed using the AADT's on Auburn Street, Washington Street and Lambert Street. MaineDOT's Public Map Viewer shows that Auburn Street between Washington Avenue Extension and Longview Drive has an AADT of 8165. The AADT on Washington Avenue between Summit Street and Stonecrest Drive is 4054, and the AADT on Lambert Street between Washington Avenue and Summit Street is 1382.

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Applying the AADT directional splits, 60% of the site-generated trips were assigned eastbound on Washington Avenue Extension and the remaining 40% were assigned westbound, where 30% will continue westbound onto Washington Avenue, and 10% of the site-generated trips will travel north or south on Lambert Street. The trips entering the site are assigned to the same distribution pattern.

The site generated traffic following these distributional splits are presented in Figure 3 and Figure 4 in the Appendix.

Future Traffic

This traffic study has been prepared based on a projected build-out year of 2024. MaineDOT's historical traffic data (2016 through 2019) provides insufficient data points on Auburn Street and Lambert Street. To accurately estimate future travel conditions at the sites study intersections, therefore the recorded 2021 traffic volumes were increased by an assumed annual growth rate of 1% per year to project 2024 peak hour travel conditions.

The 2024 Pre-Development traffic for the sites study intersections are presented in Figure 1 and Figure 2 in the Appendix. The 2024 Post-Development traffic are shown in Figures 5 and Figure 6, which include the proposed site generated trips.

Capacity Analysis

Capacity Analyses of both Pre- and Post-development traffic conditions were performed for Washington Avenue Extension it's intersections at Auburn Street and Lambert Street.

During the post-development analysis, two different scenarios were reviewed; the first scenario was for the 2024 post-development with a single lane on the Washington Avenue Extension approach at the intersection with Auburn Street and Garsoe Drive. The second analysis evaluated the 2024 post-development condition with a left-turn and right-turn lane on the Washington Avenue Extension approach at the intersection with Auburn Street and Garsoe Drive.

Intersection Performance Analysis Levels of Service rankings are similar to the academic grading system, where an "A" is very good with little delay and "F" represents very poor conditions.

Level of Service Criteria for Unsignalized Intersections

Level of Service	Total Control Delay (sec/veh)
A	Up to 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

SimTraffic Analysis

Table 2.1 on the following page presents the results of the capacity analysis completed for the intersection of Washington Street Extension at Auburn Street/Garsoe Drive. The analysis results are based on the average of five (5) 60-minute runs, using Synchro inputs and SimTraffic output reports.

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Table 2.1
SimTraffic Level of Service Summary
2024 Pre- and Post-Development Conditions

	2024 Pre-Development				2024 Post-Development Single Lane on Wash. Ext. @ Auburn				2024 Post-Development LT & RT Lane on Wash. Ext. @ Auburn St			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection/Approach	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**
1. **Lambert Street & Washington Avenue/Washington Avenue Ext.**												
- Washington Avenue – LTR	7.2	A	7.3	A	7.2	A	7.5	A	7.2	A	7.5	A
- Washington Avenue Ext. – LTR	5.9	A	5.5	A	5.7	A	5.1	A	5.8	A	5.1	A
- Lambert Street NB – LTR	6.9	A	7.7	A	6.5	A	7.7	A	6.5	A	7.7	A
- Lambert Street SB – LTR	8.6	A	6.4	A	8.6	A	6.6	A	8.6	A	6.6	A
- **Overall Intersection**	**7.4**	**A**	**6.8**	**A**	**7.3**	**A**	**6.8**	**A**	**7.3**	**A**	**6.8**	**A**
2. **Auburn Street & Washington Avenue Ext./Garsoe Drive**												
- Washington Avenue Ext. – LTR	21.5	C	150.8	F	20.8	C	164.2	F	19.4	C	171.6	F
- Garsoe Drive – LTR	10.1	B	16.6	C	11.0	B	14.5	B	11.5	B	15.2	C
- Auburn Street NB – LTR	1.3	A	1.9	A	1.5	A	2.4	A	1.5	A	2.4	A
- Auburn Street SB – LTR	2.2	A	2.8	A	2.3	A	2.9	A	2.3	A	3.0	A
- **Overall Intersection**	**5.0**	**A**	**25.9**	**D**	**5.6**	**A**	**28.2**	**D**	**5.4**	**A**	**29.4**	**D**
3. **Lambert Woods South/North Ent. & Washington Avenue Ext.**												
- Washington Ave. Ext. EB – LTR					1.7	A	2.0	A	1.7	A	4.4	A
- Washington Ave. Ext. WB – LTR					0.4	A	0.6	A	0.4	A	0.6	A
- Lambert Woods Entrance – LTR					3.8	A	4.5	A	3.8	A	21.9	C
- Lambert Woods Entrance – LTR					4.6	A	4.9	A	4.7	A	5.1	A
- **Overall Intersection**					**1.3**	**A**	**1.5**	**A**	**1.3**	**A**	**3.2**	**A**

As shown in the prior LOS summary table, the post-development LOS at the western study intersection of Washington Avenue, Lambert Street and Washington Avenue Extension, the intersection experiences minimal change throughout the peak hours with the overall grade staying at a Level of Service A.

At the study intersection of Washington Avenue Extension, Auburn Street and Garsoe Drive, during both post-development conditions the level of service during the AM peak hour remains similar throughout all approaches, staying at an average LOS A. During the PM peak hour, the LOS of the approaches on Auburn Street and Garsoe Drive remain similar to the pre-development conditions. During the pre-development conditions, with a left and right-turn lane, the LOS on the Washington Avenue Extension approach at Auburn Street is shown to be **151** seconds. The post-development delay for the same conditions is shown to be **172** seconds. For the proposed single lane approach on Washington Avenue Extension, when compared to the post-development condition with a left- and right-turn lane on the approach, there is no significant change to the LOS grade; under the single lane approach condition, the delay is reduced to **164** seconds.

Overall, the analysis shows that keeping the right-turn and left-turn lane configuration on the Washington Avenue extension Approach at Auburn Street offers no significant advantage to the Level of Service and delay.

The following table, Table 2.2, presents the SimTraffic queue results.

Table 2.2
Queue Length Summary
2024 Pre- and Post-Development Conditions

	2024 Pre-Development		2024 Post-Development Single Lane on Wash. Ext. @ Auburn		2024 Post-Development LT & RT Lane on Wash. Ext. @ Auburn St	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Intersection/Approach	Queue (Ft.)	Queue (Ft.)	Queue (Ft.)	Queue (Ft.)	Queue (Ft.)	Queue (Ft.)
1. **Lambert Street & Washington Avenue/Washington Avenue Ext.**						
- Washington Avenue – EB LTR	84	80	85	84	85	84
- Washington Avenue Ext. – WB LTR	85	79	88	83	88	83
- Lambert Street – NB LTR	61	72	58	72	58	72
- Lambert Street – SB LTR	98	61	98	63	98	64
3. **Auburn Street & Washington Avenue Ext./Garsoe Drive**						
- Washington Avenue Ext. – EB LTR			168	573		
- Washington Avenue Ext. – EB LT	133	729			150	603
- Washington Avenue Ext. – EB R	45	162			78	218
- Garsoe Drive – WB LTR	54	51	56	48	56	48
- Auburn Street – NB LTR	37	72	49	94	46	87
- Auburn Street – SB LTR	10	44	15	55	14	54
3. **Lambert Woods South/North Ent. & Washington Avenue Ext.**						
- Washington Ave. Ext. – EB LTR			9	19	9	59
- Washington Ave. Ext.– WB LTR			12	22	12	22
- Lambert Woods Entrance – NB LTR			42	36	42	46
- Lambert Woods Entrance – SB LTR			41	36	41	36

The queue summary shows that the traffic conditions at the intersection of Lambert Street at Washington Avenue and Washington Avenue Extension are not significantly impacted by the additional site generated trips.

At the intersection of Auburn Street at Washington Avenue Extension and Garsoe Drive, the SimTraffic simulation shows pre-development queues, for the left-turning vehicles, are **133**-feet in the AM and **729**-feet in the PM. Assuming 25-feet for vehicle length and spacing, this would result in a 5 passenger car queue in the AM and a 29 passenger car queue in the PM. To conform that the simulation results represent real traffic conditions, we conducted field observations of the vehicle queues and delay times in the AM and PM peak hours, at the intersection, which will be further discussed in the next section.

Field Observations

A field review of the existing queue lengths on the Washington Avenue Extension approach at Auburn Street was performed during the PM Peak Hour on September 6, 2022 and the AM peak hour on September 7, 2022. Each of the studies were performed for 30 minutes during each of the identified peak

hours. The PM peak hour was studied from 4:30 – 5:00 and the AM peak hour was studied from 7:40 – 8:10. Additionally, delay times were measured from when a vehicle entered the front of the queue to when they entered the intersection.

The field observations indicate the following:

Washington Avenue Ext. Approach @ Auburn Street Field Measurements				
Time Period	**AM Peak Hour**		**PM Peak Hour**	
	Queue (Ft.)	**Delay (Sec.)**	**Queue (Ft.)**	**Delay (Sec.)**
Maximum	6	65	10	51
Average	2	15	3	23

The existing traffic observations on the Washington Avenue indicates that during the AM peak hour a maximum of 6 vehicles are queued, and a maximum of 10 vehicles are in the queue during the PM peak hour. This would result in a 150-foot queue in the AM peak hour (assuming 25-foot per vehicle), and a 250-foot queue during the PM peak hour. Given that the SimTraffic queue results were significantly larger than the observed field conditions during the PM peak hour, we have calibrated our traffic models to better represent the observed field conditions. The next section in this capacity analysis will use the calibrated traffic models to re-evaluate the pre- and post-development conditions at the intersection of Auburn Street at Washington Avenue Extension and Garsoe Drive.

Traffic Model Calibrations

To better represent the observed field conditions, we reviewed both the Synchro inputs and Synchro/SimTraffic outputs. Our review indicated that when the calibrated, the Synchro Model reporting option is shown to be better representative of the observed field conditions. The PM peak hour Synchro model was calibrated, and the same calibration was applied to all other models. Note that the pre-development traffic represents 2024 conditions, therefore the projected queues are expected to be slightly higher than the observed current queues.

The calibrated Synchro Level of Service is summarized for the intersection of Washington Avenue Extension at Auburn Street and Garsoe Drive in the following table, Table 2.3 (the calibrated Synchro reports are included within the Appendix for reference).

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Table 2.3
Calibrated Synchro Level of Service Summary
2024 Pre- and Post-Development Conditions

	2024 Pre-Development				2024 Post-Development Single Lane on Wash. Ext. @ Auburn				2024 Post-Development LT & RT Lane on Wash. Ext. @ Auburn St			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection/Approach	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS
2. **Auburn Street & Washington Avenue Ext./Garsoe Drive**												
- Washington Avenue Ext. – EB	30.2	D	159.8	F	37.4	E	231.0	F	31.9	D	218.1	F
- Garsoe Drive – WB	13.9	B	17.1	C	14.4	B	17.8	C	14.3	B	17.7	C
- Auburn Street – NB	0.5	A	0.4	A	0.7	A	0.7	A	0.7	A	0.7	A
- Auburn Street – SB	0.1	A	0.4	A	0.1	A	0.4	A	0.1	A	0.4	A
- **Overall Intersection**	**5.2**	**A**	**23.7**	**C**	**7.0**	**A**	**36.1**	**E**	**6.0**	**A**	**34.1**	**D**

The calibrated Synchro analysis shows that when compared to the post-development left- and right-turn approach, the single lane approach only operates with 13 more seconds of delay in the PM peak hour, and 5 more second during the AM peak hour.

The following table, Table 2.4 presents the queue results for the calibrated Synchro analysis.

Queue Length Summary
2024 Pre- and Post-Development Conditions

	2024 Pre-Development		2024 Post-Development Single Lane on Wash. Ext. @ Auburn		2024 Post-Development LT & RT Lane on Wash. Ext. @ Auburn St	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Intersection/Approach	Queue (Ft.)	Queue (Ft.)	Queue (Ft.)	Queue (Ft.)	Queue (Ft.)	Queue (Ft.)
- Washington Avenue Ext. – EB	73	262	103	331	88	323
- Garsoe Drive – WB	7	6	7	6	7	6
- Auburn Street – NB	1	1	2	2	2	2
- Auburn Street – SB	0	1	0	1	0	1

During the 2024 pre-development conditions, the 95th percentile traffic queues are shown to be 3 vehicles (passenger cars) long in the AM and 11 vehicles long in the PM, which is more in line with the observed traffic queues. The post-development queues on Washington Avenue Extension are estimated to be 4 vehicles long in the AM peak hour and 13 vehicles long in the PM peak hour. The post-development analysis for the left- and right-turn lane configuration show that queues only slightly decrease in the AM peak hour, estimating 4 vehicles in the AM peak hour and 13 vehicles in the PM peak hour.

Traffic Signal Warrant

A traffic signal warrant was performed at the intersection of Auburn Street, Washington Avenue Extension and Garsoe Drive using 12-hour traffic data taken between the hours of 6:00AM and 6:00PM on October 7, 2021. The traffic data was adjusted to represent average conditions, the 26th highest week as reported in MaineDOT's 2018 Weekly Group Mean Factors.

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Our analysis utilized MUTCD's "rural" condition, or condition "C" which is to be used when *the major street speed exceeds 40 mph or in an isolated community with a population of less than 10,000*. Based on field observations, vehicles on Auburn Street generally exceed 40 mph. We will be following this traffic study up with a speed analysis for the area of Auburn Street fronting Washington Avenue Extension.

Our analysis using condition "C" shows that a traffic signal warrant is met at the intersection of Auburn Street, Washington Avenue Extension and Garsoe Drive, with Condition A – Minimum Vehicular Volume being met for 9 hours and Condition B – Interruption of Continuous Traffic being met for 11 hours. See MUTCD Table 4C.1 below.

Additionally, we ran our warrant analysis tool using the same conditions for the average condition adjusted 2021 counts, and the analysis shows that the 8-hour Interruption of Traffic Warrant is presently met. The traffic signal warrant analysis for both analyses are attached in the Appendix for reference.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1.....	1.....	500	400	350	280	150	120	105	84
2 or more.....	1.....	600	480	420	336	150	120	105	84
2 or more.....	2 or more.....	600	480	420	336	200	160	140	112
1.....	2 or more.....	500	400	350	280	200	160	140	112

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition B—Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1.....	1.....	750	600	525	420	75	60	53	42
2 or more.....	1.....	900	720	630	504	75	60	53	42
2 or more.....	2 or more.....	900	720	630	504	100	80	70	56
1.....	2 or more.....	750	600	525	420	100	80	70	56

A potential traffic signal at the study intersection was discussed during the meeting held on August 29, 2022, which included City staff an peer reviewers; Justin Pellerin, Sean King, Jeremiah Bartlett and Thomas Errico. During this meeting, potential traffic calming and pedestrian safety measures were discussed and considered. Safety of pedestrians, especially school kids getting on and off buses, was of high importance. The general consensus of the meeting was that other forms of treatment were preferred and would be reviewed and implemented before a traffic signal would be strongly considered. Alternative traffic calming and safety measures at the intersection are preferred at this time. This is discussed in further detail in the next section.

Off Site Safety / Pedestrian Improvements

As an effort to transform Washington Avenue Extension into a residential and pedestrian centered roadway, the left-turn and right-turn lane configuration on the roadways approach at Auburn Street is

proposed to be changed to a single lane approach. Our Synchro analysis, presented in the Capacity Analysis section, shows that there is no advantages in keeping the existing lane configurations.

Items discussed as part of the meeting held on August 29, 2022, included;

1. Potential traffic signal
2. Potential HAWK signal
3. Standard crosswalk with signing
4. Crosswalk with curb extension or raised speed table with Rectangular Rapid Flashing Beacon (RRFB)

Because of our observations of traffic operations at the intersection of Washington Avenue Extension and Auburn Street, which indicated only moderate delays and queuing, a traffic signal was not seen as the best treatment option at this time. During the meeting, it was noted by City staff that personal observations show only moderate queue lengths and delay times on the Washington Avenue Extension approach at Auburn Street. Because of this, B&L was requested to study the existing traffic operations (queue lengths and vehicle delay) based on filed observations, as was presented in the capacity analysis section above.

Items 2, 3 and 4, above, were discussed in detail at the meeting and the consensus was the implementation of Item 4, Crosswalk with curb extension or raised speed table with Rectangular Rapid Flashing Beacon (RRFB). It was felt that a crosswalk with curb extensions and RRFB would provide for a safe crossing of Auburn Street by pedestrians. In addition, vehicles periodically stopped for the flashing RRFB would allow vehicles to exit Washington Avenue Extension. A plan of this treatment option has been prepared by Acorn Engineering and Reviewed by Barton and Loguidice. We are in support of this design option.

Summary/Conclusions

1. The expected daily trip generation for the proposed development is estimated to be 794 weekday daily trips. The project generates a total of 60 trips during the weekday AM peak hour, 83 trips during the weekday PM, and 83 trips during the Saturday peak hour. Overall, the project will be a low volume trip generator and will be below the minimum MaineDOT threshold of 100 new peak hour trips ends that would require a Traffic Movement Permit.

2. A review of Maine DOT Crash data available for the latest three-year period (2019 – 2021) for the defined study area (see Appendix A) indicates that there are no high crash locations within the defined region.

3. Vehicle sight distance field measurements looking both left and right from each of the proposed five (5) site driveway entrances onto Washington Avenue Extension indicate existing sight distances are in excess of the requirements (200 ft.) based on a posted speed limit of 25mph.

4. A capacity analysis was performed at Washington Avenue Extension's intersections with Lambert Street and Auburn Street using SimTraffic and Synchro Reporting. The SimTraffic Report used the collected traffic data, and the Synchro Report was calibrated to represent observed peak hour conditions observed at the intersection of Washington Avenue Extension and Auburn Street during the AM and PM peak hours. The SimTraffic analysis shows that the intersection with Lambert Street is not signifcantly impacted by the proposed development, with the projected Level of Service remaining at an A on all approaches. Intersection queue observations and counts

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at Washington Avenue Extension's approach on Auburn Street were utilized to calibrate the Synchro Report. Overall, the calibrated model shows that the intersection at Auburn Street will operate with an overall LOS A during the AM peak hour under the existing two lane approach configuration as well as under the proposed single lane approach configuration. During the PM peak hour, the intersection is projected to operate with an LOS D under the existing two-lane approach configuration, and an LOS E under the single lane approach configuration. The delay times under both conditions for Washington Avenue Extensions approach on Auburn Street are similar with the single lane alternative showing a delay time of 231 seconds and a queue length of 331-feet, and the existing left- and right-turn two lane approach showing delay times of 218 second and a queue length of 323-feet.

5. A Traffic Signal Warrant was performed at the intersection of Washington Avenue Extension, Auburn Street and Garsoe Drive. The Warrant analysis shows that under the existing average conditions, volume warrants were met, with the warrant meeting the 8-hour Interruption of Traffic condition. Under projected 2024 post-development average conditions, the 8-hour Minimum Vehicular Volume condition is also met in addition to the the Interruption of Traffic condition.

6. The majority of traffic entering the intersection at Auburn Street from the Washington Avenue Approach performs a left-turn and heads north on Auburn Street. The approach is proposed to change from a dedicated right-turn and dedicated left-turn lane configuration into a single shared left and right-turn lane approach as part of the effort to transform Washington Avenue Extension into more of a local or residential and pedestrian friendly roadway, with elements to encourage lower speeds and traffic calming. Our Synchro analysis indicates that leaving the existing two-lane Washington Avenue Extension configuration does not offer significant improvements in the Level of Service or the Queue Lengths. In addition, vehicles using this area of Portland and corresponding roadway networks have other routing options to access Portland to the east, west and south and as well as Falmouth to the north.

7. A crosswalk with curb extensions and RRFB is recommended and is being proposed to provide for safe crossing of Auburn Street by pedestrians. This crosswalk will be located on Auburn Street to the south of Washington Avenue Extension. Acorn Engineering has prepared the plan in coordination with Barton & Loguidice (B&L) and we are in support of these pedestrian safety and traffic calming improvements.

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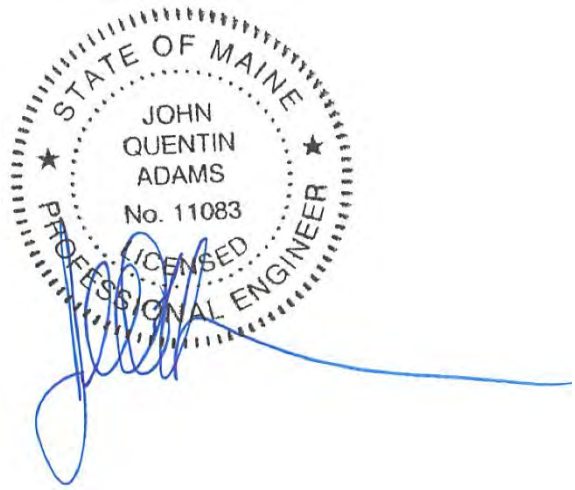

John Q. Adams, PE, PTOE, Date: 09/27/2022

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APPENDIX

Appendix A - MaineDOT Crash Data

Appendix B - Traffic Movement Data

Appendix C - Traffic Figures

Appendix D - SimTraffic Report Data

Appendix E - Synchro Report Data

Appendix F - Traffic Signal Warrant

Appendix G - Off Site Improvements

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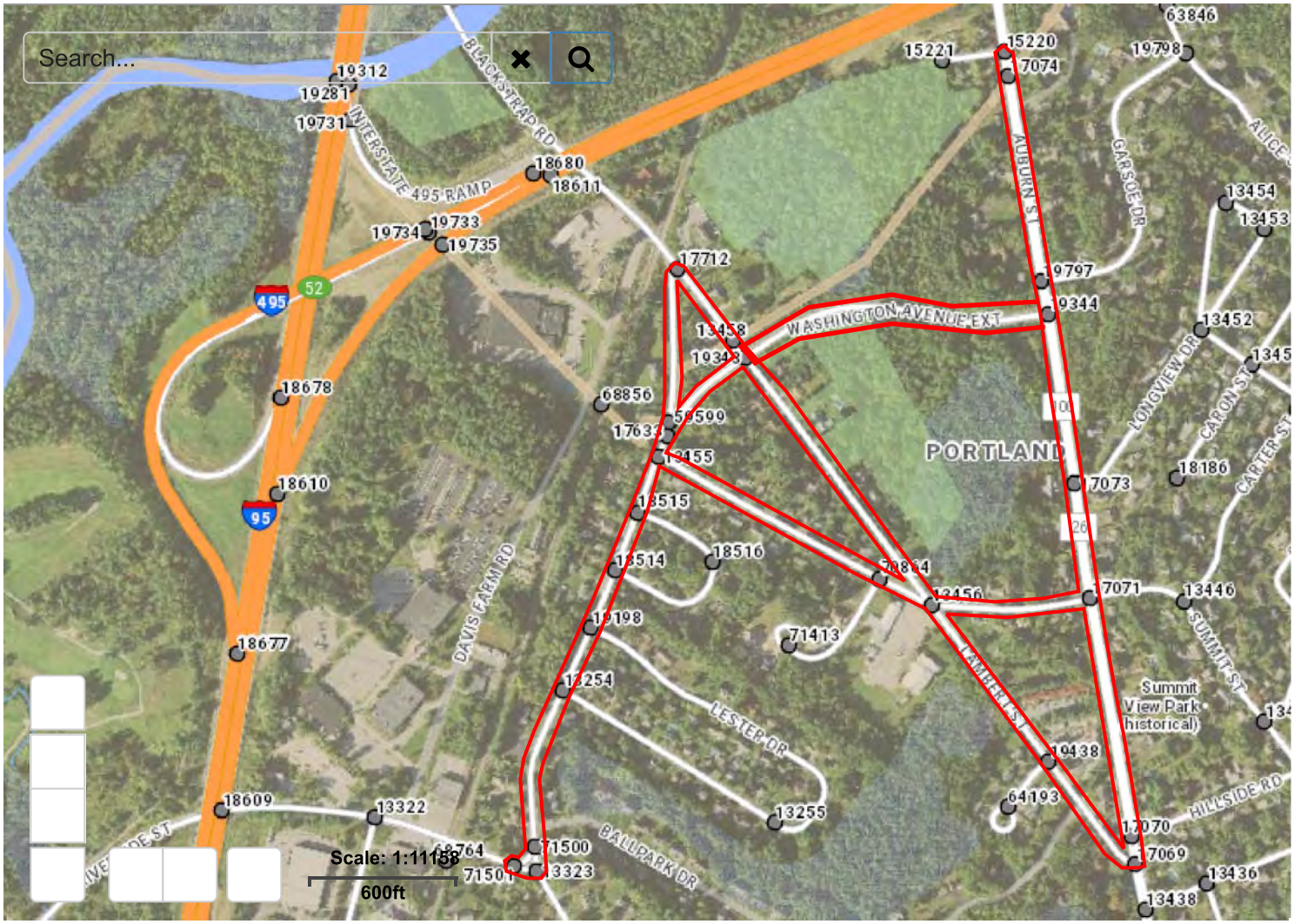
APPENDIX A – MAINEDOT CRASH DATA


Search...
PORTLAND
WASHINGTON AVENUE EXT
AUBURN ST
BLACKSTRAP RD
INTERSTATE 495 RAMP
DAVIS FARM RD
LESTER DR
BALLPARK DR
LONGVIEW DR
GARSOE DR
CARON ST
CARTER ST
SUMMIT ST
HILLSIDE RD
Summit View Park (historical)
Scale: 1:11158
600ft

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Portland/Falmouth
Auburn St.-Washington Ave.-Lambert St

REPORT PARAMETERS

Year 2019, Start Month 1 through Year 2021 End Month: 12

Route: **0026X**	Start Node: **17069**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **15220**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0560770**	Start Node: **13323**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **59599**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0561178**	Start Node: **17633**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **19343**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560621**	Start Node: **71501**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **13323**	End Offset: **0**	☑ **Exclude Last Node**
Route: **3210279**	Start Node: **71500**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **71501**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560425**	Start Node: **17069**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **13458**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0540030**	Start Node: **13458**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **17712**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0540035**	Start Node: **59599**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **17712**	End Offset: **0**	☑ **Exclude Last Node**

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
19344	0026X - 4.83	Int of AUBURN ST WASHINGTON AV EXT	2	1	0	1	0	0	0	100.0	3.836	0.09	0.36	0.00
												Statewide Crash Rate:	0.13	
17073	0026X - 4.70	Int of AUBURN ST LONGVIEW RD	2	0	0	0	0	0	0	0.0	2.993	0.00	0.38	0.00
												Statewide Crash Rate:	0.13	
19797	0026X - 4.86	Int of AUBURN ST GARSOE DR	2	1	0	0	1	0	0	100.0	3.764	0.09	0.36	0.00
												Statewide Crash Rate:	0.13	
17069	0026X - 4.41	Int of AUBURN ST LAMBERT ST	2	0	0	0	0	0	0	0.0	3.643	0.00	0.37	0.00
												Statewide Crash Rate:	0.13	
17070	0026X - 4.43	Int of AUBURN ST HILLSIDE RD	2	0	0	0	0	0	0	0.0	2.708	0.00	0.39	0.00
												Statewide Crash Rate:	0.13	
17071	0026X - 4.61	Int of AUBURN ST SUMMIT ST	2	2	0	0	1	1	0	100.0	3.006	0.22	0.38	0.00
												Statewide Crash Rate:	0.13	
15220	0026X - 5.04	Int of EUGENE ST GRAY RD	2	3	0	0	0	0	3	0.0	3.778	0.26	0.36	0.00
												Statewide Crash Rate:	0.13	
17074	0026X - 5.02	TL Falmouth Portland	2	0	0	0	0	0	0	0.0	1.885	0.00	0.43	0.00
												Statewide Crash Rate:	0.13	
13323	0560770 - 1.22	Int of RIVERSIDE ST WASHINGTON AV	2	3	0	0	1	0	2	33.3	2.396	0.42	0.41	1.03
												Statewide Crash Rate:	0.13	
13455	0560770 - 1.56	Int of SUMMIT ST WASHINGTON AV	2	0	0	0	0	0	0	0.0	1.416	0.00	0.46	0.00
												Statewide Crash Rate:	0.13	
19198	0560770 - 1.42	Int of LESTER DR WASHINGTON AV	2	0	0	0	0	0	0	0.0	1.611	0.00	0.45	0.00
												Statewide Crash Rate:	0.13	
17633	0560770 - 1.58	Non Int WASHINGTON AV	2	0	0	0	0	0	0	0.0	0.978	0.00	0.50	0.00
												Statewide Crash Rate:	0.13	
18514	0560770 - 1.47	Int of STONECREST DR, WASHINGTON AV	2	0	0	0	0	0	0	0.0	1.547	0.00	0.45	0.00
												Statewide Crash Rate:	0.13	
13254	0560770 - 1.37	Int of LESTER DR WASHINGTON AV	2	0	0	0	0	0	0	0.0	1.671	0.00	0.45	0.00
												Statewide Crash Rate:	0.13	
18515	0560770 - 1.52	Int of STONECREST DR WASHINGTON AV	2	0	0	0	0	0	0	0.0	1.517	0.00	0.46	0.00
												Statewide Crash Rate:	0.13	
59599	0560770 - 1.59	TL Falmouth Portland	2	0	0	0	0	0	0	0.0	0.338	0.00	0.56	0.00
												Statewide Crash Rate:	0.13	
71500	0560770 - 1.24	Int of RD INV 3210279 WASHINGTON AV	2	0	0	0	0	0	0	0.0	1.347	0.00	0.47	0.00
												Statewide Crash Rate:	0.13	
71501	0560621 - 3.31	Int of RD INV 3210279 RIVERSIDE ST	2	0	0	0	0	0	0	0.0	2.925	0.00	0.39	0.00
												Statewide Crash Rate:	0.13	
13456	0560425 - 0.25	Int of LAMBERT ST SUMMIT ST	2	1	0	0	0	0	1	0.0	1.089	0.31	0.49	0.00
												Statewide Crash Rate:	0.13	
19438	0560425 - 0.10	Int of GEORGIA ST LAMBERT ST	2	0	0	0	0	0	0	0.0	1.070	0.00	0.49	0.00
												Statewide Crash Rate:	0.13	
19343	0560425 - 0.49	Int of LAMBERT ST WASHINGTON AV WASHINGTON AV E	2	5	0	0	0	0	5	0.0	1.361	1.22	0.47	2.62
												Statewide Crash Rate:	0.13	
13458	0560425 - 0.51	TL - Falmouth, Portland	2	0	0	0	0	0	0	0.0	0.387	0.00	0.56	0.00
												Statewide Crash Rate:	0.13	

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
17712	0540030 - 0.07	Int of BLACKSTRAP RD WASHINGTON AV EXT	2	0	0	0	0	0	0	0.0	0.972	0.00	0.50	0.00
												Statewide Crash Rate:	0.13	
Study Years:	3.00	**NODE TOTALS:**		16	0	1	3	1	11	31.3	46.238	0.12	0.21	0.56

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
17069	17070	3123986	0 - 0.02	0026X - 4.41	0.02	2	0	0	0	0	0	0	0.0	0.00053	0.00	756.09	0.00
Int of AUBURN ST LAMBERT ST				ST RTE 26											Statewide Crash Rate: 187.10		
17070	17071	3130499	0 - 0.18	0026X - 4.43	0.18	2	0	0	0	0	0	0	0.0	0.00483	0.00	445.32	0.00
Int of AUBURN ST HILLSIDE RD				ST RTE 26											Statewide Crash Rate: 187.10		
17071	17073	3938275	0 - 0.09	0026X - 4.61	0.09	2	0	0	0	0	0	0	0.0	0.00263	0.00	520.33	0.00
Int of AUBURN ST SUMMIT ST				ST RTE 26											Statewide Crash Rate: 187.10		
17073	19344	192822	0 - 0.13	0026X - 4.70	0.13	2	0	0	0	0	0	0	0.0	0.00387	0.00	470.91	0.00
Int of AUBURN ST LONGVIEW RD				ST RTE 26											Statewide Crash Rate: 187.10		
19344	19797	3118714	0 - 0.03	0026X - 4.83	0.03	2	0	0	0	0	0	0	0.0	0.00110	0.00	648.88	0.00
Int of AUBURN ST WASHINGTON AV EXT				ST RTE 26											Statewide Crash Rate: 187.10		
17074	19797	3120741	0 - 0.16	0026X - 4.86	0.16	2	1	0	0	0	0	1	0.0	0.00603	55.26	421.41	0.00
TL Falmouth Portland				ST RTE 26											Statewide Crash Rate: 187.10		
15220	17074	3122242	0 - 0.02	0026X - 5.02	0.02	2	1	0	0	0	1	0	100.0	0.00075	442.12	706.93	0.00
Int of EUGENE ST GRAY RD				ST RTE 26											Statewide Crash Rate: 187.10		
71500	13323	4046585	0 - 0.02	0560770 - 1.22	0.02	2	0	0	0	0	0	0	0.0	0.00020	0.00	651.21	0.00
Int of RD INV 3210279 WASHINGTON AV				RD INV 05 60770											Statewide Crash Rate: 158.40		
13254	71500	4046584	0 - 0.13	0560770 - 1.24	0.13	2	1	0	0	0	1	0	100.0	0.00218	152.72	482.69	0.00
Int of LESTER DR WASHINGTON AV				RD INV 05 60770											Statewide Crash Rate: 158.40		
13254	19198	3131554	0 - 0.05	0560770 - 1.37	0.05	2	0	0	0	0	0	0	0.0	0.00079	0.00	613.78	0.00
Int of LESTER DR WASHINGTON AV				RD INV 05 60770											Statewide Crash Rate: 158.40		
18514	19198	3120752	0 - 0.05	0560770 - 1.42	0.05	2	0	0	0	0	0	0	0.0	0.00077	0.00	616.54	0.00
Int of STONECREST DR, WASHINGTON AV				RD INV 05 60770											Statewide Crash Rate: 158.40		
18514	18515	3119272	0 - 0.05	0560770 - 1.47	0.05	2	0	0	0	0	0	0	0.0	0.00076	0.00	618.12	0.00
Int of STONECREST DR, WASHINGTON AV				RD INV 05 60770											Statewide Crash Rate: 158.40		
13455	18515	3130038	0 - 0.04	0560770 - 1.52	0.04	2	0	0	0	0	0	0	0.0	0.00059	0.00	646.20	0.00
Int of SUMMIT ST WASHINGTON AV				RD INV 05 60770											Statewide Crash Rate: 158.40		
13455	17633	3121333	0 - 0.02	0560770 - 1.56	0.02	2	0	0	0	0	0	0	0.0	0.00017	0.00	616.64	0.00
Int of SUMMIT ST WASHINGTON AV				RD INV 05 60770											Statewide Crash Rate: 158.40		
17633	59599	2036915	0 - 0.01	0560770 - 1.58	0.01	2	0	0	0	0	0	0	0.0	0.00003	0.00	211.80	0.00
Non Int WASHINGTON AV				RD INV 05 60770											Statewide Crash Rate: 351.24		
17633	19343	3118416	0 - 0.09	0561178 - 0	0.09	2	0	0	0	0	0	0	0.0	0.00038	0.00	680.16	0.00
Non Int WASHINGTON AV				RD INV 05 61178											Statewide Crash Rate: 158.40		
71501	13323	4046587	0 - 0.02	0560621 - 3.31	0.02	2	0	0	0	0	0	0	0.0	0.00039	0.00	679.35	0.00
Int of RD INV 3210279 RIVERSIDE ST				RD INV 05 60621											Statewide Crash Rate: 158.40		
71500	71501	4046588	0 - 0.02	3210279 - 0	0.02	2	0	0	0	0	0	0	0.0	0.00013	0.00	527.14	0.00
Int of RD INV 3210279 WASHINGTON AV				RD INV 3210279											Statewide Crash Rate: 158.40		
17069	19438	3129952	0 - 0.10	0560425 - 0	0.10	2	0	0	0	0	0	0	0.0	0.00107	0.00	575.11	0.00
Int of AUBURN ST LAMBERT ST				RD INV 05 60425											Statewide Crash Rate: 158.40		
13456	19438	3122197	0 - 0.15	0560425 - 0.10	0.15	2	1	0	0	0	0	1	0.0	0.00157	211.99	524.45	0.00
Int of LAMBERT ST SUMMIT ST				RD INV 05 60425											Statewide Crash Rate: 158.40		

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
13456	19343	3117887	0 - 0.24	0560425 - 0.25	0.24	2	0	0	0	0	0	0	0.0	0.00121	0.00	558.70	0.00
Int of LAMBERT ST SUMMIT ST				RD INV 05 60425											Statewide Crash Rate: 158.40		
13458	19343	3106261	0 - 0.02	0560425 - 0.49	0.02	2	0	0	0	0	0	0	0.0	0.00015	0.00	586.26	0.00
TL - Falmouth, Portland				RD INV 05 60425											Statewide Crash Rate: 158.40		
13458	17712	3106260	0 - 0.07	0540030 - 0	0.07	2	0	0	0	0	0	0	0.0	0.00054	0.00	654.92	0.00
TL - Falmouth, Portland				RD INV 05 40030											Statewide Crash Rate: 158.40		
59599	17712	2036914	0 - 0.12	0540035 - 0	0.12	2	0	0	0	0	0	0	0.0	0.00041	0.00	1324.64	0.00
TL Falmouth Portland				RD INV 05 40035											Statewide Crash Rate: 351.24		
Study Years: 3.00				**Section Totals:**	1.83		4	0	0	0	2	2	50.0	0.03110	42.87	286.92	0.15
				Grand Totals:	1.83		20	0	1	3	3	13	35.0	0.03110	214.34	407.76	0.53

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
17069	17070	3123986	0 - 0.02	0026X - 4.41	0	0	0	0	0	0				
17070	17071	3130499	0 - 0.18	0026X - 4.43	0	0	0	0	0	0				
17071	17073	3938275	0 - 0.09	0026X - 4.61	0	0	0	0	0	0				
17073	19344	192822	0 - 0.13	0026X - 4.70	0	0	0	0	0	0				
19344	19797	3118714	0 - 0.03	0026X - 4.83	0	0	0	0	0	0				
17074	19797	3120741	0 - 0.16	0026X - 4.86	1	0	0	0	0	1	2020-7311	03/06/2020	4.88	PD
15220	17074	3122242	0 - 0.02	0026X - 5.02	1	0	0	0	1	0	2019-73345	11/25/2019	5.03	C
71500	13323	4046585	0 - 0.02	0560770 - 1.22	0	0	0	0	0	0				
13254	71500	4046584	0 - 0.13	0560770 - 1.24	1	0	0	0	1	0	2021-27975	10/16/2021	1.30	C
13254	19198	3131554	0 - 0.05	0560770 - 1.37	0	0	0	0	0	0				
18514	19198	3120752	0 - 0.05	0560770 - 1.42	0	0	0	0	0	0				
18514	18515	3119272	0 - 0.05	0560770 - 1.47	0	0	0	0	0	0				
13455	18515	3130038	0 - 0.04	0560770 - 1.52	0	0	0	0	0	0				
13455	17633	3121333	0 - 0.02	0560770 - 1.56	0	0	0	0	0	0				
17633	59599	2036915	0 - 0.01	0560770 - 1.58	0	0	0	0	0	0				
17633	19343	3118416	0 - 0.09	0561178 - 0	0	0	0	0	0	0				
71501	13323	4046587	0 - 0.02	0560621 - 3.31	0	0	0	0	0	0				
71500	71501	4046588	0 - 0.02	3210279 - 0	0	0	0	0	0	0				
17069	19438	3129952	0 - 0.10	0560425 - 0	0	0	0	0	0	0				
13456	19438	3122197	0 - 0.15	0560425 - 0.10	1	0	0	0	0	1	2019-52225	05/20/2019	0.23	PD
13456	19343	3117887	0 - 0.24	0560425 - 0.25	0	0	0	0	0	0				
13458	19343	3106261	0 - 0.02	0560425 - 0.49	0	0	0	0	0	0				
13458	17712	3106260	0 - 0.07	0540030 - 0	0	0	0	0	0	0				
59599	17712	2036914	0 - 0.12	0540035 - 0	0	0	0	0	0	0				
				Totals:	4	0	0	0	2	2				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												Hour of Day PM													
Day Of Week	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**Un**	**Tot**
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MONDAY	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	5
TUESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEDNESDAY	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	4
THURSDAY	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2	0	1	0	1	0	0	0	0	6
FRIDAY	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	3
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
Totals	0	0	0	0	0	2	2	0	1	0	2	2	0	0	1	1	4	0	1	0	1	2	1	0	0	**20**

Vehicle Counts by Type

Unit Type	Total	Unit Type	Total
1-Passenger Car	18	23-Bicyclist	0
2-(Sport) Utility Vehicle	12	24-Witness	4
3-Passenger Van	1	25-Other	1
4-Cargo Van (10K lbs or Less)	0	26-Construction	0
5-Pickup	3	27-Farm Vehicle	0
6-Motor Home	0	**Total**	**41**
7-School Bus	0		
8-Transit Bus	0		
9-Motor Coach	0		
10-Other Bus	0		
11-Motorcycle	1		
12-Moped	0		
13-Low Speed Vehicle	0		
14-Autocycle	0		
15-Experimental	0		
16-Other Light Trucks (10,000 lbs or Less)	0		
17-Medium/Heavy Trucks (More than 10,000 lbs)	1		
18-ATV - (4 wheel)	0		
20-ATV - (2 wheel)	0		
21-Snowmobile	0		
22-Pedestrian	0		

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	5	9	1	1	0	0	16
Ran Off Roadway	2	0	0	0	0	0	2
Failed to Yield Right-of-Way	5	3	0	0	0	0	8
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	1	0	0	0	0	0	1
Improper Turn	0	1	0	0	0	0	1
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	5	0	0	0	0	0	5
Failed to Keep in Proper Lane	0	0	0	0	0	0	0
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	1	0	0	0	0	0	1
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	0	0	0	0	0	0	0
Unknown	1	1	0	0	0	0	2
Total	**20**	**14**	**1**	**1**	**0**	**0**	**36**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	19	14	1	1	0	0	35
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	0	0	0	0	0	0	0
Other	1	0	0	0	0	0	1
Total	**20**	**14**	**1**	**1**	**0**	**0**	**36**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	6	0	0	0	0	6
20-24	3	0	0	0	0	3
25-29	3	0	0	0	0	3
30-39	6	0	0	0	0	6
40-49	5	0	0	0	0	5
50-59	6	0	0	0	0	6
60-69	6	0	0	0	0	6
70-79	1	0	0	0	0	1
80-Over	0	0	0	0	0	0
Unknown	1	0	0	0	0	1
Total	**37**	**0**	**0**	**0**	**0**	**37**

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	**Total**	**36**
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	2		
13-Motor Vehicle in Transport	32		
14-Parked Motor Vehicle	0		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	1		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	1		
37-Other Post, Pole, or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	1	1
B	3	3
C	3	4
PD	13	0
Total	**20**	**8**

Road Character

Road Grade	Total
1-Level	13
2-On Grade	6
3-Top of Hill	1
4-Bottom of Hill	0
5-Other	0
Total	**20**

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	1
2-Traffic Signals (Flashing)	1
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	6
5-Stop Signs - Other	3
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	1
13-None	8
14-Other	0
Total	**20**

Light

Light Condition	Total
1-Daylight	10
2-Dawn	1
3-Dusk	1
4-Dark - Lighted	4
5-Dark - Not Lighted	4
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	**20**

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2019	2020	2021	Total
JANUARY	2	2	1	5
FEBRUARY	0	0	0	0
MARCH	1	2	0	3
APRIL	0	0	1	1
MAY	2	0	0	2
JUNE	0	0	1	1
JULY	0	0	0	0
AUGUST	0	0	0	0
SEPTEMBER	0	0	0	0
OCTOBER	0	1	1	2
NOVEMBER	3	1	1	5
DECEMBER	1	0	0	1
Total	**9**	**6**	**5**	**20**

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	1	0	2	3	0	0	0	0	0	0	0	0	0	0	6
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	3	5	0	1	0	0	0	0	0	0	0	0	9
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**3**	**1**	**7**	**8**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	3	0	0	0	0	0	0	0	0	0	0	3
Dark - Not Lighted	4	0	0	0	0	0	0	0	0	0	0	4
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	1	0	0	0	0	0	0	0	0	0	1
Daylight	8	1	0	0	0	0	0	0	0	0	0	9
Dusk	1	0	0	0	0	0	0	0	0	0	0	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	1	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**16**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**20**

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I ☐ Section Detail ☑ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☐ 1320 Summary

REPORT DESCRIPTION

Portland/Falmouth
Auburn St. - Washington Ave. - Washington Ave. Ext. - Lambert St.

REPORT PARAMETERS

Year 2019, Start Month 1 through Year 2021 End Month: 12

Route: 0026X	Start Node: 17069	Start Offset: 0	☐ Exclude First Node
	End Node: 15220	End Offset: 0	☐ Exclude Last Node
Route: 0560770	Start Node: 13323	Start Offset: 0	☐ Exclude First Node
	End Node: 59599	End Offset: 0	☐ Exclude Last Node
Route: 0561178	Start Node: 17633	Start Offset: 0	☑ Exclude First Node
	End Node: 19343	End Offset: 0	☑ Exclude Last Node
Route: 0561178	Start Node: 19343	Start Offset: 0	☑ Exclude First Node
	End Node: 19344	End Offset: 0	☑ Exclude Last Node
Route: 0560621	Start Node: 71501	Start Offset: 0	☐ Exclude First Node
	End Node: 13323	End Offset: 0	☑ Exclude Last Node
Route: 3210279	Start Node: 71500	Start Offset: 0	☑ Exclude First Node
	End Node: 71501	End Offset: 0	☑ Exclude Last Node
Route: 0560425	Start Node: 17069	Start Offset: 0	☑ Exclude First Node
	End Node: 13458	End Offset: 0	☐ Exclude Last Node
Route: 0540030	Start Node: 13458	Start Offset: 0	☑ Exclude First Node
	End Node: 17712	End Offset: 0	☐ Exclude Last Node
Route: 0540035	Start Node: 59599	Start Offset: 0	☑ Exclude First Node
	End Node: 17712	End Offset: 0	☑ Exclude Last Node

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
19344	0026X - 4.83	Int of AUBURN ST WASHINGTON AV EXT	2	1	0	1	0	0	0	100.0	3.836	0.09	0.36	0.00
												Statewide Crash Rate:	0.13	
17073	0026X - 4.70	Int of AUBURN ST LONGVIEW RD	2	0	0	0	0	0	0	0.0	2.993	0.00	0.38	0.00
												Statewide Crash Rate:	0.13	
19797	0026X - 4.86	Int of AUBURN ST GARSOE DR	2	1	0	0	1	0	0	100.0	3.764	0.09	0.36	0.00
												Statewide Crash Rate:	0.13	
17069	0026X - 4.41	Int of AUBURN ST LAMBERT ST	2	0	0	0	0	0	0	0.0	3.643	0.00	0.37	0.00
												Statewide Crash Rate:	0.13	
17070	0026X - 4.43	Int of AUBURN ST HILLSIDE RD	2	0	0	0	0	0	0	0.0	2.708	0.00	0.39	0.00
												Statewide Crash Rate:	0.13	
17071	0026X - 4.61	Int of AUBURN ST SUMMIT ST	2	2	0	0	1	1	0	100.0	3.006	0.22	0.38	0.00
												Statewide Crash Rate:	0.13	
15220	0026X - 5.04	Int of EUGENE ST GRAY RD	2	3	0	0	0	0	3	0.0	3.778	0.26	0.36	0.00
												Statewide Crash Rate:	0.13	
17074	0026X - 5.02	TL Falmouth Portland	2	0	0	0	0	0	0	0.0	1.885	0.00	0.43	0.00
												Statewide Crash Rate:	0.13	
13323	0560770 - 1.22	Int of RIVERSIDE ST WASHINGTON AV	2	3	0	0	1	0	2	33.3	2.396	0.42	0.41	1.03
												Statewide Crash Rate:	0.13	
13455	0560770 - 1.56	Int of SUMMIT ST WASHINGTON AV	2	0	0	0	0	0	0	0.0	1.416	0.00	0.46	0.00
												Statewide Crash Rate:	0.13	
19198	0560770 - 1.42	Int of LESTER DR WASHINGTON AV	2	0	0	0	0	0	0	0.0	1.611	0.00	0.45	0.00
												Statewide Crash Rate:	0.13	
17633	0560770 - 1.58	Non Int WASHINGTON AV	2	0	0	0	0	0	0	0.0	0.978	0.00	0.50	0.00
												Statewide Crash Rate:	0.13	
18514	0560770 - 1.47	Int of STONECREST DR, WASHINGTON AV	2	0	0	0	0	0	0	0.0	1.547	0.00	0.45	0.00
												Statewide Crash Rate:	0.13	
13254	0560770 - 1.37	Int of LESTER DR WASHINGTON AV	2	0	0	0	0	0	0	0.0	1.671	0.00	0.45	0.00
												Statewide Crash Rate:	0.13	
18515	0560770 - 1.52	Int of STONECREST DR WASHINGTON AV	2	0	0	0	0	0	0	0.0	1.517	0.00	0.46	0.00
												Statewide Crash Rate:	0.13	
59599	0560770 - 1.59	TL Falmouth Portland	2	0	0	0	0	0	0	0.0	0.338	0.00	0.56	0.00
												Statewide Crash Rate:	0.13	
71500	0560770 - 1.24	Int of RD INV 3210279 WASHINGTON AV	2	0	0	0	0	0	0	0.0	1.347	0.00	0.47	0.00
												Statewide Crash Rate:	0.13	
71501	0560621 - 3.31	Int of RD INV 3210279 RIVERSIDE ST	2	0	0	0	0	0	0	0.0	2.925	0.00	0.39	0.00
												Statewide Crash Rate:	0.13	
13456	0560425 - 0.25	Int of LAMBERT ST SUMMIT ST	2	1	0	0	0	0	1	0.0	1.089	0.31	0.49	0.00
												Statewide Crash Rate:	0.13	
19438	0560425 - 0.10	Int of GEORGIA ST LAMBERT ST	2	0	0	0	0	0	0	0.0	1.070	0.00	0.49	0.00
												Statewide Crash Rate:	0.13	
19343	0560425 - 0.49	Int of LAMBERT ST WASHINGTON AV WASHINGTON AV E	2	5	0	0	0	0	5	0.0	1.361	1.22	0.47	2.62
												Statewide Crash Rate:	0.13	
13458	0560425 - 0.51	TL - Falmouth, Portland	2	0	0	0	0	0	0	0.0	0.387	0.00	0.56	0.00
												Statewide Crash Rate:	0.13	

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
17712	0540030 - 0.07	Int of BLACKSTRAP RD WASHINGTON AV EXT	2	0	0	0	0	0	0	0.0	0.972	0.00	0.50	0.00
												Statewide Crash Rate:	0.13	
Study Years:	3.00	NODE TOTALS:		16	0	1	3	1	11	31.3	46.238	0.12	0.21	0.56

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
17069	17070	3123986	0 - 0.02	0026X - 4.41	0.02	2	0	0	0	0	0	0	0.0	0.00053	0.00	756.09	0.00
Int of AUBURN ST LAMBERT ST				ST RTE 26											Statewide Crash Rate: 187.10		
17070	17071	3130499	0 - 0.18	0026X - 4.43	0.18	2	0	0	0	0	0	0	0.0	0.00483	0.00	445.32	0.00
Int of AUBURN ST HILLSIDE RD				ST RTE 26											Statewide Crash Rate: 187.10		
17071	17073	3938275	0 - 0.09	0026X - 4.61	0.09	2	0	0	0	0	0	0	0.0	0.00263	0.00	520.33	0.00
Int of AUBURN ST SUMMIT ST				ST RTE 26											Statewide Crash Rate: 187.10		
17073	19344	192822	0 - 0.13	0026X - 4.70	0.13	2	0	0	0	0	0	0	0.0	0.00387	0.00	470.91	0.00
Int of AUBURN ST LONGVIEW RD				ST RTE 26											Statewide Crash Rate: 187.10		
19344	19797	3118714	0 - 0.03	0026X - 4.83	0.03	2	0	0	0	0	0	0	0.0	0.00110	0.00	648.88	0.00
Int of AUBURN ST WASHINGTON AV EXT				ST RTE 26											Statewide Crash Rate: 187.10		
17074	19797	3120741	0 - 0.16	0026X - 4.86	0.16	2	1	0	0	0	0	1	0.0	0.00603	55.26	421.41	0.00
TL Falmouth Portland				ST RTE 26											Statewide Crash Rate: 187.10		
15220	17074	3122242	0 - 0.02	0026X - 5.02	0.02	2	1	0	0	0	1	0	100.0	0.00075	442.12	706.93	0.00
Int of EUGENE ST GRAY RD				ST RTE 26											Statewide Crash Rate: 187.10		
71500	13323	4046585	0 - 0.02	0560770 - 1.22	0.02	2	0	0	0	0	0	0	0.0	0.00020	0.00	651.21	0.00
Int of RD INV 3210279 WASHINGTON AV				RD INV 05 60770											Statewide Crash Rate: 158.40		
13254	71500	4046584	0 - 0.13	0560770 - 1.24	0.13	2	1	0	0	0	1	0	100.0	0.00218	152.72	482.69	0.00
Int of LESTER DR WASHINGTON AV				RD INV 05 60770											Statewide Crash Rate: 158.40		
13254	19198	3131554	0 - 0.05	0560770 - 1.37	0.05	2	0	0	0	0	0	0	0.0	0.00079	0.00	613.78	0.00
Int of LESTER DR WASHINGTON AV				RD INV 05 60770											Statewide Crash Rate: 158.40		
18514	19198	3120752	0 - 0.05	0560770 - 1.42	0.05	2	0	0	0	0	0	0	0.0	0.00077	0.00	616.54	0.00
Int of STONECREST DR, WASHINGTON AV				RD INV 05 60770											Statewide Crash Rate: 158.40		
18514	18515	3119272	0 - 0.05	0560770 - 1.47	0.05	2	0	0	0	0	0	0	0.0	0.00076	0.00	618.12	0.00
Int of STONECREST DR, WASHINGTON AV				RD INV 05 60770											Statewide Crash Rate: 158.40		
13455	18515	3130038	0 - 0.04	0560770 - 1.52	0.04	2	0	0	0	0	0	0	0.0	0.00059	0.00	646.20	0.00
Int of SUMMIT ST WASHINGTON AV				RD INV 05 60770											Statewide Crash Rate: 158.40		
13455	17633	3121333	0 - 0.02	0560770 - 1.56	0.02	2	0	0	0	0	0	0	0.0	0.00017	0.00	616.64	0.00
Int of SUMMIT ST WASHINGTON AV				RD INV 05 60770											Statewide Crash Rate: 158.40		
17633	59599	2036915	0 - 0.01	0560770 - 1.58	0.01	2	0	0	0	0	0	0	0.0	0.00003	0.00	211.80	0.00
Non Int WASHINGTON AV				RD INV 05 60770											Statewide Crash Rate: 351.24		
17633	19343	3118416	0 - 0.09	0561178 - 0	0.09	2	0	0	0	0	0	0	0.0	0.00038	0.00	680.16	0.00
Non Int WASHINGTON AV				RD INV 05 61178											Statewide Crash Rate: 158.40		
19343	19344	3106908	0 - 0.24	0561178 - 0.09	0.24	2	1	0	0	0	0	1	0.0	0.00246	135.75	468.27	0.00
Int of LAMBERT ST WASHINGTON AV WASHINGTON AV EXT				RD INV 05 61178											Statewide Crash Rate: 158.40		
71501	13323	4046587	0 - 0.02	0560621 - 3.31	0.02	2	0	0	0	0	0	0	0.0	0.00039	0.00	679.35	0.00
Int of RD INV 3210279 RIVERSIDE ST				RD INV 05 60621											Statewide Crash Rate: 158.40		
71500	71501	4046588	0 - 0.02	3210279 - 0	0.02	2	0	0	0	0	0	0	0.0	0.00013	0.00	527.14	0.00
Int of RD INV 3210279 WASHINGTON AV				RD INV 3210279											Statewide Crash Rate: 158.40		
17069	19438	3129952	0 - 0.10	0560425 - 0	0.10	2	0	0	0	0	0	0	0.0	0.00107	0.00	575.11	0.00
Int of AUBURN ST LAMBERT ST				RD INV 05 60425											Statewide Crash Rate: 158.40		

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
13456	19438	3122197	0 - 0.15	0560425 - 0.10	0.15	2	1	0	0	0	0	1	0.0	0.00157	211.99	524.45	0.00
Int of LAMBERT ST	SUMMIT ST			RD INV 05 60425											Statewide Crash Rate: 158.40		
13456	19343	3117887	0 - 0.24	0560425 - 0.25	0.24	2	0	0	0	0	0	0	0.0	0.00121	0.00	558.70	0.00
Int of LAMBERT ST	SUMMIT ST			RD INV 05 60425											Statewide Crash Rate: 158.40		
13458	19343	3106261	0 - 0.02	0560425 - 0.49	0.02	2	0	0	0	0	0	0	0.0	0.00015	0.00	586.26	0.00
TL - Falmouth, Portland				RD INV 05 60425											Statewide Crash Rate: 158.40		
13458	17712	3106260	0 - 0.07	0540030 - 0	0.07	2	0	0	0	0	0	0	0.0	0.00054	0.00	654.92	0.00
TL - Falmouth, Portland				RD INV 05 40030											Statewide Crash Rate: 158.40		
59599	17712	2036914	0 - 0.12	0540035 - 0	0.12	2	0	0	0	0	0	0	0.0	0.00041	0.00	1324.64	0.00
TL Falmouth Portland				RD INV 05 40035											Statewide Crash Rate: 351.24		
Study Years: 3.00				Section Totals:	2.07		5	0	0	0	2	3	40.0	0.03356	49.66	281.11	0.18
				Grand Totals:	2.07		21	0	1	3	3	14	33.3	0.03356	208.59	401.57	0.52

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
17069	17070	3123986	0 - 0.02	0026X - 4.41	0	0	0	0	0	0				
17070	17071	3130499	0 - 0.18	0026X - 4.43	0	0	0	0	0	0				
17071	17073	3938275	0 - 0.09	0026X - 4.61	0	0	0	0	0	0				
17073	19344	192822	0 - 0.13	0026X - 4.70	0	0	0	0	0	0				
19344	19797	3118714	0 - 0.03	0026X - 4.83	0	0	0	0	0	0				
17074	19797	3120741	0 - 0.16	0026X - 4.86	1	0	0	0	0	1	2020-7311	03/06/2020	4.88	PD
15220	17074	3122242	0 - 0.02	0026X - 5.02	1	0	0	0	1	0	2019-73345	11/25/2019	5.03	C
71500	13323	4046585	0 - 0.02	0560770 - 1.22	0	0	0	0	0	0				
13254	71500	4046584	0 - 0.13	0560770 - 1.24	1	0	0	0	1	0	2021-27975	10/16/2021	1.30	C
13254	19198	3131554	0 - 0.05	0560770 - 1.37	0	0	0	0	0	0				
18514	19198	3120752	0 - 0.05	0560770 - 1.42	0	0	0	0	0	0				
18514	18515	3119272	0 - 0.05	0560770 - 1.47	0	0	0	0	0	0				
13455	18515	3130038	0 - 0.04	0560770 - 1.52	0	0	0	0	0	0				
13455	17633	3121333	0 - 0.02	0560770 - 1.56	0	0	0	0	0	0				
17633	59599	2036915	0 - 0.01	0560770 - 1.58	0	0	0	0	0	0				
17633	19343	3118416	0 - 0.09	0561178 - 0	0	0	0	0	0	0				
19343	19344	3106908	0 - 0.24	0561178 - 0.09	1	0	0	0	0	1	2019-47110	03/22/2019	0.17	PD
71501	13323	4046587	0 - 0.02	0560621 - 3.31	0	0	0	0	0	0				
71500	71501	4046588	0 - 0.02	3210279 - 0	0	0	0	0	0	0				
17069	19438	3129952	0 - 0.10	0560425 - 0	0	0	0	0	0	0				
13456	19438	3122197	0 - 0.15	0560425 - 0.10	1	0	0	0	0	1	2019-52225	05/20/2019	0.23	PD
13456	19343	3117887	0 - 0.24	0560425 - 0.25	0	0	0	0	0	0				
13458	19343	3106261	0 - 0.02	0560425 - 0.49	0	0	0	0	0	0				
13458	17712	3106260	0 - 0.07	0540030 - 0	0	0	0	0	0	0				
59599	17712	2036914	0 - 0.12	0540035 - 0	0	0	0	0	0	0				
				Totals:	5	0	0	0	2	3				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM												
	Hour of Day																								
Day Of Week	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	Un	Tot
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MONDAY	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	5
TUESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEDNESDAY	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	4
THURSDAY	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2	0	1	0	1	0	0	0	0	6
FRIDAY	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	4
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
Totals	0	0	0	0	0	2	2	0	2	0	2	2	0	0	1	1	4	0	1	0	1	2	1	0	0	21

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	18
2-(Sport) Utility Vehicle	13
3-Passenger Van	1
4-Cargo Van (10K lbs or Less)	0
5-Pickup	3
6-Motor Home	0
7-School Bus	0
8-Transit Bus	0
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	1
12-Moped	0
13-Low Speed Vehicle	0
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	0
17-Medium/Heavy Trucks (More than 10,000 lbs)	1
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	0

Unit Type	Total
23-Bicyclist	0
24-Witness	4
25-Other	1
26-Construction	0
27-Farm Vehicle	0
Total	42

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	5	9	1	1	0	0	16
Ran Off Roadway	2	0	0	0	0	0	2
Failed to Yield Right-of-Way	5	3	0	0	0	0	8
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	2	0	0	0	0	0	2
Improper Turn	0	1	0	0	0	0	1
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	5	0	0	0	0	0	5
Failed to Keep in Proper Lane	0	0	0	0	0	0	0
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	1	0	0	0	0	0	1
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	0	0	0	0	0	0	0
Unknown	1	1	0	0	0	0	2
Total	21	14	1	1	0	0	37

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	20	14	1	1	0	0	36
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	0	0	0	0	0	0	0
Other	1	0	0	0	0	0	1
Total	21	14	1	1	0	0	37

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	6	0	0	0	0	6
20-24	3	0	0	0	0	3
25-29	3	0	0	0	0	3
30-39	6	0	0	0	0	6
40-49	6	0	0	0	0	6
50-59	6	0	0	0	0	6
60-69	6	0	0	0	0	6
70-79	1	0	0	0	0	1
80-Over	0	0	0	0	0	0
Unknown	1	0	0	0	0	1
Total	38	0	0	0	0	38

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	Total	37
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	2		
13-Motor Vehicle in Transport	32		
14-Parked Motor Vehicle	0		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	1		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	1		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	1		
37-Other Post, Pole, or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	1	1
B	3	3
C	3	4
PD	14	0
Total	21	8

Road Character

Road Grade	Total
1-Level	14
2-On Grade	6
3-Top of Hill	1
4-Bottom of Hill	0
5-Other	0
Total	21

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	1
2-Traffic Signals (Flashing)	1
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	6
5-Stop Signs - Other	3
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	1
13-None	9
14-Other	0
Total	21

Light

Light Condition	Total
1-Daylight	11
2-Dawn	1
3-Dusk	1
4-Dark - Lighted	4
5-Dark - Not Lighted	4
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	21

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2019	2020	2021	Total
JANUARY	2	2	1	5
FEBRUARY	0	0	0	0
MARCH	2	2	0	4
APRIL	0	0	1	1
MAY	2	0	0	2
JUNE	0	0	1	1
JULY	0	0	0	0
AUGUST	0	0	0	0
SEPTEMBER	0	0	0	0
OCTOBER	0	1	1	2
NOVEMBER	3	1	1	5
DECEMBER	1	0	0	1
Total	10	6	5	21

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	1	0	2	3	0	0	0	0	0	0	0	0	0	0	6
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	3	5	0	1	0	0	0	0	0	0	0	0	9
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	2	7	8	0	1	0	0	0	0	0	0	0	0	21

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	3	0	0	0	0	0	0	0	0	0	0	3
Dark - Not Lighted	4	0	0	0	0	0	0	0	0	0	0	4
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	1	0	0	0	0	0	0	0	0	0	1
Daylight	8	1	0	0	0	0	0	0	0	0	0	9
Dusk	1	0	0	0	0	0	0	0	0	0	0	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	1	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	1	0	0	0	0	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	16	2	0	0	0	0	1	0	0	0	2	21

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **CUMBERLAND** TOWN: **PORTLAND**

LOW NODE: **19343** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

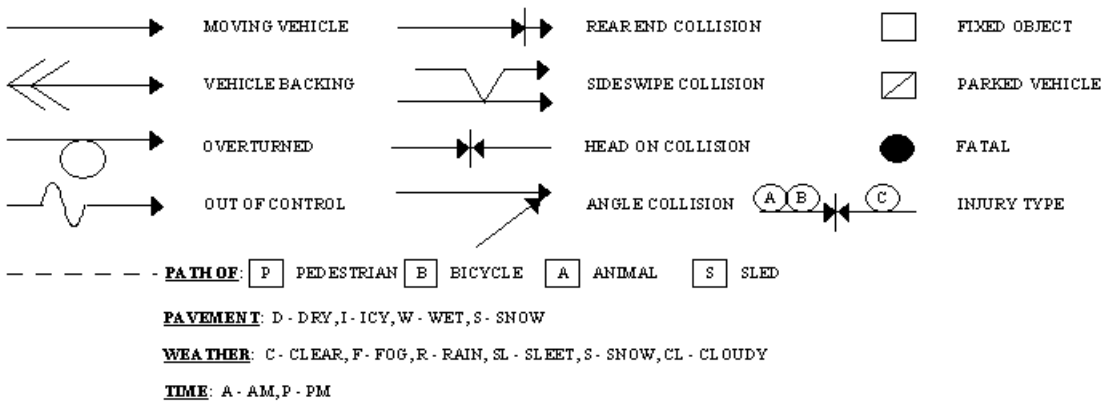
DESCRIPTION: **Jct of Washington Ave & Lambert St**

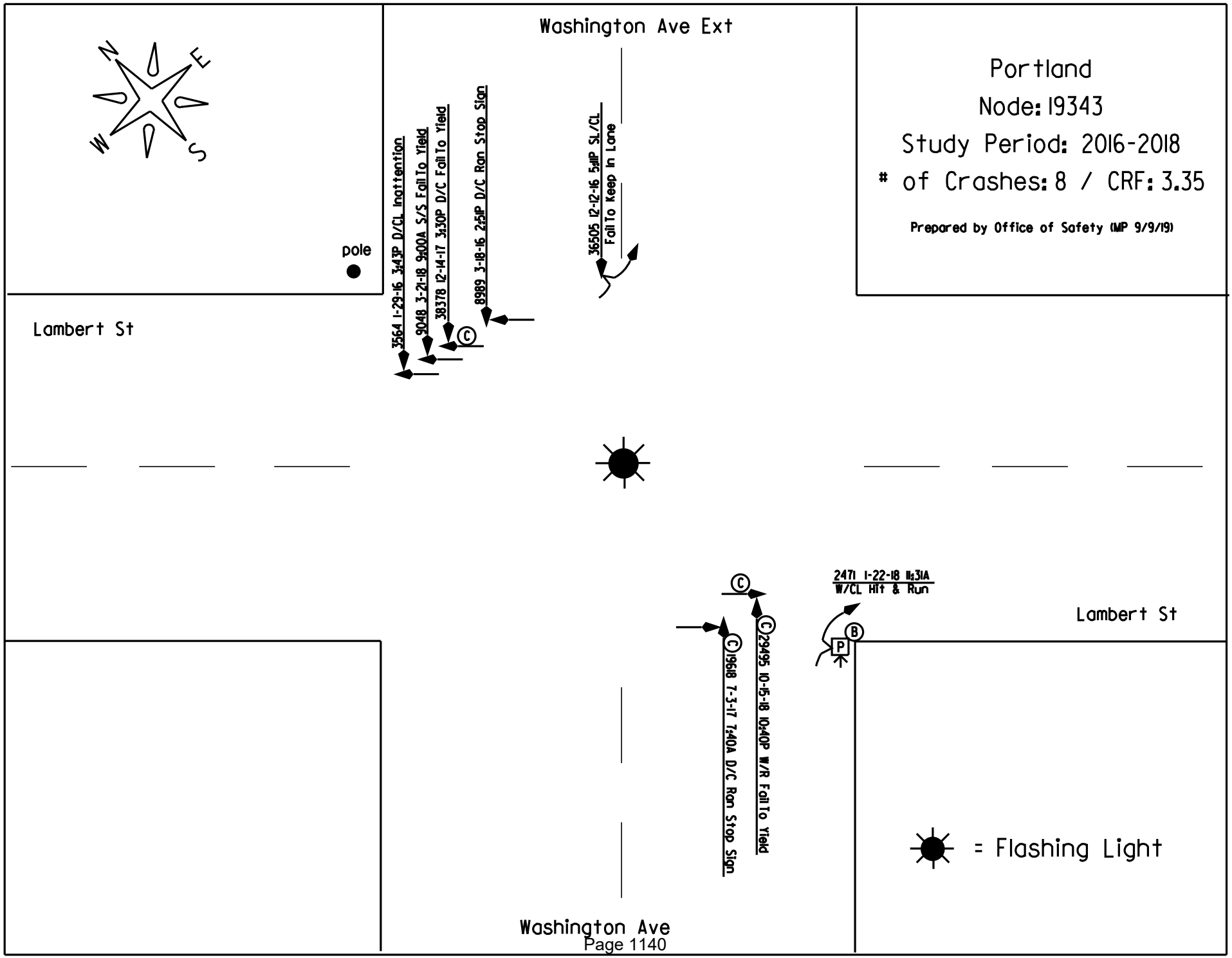
RTE # / RD #: **0560425** DATE DRAWN: **9/9/2019** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2016** STUDY TO: **12/31/2018**

CRASH RATE: **1.68** CRF: **3.35** % INJURY: **50** TOTAL CRASHES: **8**

LEGEND




Washington Ave Ext
Portland
Node: 19343
Study Period: 2016-2018
# of Crashes: 8 / CRF: 3.35
Prepared by Office of Safety (MP 9/9/19)
N
E
W
S
pole
Lambert St
3564 1-29-16 3:43P D/CL Inattention
9048 3-21-18 9:00A S/S Fail To Yield
38378 12-14-17 3:30P D/C Fail To Yield
8989 3-18-16 2:5?P D/C Ran Stop Sign
36505 12-12-16 5:4?P SL/CL Fail To Keep In Lane
2471 1-22-18 11:31A W/CL Hit & Run
Lambert St
29495 10-15-18 10:40P W/R Fail To Yield
19618 7-3-17 7:40A D/C Ran Stop Sign
= Flashing Light
Washington Ave

Search...
BLACKSTRAP RD
WASHINGTON AVENUE EXT
FALMOUTH
13458
19343
PORTLAND
WASHINGTON AVE
LAMBERT ST
59599
Scale: 1:1248
100ft

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I - Single Node** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Jct of Washington Ave & Lambert St

REPORT PARAMETERS

Year 2016, Start Month 1 through Year 2018 End Month: 12

Route: **0560425**	Start Node: **19343**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **19343**	End Offset: **0**	☐ **Exclude Last Node**

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
19343	0560425 - 0.49	Int of LAMBERT ST WASHINGTON AV WASHINGTON AV E	2	8	0	0	1	3	4	50.0	1.586	1.68	0.50	3.35
												Statewide Crash Rate:	0.15	
Study Years:	3.00	**NODE TOTALS:**		8	0	0	1	3	4	50.0	1.586	1.68	0.50	3.35

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												Hour of Day	PM											
Day Of Week	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**Un**	**Tot**
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MONDAY	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	5
TUESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEDNESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
THURSDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
FRIDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	2	0	1	0	0	1	0	0	0	0	**8**

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	7
2-(Sport) Utility Vehicle	3
3-Passenger Van	1
4-Cargo Van (10K lbs or Less)	0
5-Pickup	3
6-Motor Home	0
7-School Bus	0
8-Transit Bus	0
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	0
12-Moped	0
13-Low Speed Vehicle	0
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	0
17-Medium/Heavy Trucks (More than 10,000 lbs)	0
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	1

Unit Type	Total
23-Bicyclist	0
24-Witness	3
25-Other	1
26-Construction	0
27-Farm Vehicle	0
Total	**19**

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	1	7	0	0	0	0	8
Ran Off Roadway	0	0	0	0	0	0	0
Failed to Yield Right-of-Way	3	0	0	0	0	0	3
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	2	0	0	0	0	0	2
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	0	0	0	0	0	0	0
Improper Turn	0	0	0	0	0	0	0
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	0	0	0	0	0	0	0
Failed to Keep in Proper Lane	1	0	0	0	0	0	1
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	0	0	0	0	0	0	0
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0
Total	**7**	**7**	**0**	**0**	**0**	**0**	**14**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	7	7	0	0	0	1	15
Physically Impaired or Handicapped	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	**7**	**7**	**0**	**0**	**0**	**1**	**15**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	0	0	0	0	0	0
20-24	1	0	0	0	0	1
25-29	2	0	0	0	0	2
30-39	3	0	0	0	0	3
40-49	2	0	0	0	0	2
50-59	3	0	0	0	0	3
60-69	1	0	0	0	0	1
70-79	1	0	0	0	0	1
80-Over	1	0	0	0	0	1
Unknown	1	0	0	1	0	2
Total	**15**	**0**	**0**	**1**	**0**	**16**

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	**Total**	**14**
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	0		
13-Motor Vehicle in Transport	13		
14-Parked Motor Vehicle	1		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post Pole or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	1	1
C	3	5
PD	4	0
Total	**8**	**6**

Road Character

Road Grade	Total
1-Level	7
2-On Grade	1
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	0
Total	**8**

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	0
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	8
5-Stop Signs - Other	0
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	0
14-Other	0
Total	**8**

Light

Light Condition	Total
1-Daylight	5
2-Dawn	0
3-Dusk	0
4-Dark - Lighted	2
5-Dark - Not Lighted	1
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	**8**

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2016	2017	2018	Total
JANUARY	1	0	1	2
FEBRUARY	0	0	0	0
MARCH	2	0	0	2
APRIL	0	0	0	0
MAY	0	0	0	0
JUNE	0	0	0	0
JULY	0	1	0	1
AUGUST	0	0	0	0
SEPTEMBER	0	0	0	0
OCTOBER	0	0	1	1
NOVEMBER	0	0	0	0
DECEMBER	1	1	0	2
Total	**4**	**2**	**2**	**8**

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	0	7	0	0	0	0	0	0	0	0	0	0	7
Pedestrians	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	2	0	0	0	0	0	0	0	0	0	0	2
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	1	0	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	1	0	0	0	0	0	0	0	0	0	1	2
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	1	0	0	0	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**2**	**8**

APPENDIX B – TRAFFIC MOVEMENT DATA

Traffic Solutions
17 Mount View Dr
Gorham, ME 04038

Portland Auburn, Washington & Garsoe
October 7, 2021
Sunny
Count by Jen Gilbert & Amy Bedard

File Name : Portland Auburn & Washington 10-7-21
Site Code : 01007211
Start Date : 10/7/2021
Page No : 1

Groups Printed- Passenger Car - Truck - Semi - Bus - Bicycle

	Auburn St From North				Garsoe Dr From East				Auburn St From South				Washington Ave Ext From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
06:00 AM	13	45	0	58	0	0	0	0	0	18	0	18	1	0	9	10	86
06:15 AM	18	60	0	78	1	0	2	3	0	34	1	35	0	0	10	10	126
06:30 AM	26	64	0	90	4	0	0	4	0	46	2	48	2	0	8	10	152
06:45 AM	48	68	0	116	2	0	0	2	0	49	2	51	1	0	26	27	196
Total	105	237	0	342	7	0	2	9	0	147	5	152	4	0	53	57	560
07:00 AM	30	81	1	112	4	1	1	6	1	61	2	64	4	2	24	30	212
07:15 AM	48	114	1	163	4	1	1	6	1	82	2	85	5	0	26	31	285
07:30 AM	25	99	0	124	7	1	2	10	3	65	2	70	6	2	39	47	251
07:45 AM	56	111	1	168	6	2	7	15	0	79	3	82	6	0	31	37	302
Total	159	405	3	567	21	5	11	37	5	287	9	301	21	4	120	145	1050
08:00 AM	36	113	2	151	6	0	0	6	3	79	7	89	2	1	32	35	281
08:15 AM	35	108	0	143	4	0	4	8	2	79	2	83	2	1	34	37	271
08:30 AM	31	94	2	127	4	1	1	6	1	54	4	59	7	1	42	50	242
08:45 AM	25	96	0	121	1	0	4	5	0	82	1	83	2	0	25	27	236
Total	127	411	4	542	15	1	9	25	6	294	14	314	13	3	133	149	1030
09:00 AM	24	83	2	109	4	0	1	5	3	64	2	69	4	0	24	28	211
09:15 AM	22	80	2	104	1	1	3	5	0	57	3	60	4	2	16	22	191
09:30 AM	15	70	2	87	3	0	1	4	3	52	3	58	4	0	21	25	174
09:45 AM	12	76	1	89	3	2	0	5	2	60	4	66	4	0	19	23	183
Total	73	309	7	389	11	3	5	19	8	233	12	253	16	2	80	98	759
10:00 AM	17	66	2	85	3	0	1	4	2	57	0	59	2	1	16	19	167
10:15 AM	17	62	1	80	1	0	1	2	2	64	0	66	7	1	20	28	176
10:30 AM	19	80	2	101	4	1	1	6	2	64	2	68	2	2	31	35	210
10:45 AM	25	79	3	107	0	1	0	1	2	73	3	78	3	0	18	21	207
Total	78	287	8	373	8	2	3	13	8	258	5	271	14	4	85	103	760
11:00 AM	25	73	1	99	2	0	7	9	3	62	3	68	4	0	32	36	212
11:15 AM	15	62	2	79	3	2	3	8	3	63	1	67	4	1	19	24	178
11:30 AM	25	84	2	111	3	0	2	5	3	66	1	70	4	1	22	27	213
11:45 AM	26	79	2	107	3	1	2	6	3	73	0	76	0	0	24	24	213
Total	91	298	7	396	11	3	14	28	12	264	5	281	12	2	97	111	816
12:00 PM	28	84	2	114	0	0	2	2	4	75	3	82	4	0	34	38	236
12:15 PM	23	72	2	97	2	1	3	6	5	76	2	83	3	0	19	22	208
12:30 PM	23	82	5	110	1	0	0	1	1	85	8	94	3	0	22	25	230
12:45 PM	19	74	1	94	3	0	1	4	2	83	5	90	2	4	24	30	218
Total	93	312	10	415	6	1	6	13	12	319	18	349	12	4	99	115	892
01:00 PM	18	77	2	97	3	1	4	8	0	65	3	68	3	1	28	32	205
01:15 PM	21	65	3	89	2	0	2	4	1	68	2	71	3	1	21	25	189
01:30 PM	22	75	0	97	2	1	2	5	0	78	3	81	6	0	14	20	203
01:45 PM	31	63	4	98	1	0	1	2	3	81	2	86	1	2	23	26	212
Total	92	280	9	381	8	2	9	19	4	292	10	306	13	4	86	103	809
02:00 PM	22	51	2	75	1	1	0	2	0	91	1	92	4	1	31	36	205

Traffic Solutions
17 Mount View Dr
Gorham, ME 04038

File Name : Portland Auburn & Washington 10-7-21
Site Code : 01007211
Start Date : 10/7/2021
Page No : 2

Groups Printed- Passenger Car - Truck - Semi - Bus - Bicycle

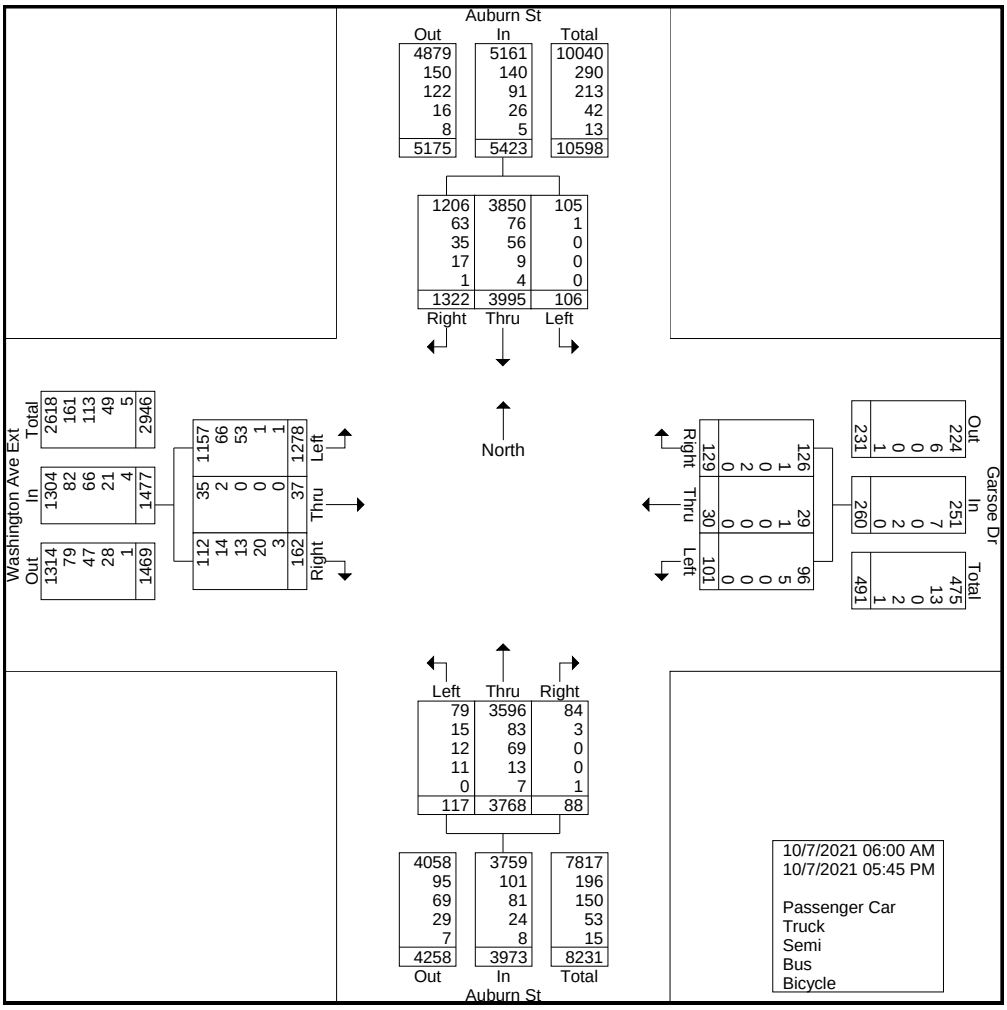
	Auburn St From North				Garsoe Dr From East				Auburn St From South				Washington Ave Ext From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
02:15 PM	25	77	3	105	2	1	0	3	1	68	3	72	3	0	19	22	202
02:30 PM	36	70	2	108	2	2	4	8	2	88	1	91	2	0	29	31	238
02:45 PM	35	78	3	116	3	0	5	8	1	96	3	100	2	0	32	34	258
Total	118	276	10	404	8	4	9	21	4	343	8	355	11	1	111	123	903
03:00 PM	29	86	0	115	4	1	1	6	0	109	1	110	6	1	31	38	269
03:15 PM	38	82	3	123	1	1	4	6	3	99	3	105	5	1	26	32	266
03:30 PM	27	99	4	130	1	0	2	3	2	113	2	117	2	1	35	38	288
03:45 PM	36	72	2	110	1	1	6	8	5	102	5	112	4	0	41	45	275
Total	130	339	9	478	7	3	13	23	10	423	11	444	17	3	133	153	1098
04:00 PM	39	94	8	141	3	2	2	7	2	131	4	137	3	2	50	55	340
04:15 PM	23	95	3	121	3	1	5	9	1	105	3	109	1	1	44	46	285
04:30 PM	38	102	5	145	4	0	2	6	1	109	3	113	3	3	40	46	310
04:45 PM	35	115	5	155	1	1	0	2	4	127	1	132	8	1	34	43	332
Total	135	406	21	562	11	4	9	24	8	472	11	491	15	7	168	190	1267
05:00 PM	47	108	2	157	6	1	1	8	4	114	3	121	4	0	36	40	326
05:15 PM	25	120	3	148	5	1	1	7	1	133	1	135	2	2	23	27	317
05:30 PM	28	112	7	147	4	0	4	8	2	105	2	109	6	1	27	34	298
05:45 PM	21	95	6	122	1	0	5	6	4	84	3	91	2	0	27	29	248
Total	121	435	18	574	16	2	11	29	11	436	9	456	14	3	113	130	1189

Traffic Solutions
17 Mount View Dr
Gorham, ME 04038

File Name : Portland Auburn & Washington 10-7-21
Site Code : 01007211
Start Date : 10/7/2021
Page No : 3

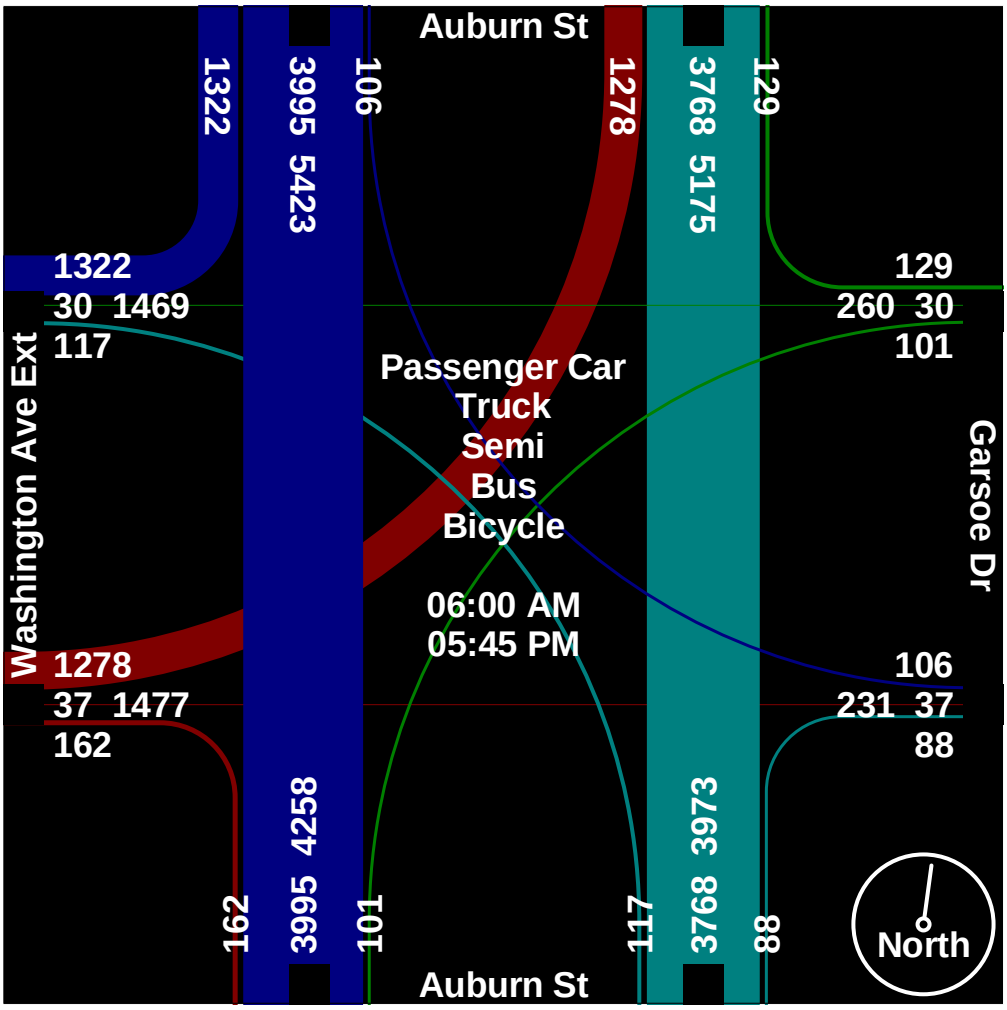
Groups Printed- Passenger Car - Truck - Semi - Bus - Bicycle

	Auburn St From North				Garsoe Dr From East				Auburn St From South				Washington Ave Ext From West				
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Grand Total	1322	3995	106	5423	129	30	101	260	88	3768	117	3973	162	37	1278	1477	11133
Apprch %	24.4	73.7	2		49.6	11.5	38.8		2.2	94.8	2.9		11	2.5	86.5		
Total %	11.9	35.9	1	48.7	1.2	0.3	0.9	2.3	0.8	33.8	1.1	35.7	1.5	0.3	11.5	13.3	
Passenger Car	1206	3850	105	5161	126	29	96	251	84	3596	79	3759	112	35	1157	1304	10475
% Passenger Car	91.2	96.4	99.1	95.2	97.7	96.7	95	96.5	95.5	95.4	67.5	94.6	69.1	94.6	90.5	88.3	94.1
Truck	63	76	1	140	1	1	5	7	3	83	15	101	14	2	66	82	330
% Truck	4.8	1.9	0.9	2.6	0.8	3.3	5	2.7	3.4	2.2	12.8	2.5	8.6	5.4	5.2	5.6	3
Semi	35	56	0	91	0	0	0	0	0	69	12	81	13	0	53	66	238
% Semi	2.6	1.4	0	1.7	0	0	0	0	0	1.8	10.3	2	8	0	4.1	4.5	2.1
Bus	17	9	0	26	2	0	0	2	0	13	11	24	20	0	1	21	73
% Bus	1.3	0.2	0	0.5	1.6	0	0	0.8	0	0.3	9.4	0.6	12.3	0	0.1	1.4	0.7
Bicycle	1	4	0	5	0	0	0	0	1	7	0	8	3	0	1	4	17
% Bicycle	0.1	0.1	0	0.1	0	0	0	0	1.1	0.2	0	0.2	1.9	0	0.1	0.3	0.2



Traffic Solutions
17 Mount View Dr
Gorham, ME 04038

File Name : Portland Auburn & Washington 10-7-21
Site Code : 01007211
Start Date : 10/7/2021
Page No : 4

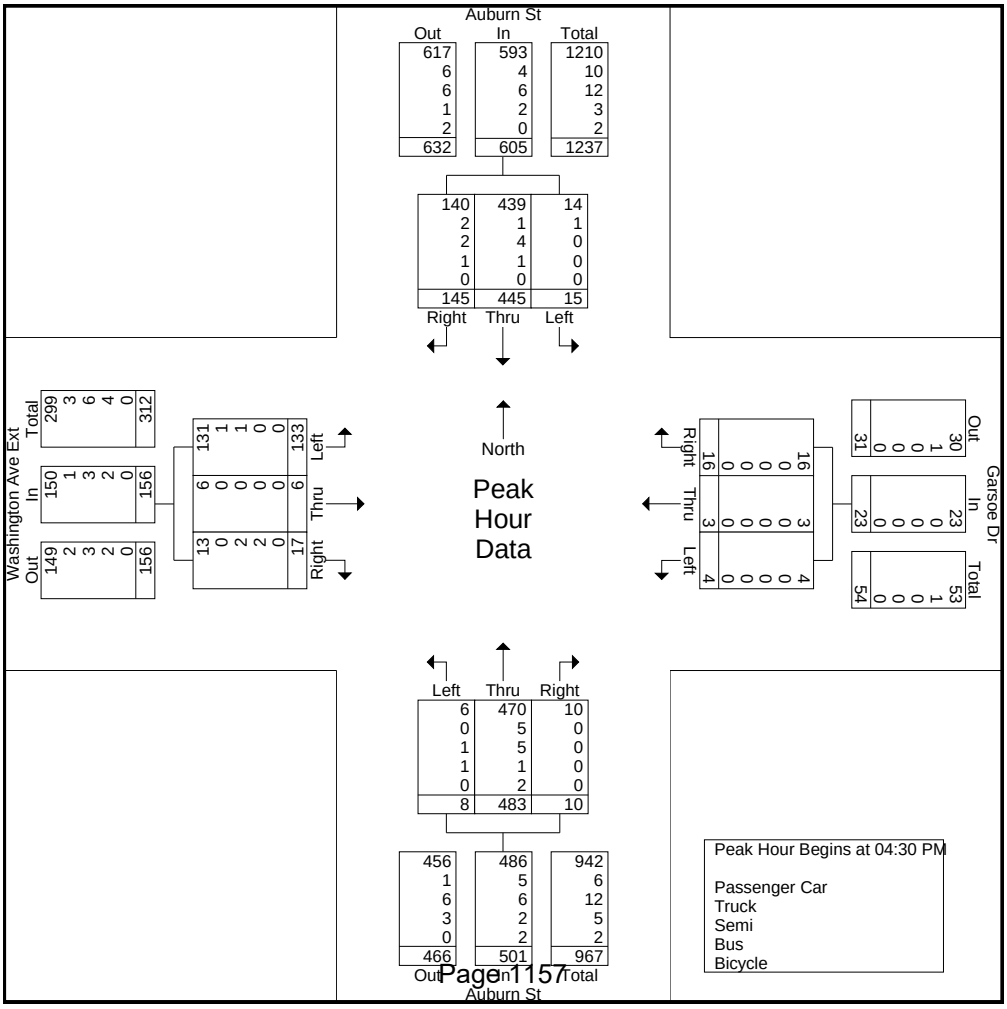


Traffic Solutions

17 Mount View Dr
Gorham, ME 04038

File Name : Portland Auburn & Washington 10-7-21
Site Code : 01007211
Start Date : 10/7/2021
Page No : 5

	Auburn St From North				Garsoe Dr From East				Auburn St From South				Washington Ave Ext From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	38	102	**5**	145	4	0	**2**	6	1	109	**3**	113	3	**3**	**40**	**46**	310
04:45 PM	35	115	5	155	1	**1**	0	2	**4**	127	1	132	**8**	1	34	43	**332**
05:00 PM	**47**	108	2	**157**	**6**	1	1	**8**	4	114	3	121	4	0	36	40	326
05:15 PM	25	**120**	3	148	5	1	1	7	1	**133**	1	**135**	2	2	23	27	317
Total Volume	145	445	15	605	16	3	4	23	10	483	8	501	17	6	133	156	1285
% App. Total	24	73.6	2.5		69.6	13	17.4		2	96.4	1.6		10.9	3.8	85.3		
PHF	.771	.927	.750	.963	.667	.750	.500	.719	.625	.908	.667	.928	.531	.500	.831	.848	.968
Passenger Car	140	439	14	593	16	3	4	23	10	470	6	486	13	6	131	150	1252
% Passenger Car	96.6	98.7	93.3	98.0	100	100	100	100	100	97.3	75.0	97.0	76.5	100	98.5	96.2	97.4
Truck	2	1	1	4	0	0	0	0	0	5	0	5	0	0	1	1	10
% Truck	1.4	0.2	6.7	0.7	0	0	0	0	0	1.0	0	1.0	0	0	0.8	0.6	0.8
Semi	2	4	0	6	0	0	0	0	0	5	1	6	2	0	1	3	15
% Semi	1.4	0.9	0	1.0	0	0	0	0	0	1.0	12.5	1.2	11.8	0	0.8	1.9	1.2
Bus	1	1	0	2	0	0	0	0	0	1	1	2	2	0	0	2	6
% Bus	0.7	0.2	0	0.3	0	0	0	0	0	0.2	12.5	0.4	11.8	0	0	1.3	0.5
Bicycle	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
% Bicycle	0	0	0	0	0	0	0	0	0	0.4	0	0.4	0	0	0	0	0.2

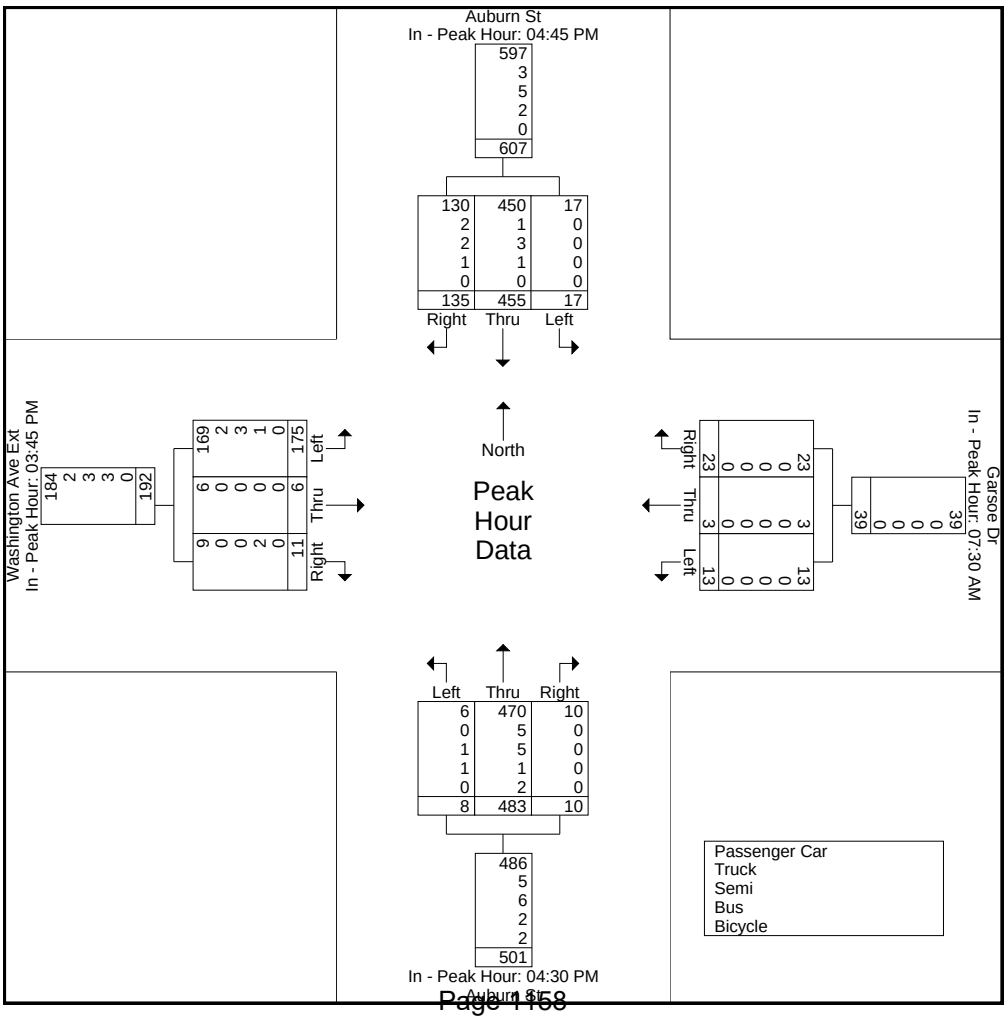


Traffic Solutions

17 Mount View Dr
Gorham, ME 04038

File Name : Portland Auburn & Washington 10-7-21
Site Code : 01007211
Start Date : 10/7/2021
Page No : 6

	Auburn St From North				Garsoe Dr From East				Auburn St From South				Washington Ave Ext From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				07:30 AM				04:30 PM				03:45 PM				
+0 mins.	35	115	5	155	**7**	1	2	10	1	109	**3**	113	**4**	0	41	45	
+15 mins.	**47**	108	2	**157**	6	**2**	**7**	**15**	**4**	127	1	132	3	2	**50**	**55**	
+30 mins.	25	**120**	3	148	6	0	0	6	4	114	3	121	1	1	44	46	
+45 mins.	28	112	**7**	147	4	0	4	8	1	**133**	1	**135**	3	**3**	40	46	
Total Volume	135	455	17	607	23	3	13	39	10	483	8	501	11	6	175	192	
% App. Total	22.2	75	2.8		59	7.7	33.3		2	96.4	1.6		5.7	3.1	91.1		
PHF	.718	.948	.607	.967	.821	.375	.464	.650	.625	.908	.667	.928	.688	.500	.875	.873	
Passenger Car	130	450	17	597	23	3	13	39	10	470	6	486	9	6	169	184	
% Passenger Car	96.3	98.9	100	98.4	100	100	100	100	100	97.3	75	97	81.8	100	96.6	95.8	
Truck	2	1	0	3	0	0	0	0	0	5	0	5	0	0	2	2	
% Truck	1.5	0.2	0	0.5	0	0	0	0	0	1	0	1	0	0	1.1	1	
Semi	2	3	0	5	0	0	0	0	0	5	1	6	0	0	3	3	
% Semi	1.5	0.7	0	0.8	0	0	0	0	0	1	12.5	1.2	0	0	1.7	1.6	
Bus	1	1	0	2	0	0	0	0	0	1	1	2	2	0	1	3	
% Bus	0.7	0.2	0	0.3	0	0	0	0	0	0.2	12.5	0.4	18.2	0	0.6	1.6	
Bicycle	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	
% Bicycle	0	0	0	0	0	0	0	0	0	0.4	0	0.4	0	0	0	0	



Traffic Solutions
17 Mount View Dr
Gorham, ME 04038

File Name : Portland Auburn & Washington 10-7-21
Site Code : 01007211
Start Date : 10/7/2021
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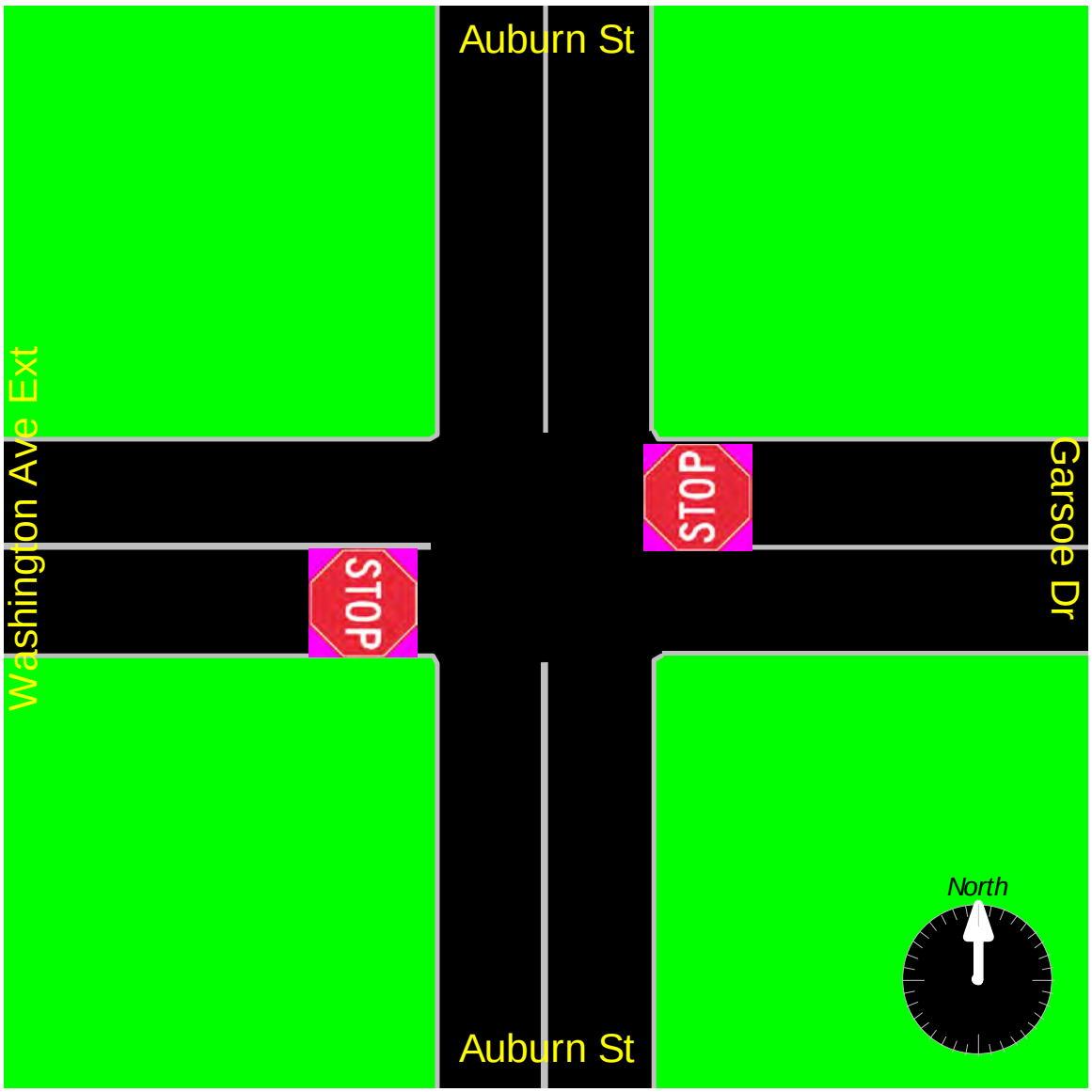


Traffic Solutions
17 Mount View Dr
Gorham, ME 04038

Portland Lambert St & Washington Ave Ext
October 5, 2021 AM
Sunny
Count by Jen Gilbert

File Name : Portland Lambert Street & Washington Ave Ext 10-5-21 AM
Site Code : 01005211
Start Date : 10/5/2021
Page No : 1

Groups Printed- Passenger Car - Truck - Semi - Bus

	Lambert St From North				Washington Ave Ext From East				Lambert St From South				Washington Ave From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
07:00 AM	1	44	1	46	7	36	0	43	0	10	4	14	1	27	1	29	132
07:15 AM	0	68	3	71	8	37	0	45	1	9	2	12	1	22	1	24	152
07:30 AM	2	79	8	89	3	29	0	32	1	13	1	15	5	39	3	47	183
07:45 AM	2	70	3	75	11	43	1	55	0	24	2	26	4	24	5	33	189
Total	5	261	15	281	29	145	1	175	2	56	9	67	11	112	10	133	656
08:00 AM	2	34	8	44	7	35	0	42	0	11	2	13	3	34	5	42	141
08:15 AM	2	37	2	41	9	24	1	34	0	19	0	19	2	24	6	32	126
08:30 AM	0	39	12	51	4	23	0	27	1	12	1	14	3	27	4	34	126
08:45 AM	0	35	3	38	6	26	0	32	0	14	3	17	1	19	3	23	110
Total	4	145	25	174	26	108	1	135	1	56	6	63	9	104	18	131	503

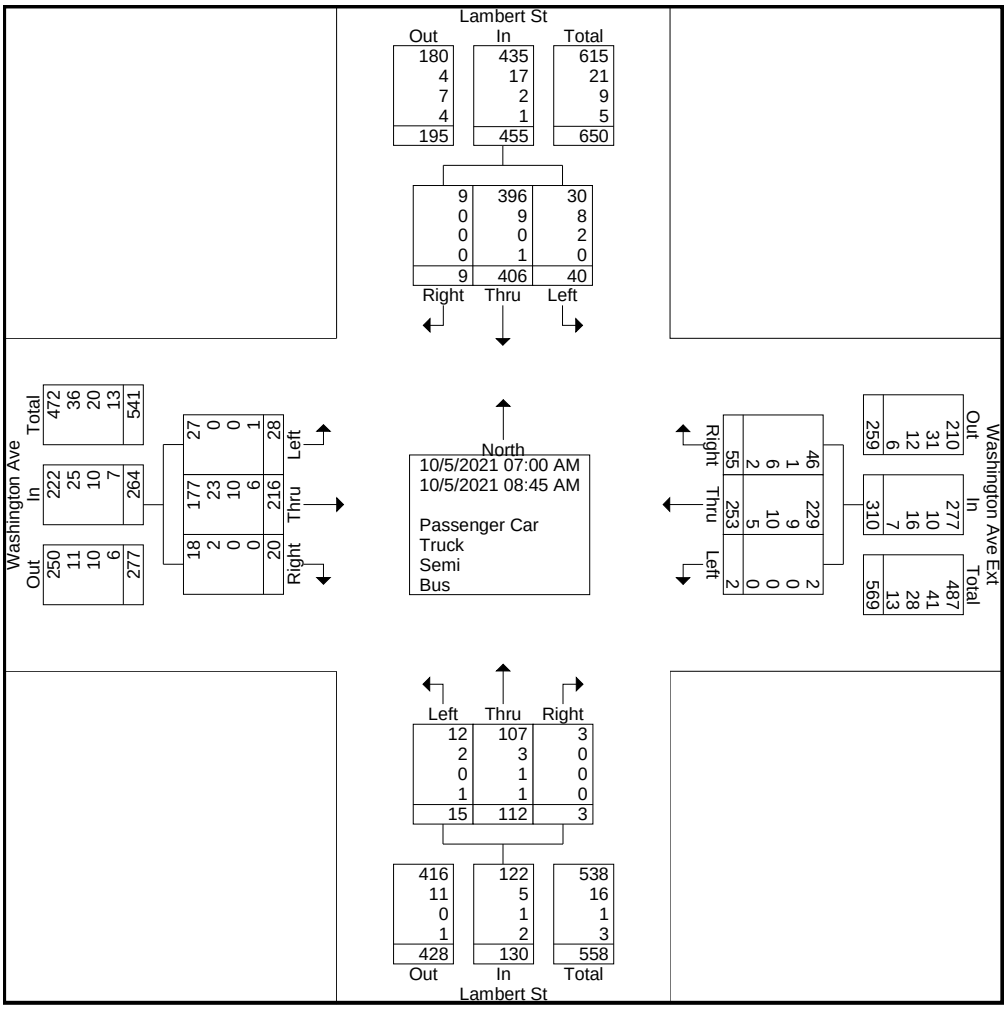
Traffic Solutions

17 Mount View Dr
Gorham, ME 04038

File Name : Portland Lambert Street & Washington Ave Ext 10-5-21 AM
Site Code : 01005211
Start Date : 10/5/2021
Page No : 2

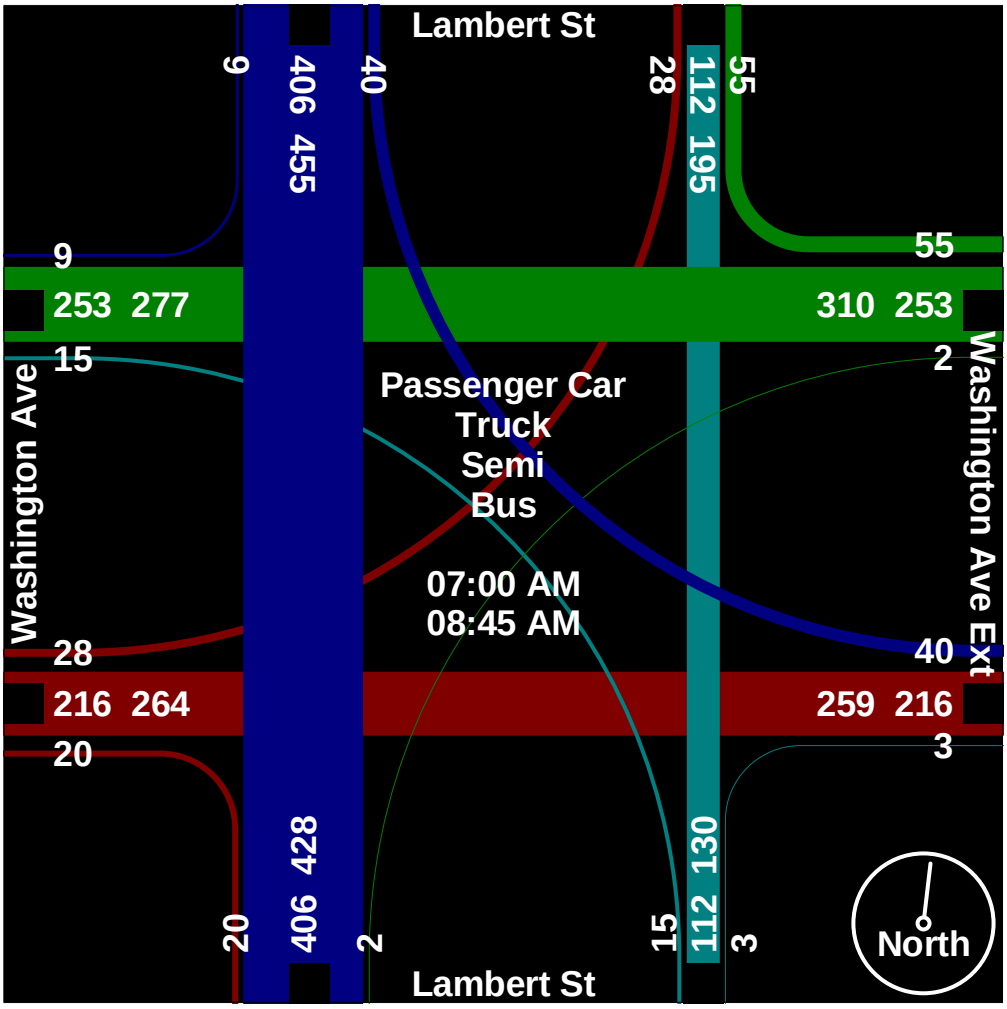
Groups Printed- Passenger Car - Truck - Semi - Bus

	Lambert St From North				Washington Ave Ext From East				Lambert St From South				Washington Ave From West				
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Grand Total	9	406	40	455	55	253	2	310	3	112	15	130	20	216	28	264	1159
Apprch %	2	89.2	8.8		17.7	81.6	0.6		2.3	86.2	11.5		7.6	81.8	10.6		
Total %	0.8	35	3.5	39.3	4.7	21.8	0.2	26.7	0.3	9.7	1.3	11.2	1.7	18.6	2.4	22.8	
Passenger Car	9	396	30	435	46	229	2	277	3	107	12	122	18	177	27	222	1056
% Passenger Car	100	97.5	75	95.6	83.6	90.5	100	89.4	100	95.5	80	93.8	90	81.9	96.4	84.1	91.1
Truck	0	9	8	17	1	9	0	10	0	3	2	5	2	23	0	25	57
% Truck	0	2.2	20	3.7	1.8	3.6	0	3.2	0	2.7	13.3	3.8	10	10.6	0	9.5	4.9
Semi	0	0	2	2	6	10	0	16	0	1	0	1	0	10	0	10	29
% Semi	0	0	5	0.4	10.9	4	0	5.2	0	0.9	0	0.8	0	4.6	0	3.8	2.5
Bus	0	1	0	1	2	5	0	7	0	1	1	2	0	6	1	7	17
% Bus	0	0.2	0	0.2	3.6	2	0	2.3	0	0.9	6.7	1.5	0	2.8	3.6	2.7	1.5



Traffic Solutions
17 Mount View Dr
Gorham, ME 04038

File Name : Portland Lambert Street & Washington Ave Ext 10-5-21 AM
Site Code : 01005211
Start Date : 10/5/2021
Page No : 3

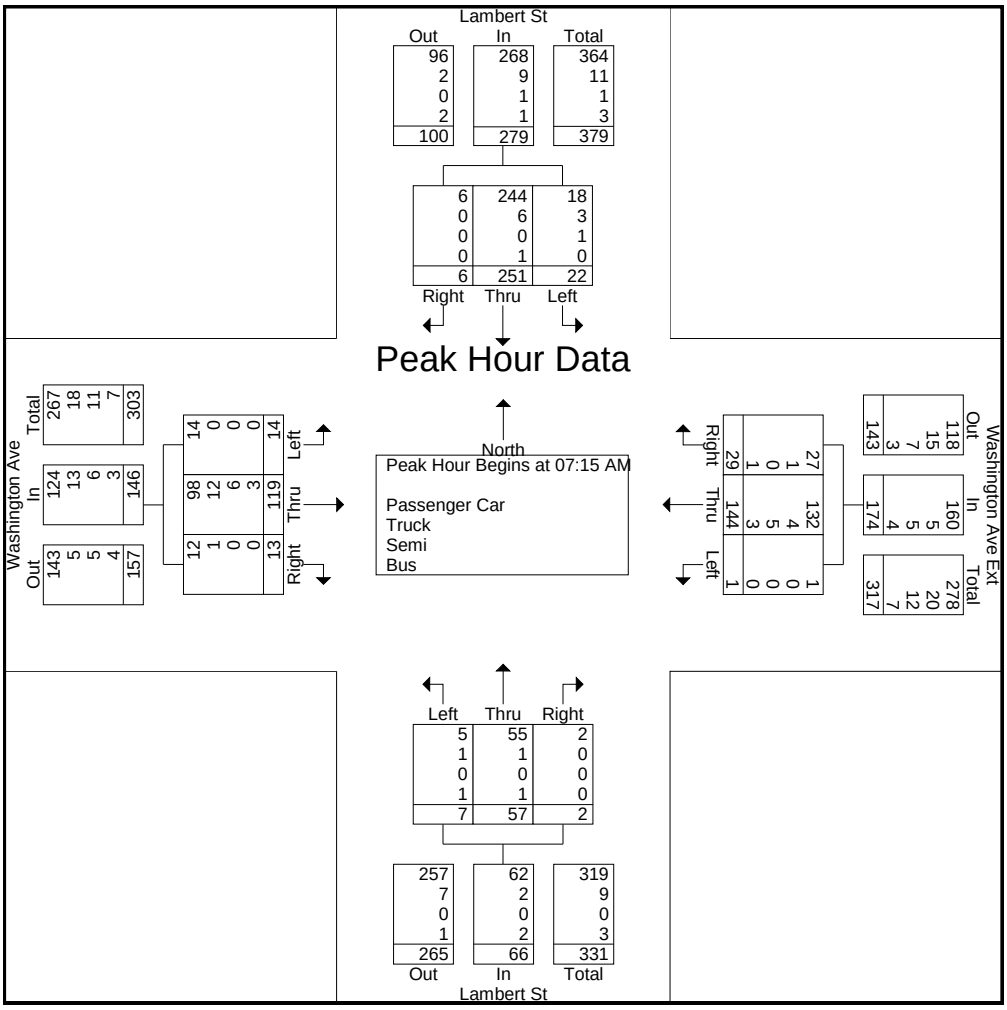


Traffic Solutions

17 Mount View Dr
Gorham, ME 04038

File Name : Portland Lambert Street & Washington Ave Ext 10-5-21 AM
Site Code : 01005211
Start Date : 10/5/2021
Page No : 4

	Lambert St From North				Washington Ave Ext From East				Lambert St From South				Washington Ave From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	68	3	71	8	37	0	45	**1**	9	**2**	12	1	22	1	24	152
07:30 AM	**2**	**79**	**8**	**89**	3	29	0	32	1	13	1	15	**5**	**39**	3	**47**	183
07:45 AM	2	70	3	75	**11**	**43**	**1**	**55**	0	**24**	2	**26**	4	24	**5**	33	**189**
08:00 AM	2	34	8	44	7	35	0	42	0	11	2	13	3	34	5	42	141
Total Volume	6	251	22	279	29	144	1	174	2	57	7	66	13	119	14	146	665
% App. Total	2.2	90	7.9		16.7	82.8	0.6		3	86.4	10.6		8.9	81.5	9.6		
PHF	.750	.794	.688	.784	.659	.837	.250	.791	.500	.594	.875	.635	.650	.763	.700	.777	.880
Passenger Car	6	244	18	268	27	132	1	160	2	55	5	62	12	98	14	124	614
% Passenger Car	100	97.2	81.8	96.1	93.1	91.7	100	92.0	100	96.5	71.4	93.9	92.3	82.4	100	84.9	92.3
Truck	0	6	3	9	1	4	0	5	0	1	1	2	1	12	0	13	29
% Truck	0	2.4	13.6	3.2	3.4	2.8	0	2.9	0	1.8	14.3	3.0	7.7	10.1	0	8.9	4.4
Semi	0	0	1	1	0	5	0	5	0	0	0	0	0	6	0	6	12
% Semi	0	0	4.5	0.4	0	3.5	0	2.9	0	0	0	0	0	5.0	0	4.1	1.8
Bus	0	1	0	1	1	3	0	4	0	1	1	2	0	3	0	3	10
% Bus	0	0.4	0	0.4	3.4	2.1	0	2.3	0	1.8	14.3	3.0	0	2.5	0	2.1	1.5

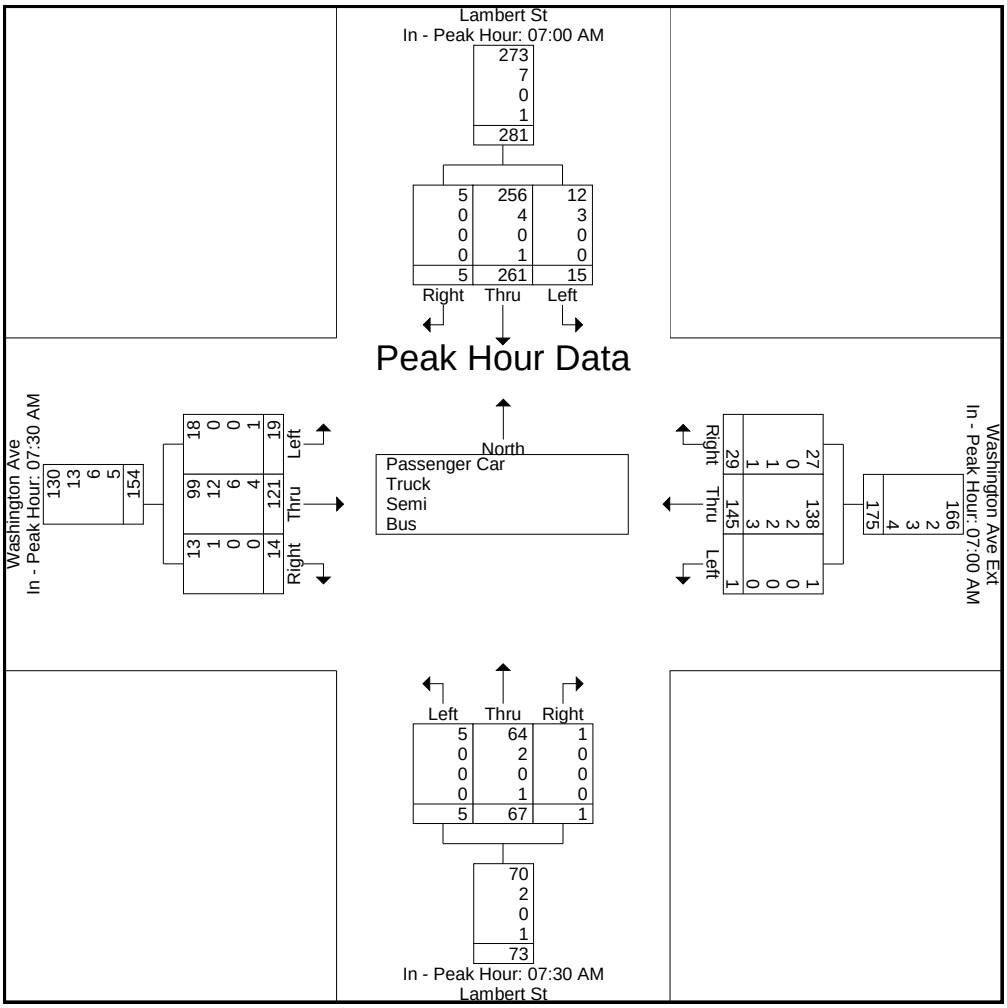


Traffic Solutions

17 Mount View Dr
Gorham, ME 04038

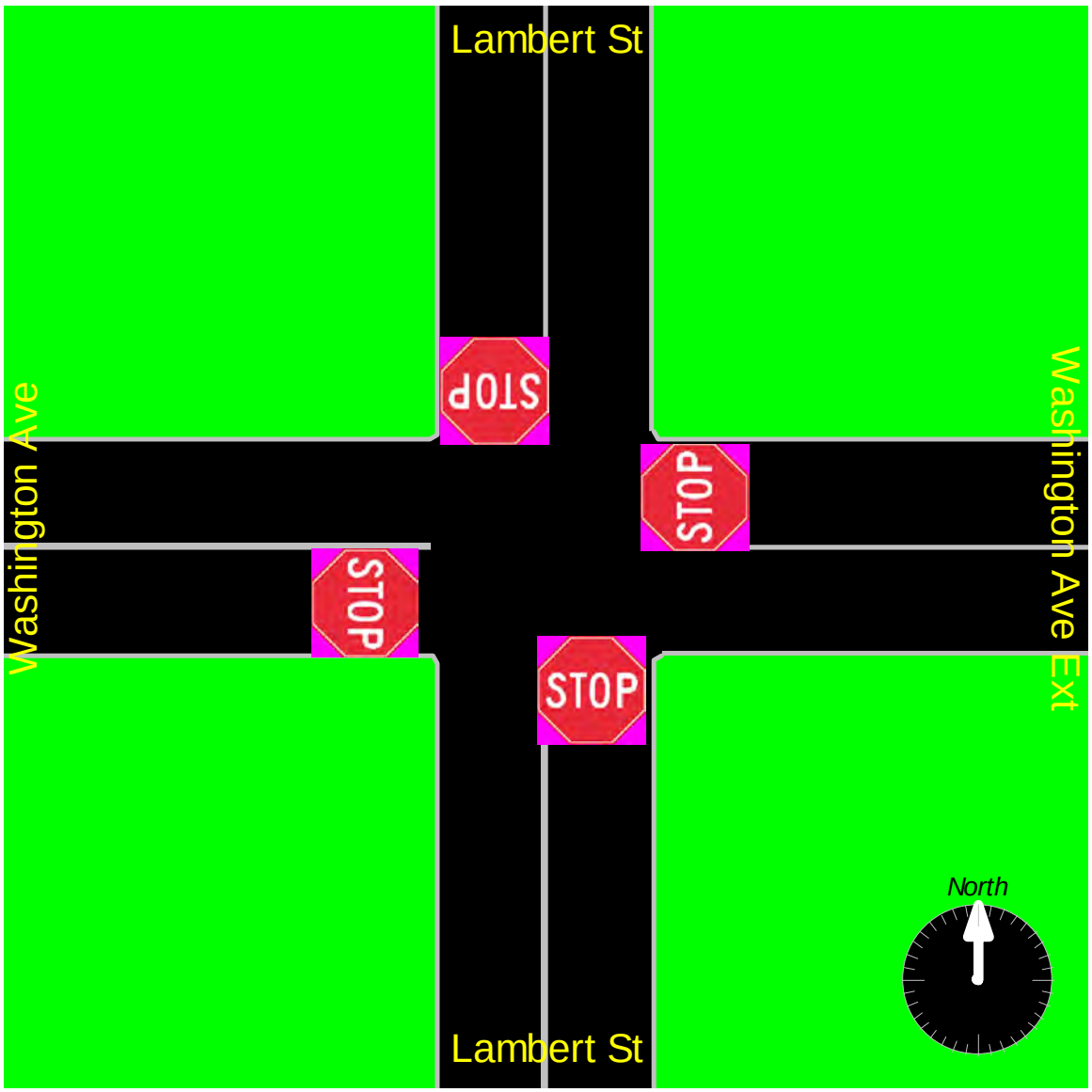
File Name : Portland Lambert Street & Washington Ave Ext 10-5-21 AM
Site Code : 01005211
Start Date : 10/5/2021
Page No : 5

	Lambert St From North				Washington Ave Ext From East				Lambert St From South				Washington Ave From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:30 AM				07:30 AM				
+0 mins.	1	44	1	46	7	36	0	43	**1**	13	1	15	**5**	**39**	3	**47**	
+15 mins.	0	68	3	71	8	37	0	45	0	**24**	**2**	**26**	4	24	5	33	
+30 mins.	**2**	**79**	**8**	**89**	3	29	0	32	0	11	2	13	3	34	5	42	
+45 mins.	2	70	3	75	**11**	**43**	**1**	**55**	0	19	0	19	2	24	**6**	32	
Total Volume	5	261	15	281	29	145	1	175	1	67	5	73	14	121	19	154	
% App. Total	1.8	92.9	5.3		16.6	82.9	0.6		1.4	91.8	6.8		9.1	78.6	12.3		
PHF	.625	.826	.469	.789	.659	.843	.250	.795	.250	.698	.625	.702	.700	.776	.792	.819	
Passenger Car	5	256	12	273	27	138	1	166	1	64	5	70	13	99	18	130	
% Passenger Car	100	98.1	80	97.2	93.1	95.2	100	94.9	100	95.5	100	95.9	92.9	81.8	94.7	84.4	
Truck	0	4	3	7	0	2	0	2	0	2	0	2	1	12	0	13	
% Truck	0	1.5	20	2.5	0	1.4	0	1.1	0	3	0	2.7	7.1	9.9	0	8.4	
Semi	0	0	0	0	1	2	0	3	0	0	0	0	0	6	0	6	
% Semi	0	0	0	0	3.4	1.4	0	1.7	0	0	0	0	0	5	0	3.9	
Bus	0	1	0	1	1	3	0	4	0	1	0	1	0	4	1	5	
% Bus	0	0.4	0	0.4	3.4	2.1	0	2.3	0	1.5	0	1.4	0	3.3	5.3	3.2	



Traffic Solutions
17 Mount View Dr
Gorham, ME 04038

File Name : Portland Lambert Street & Washington Ave Ext 10-5-21 AM
Site Code : 01005211
Start Date : 10/5/2021
Page No : 6



Traffic Solutions
17 Mount View Dr
Gorham, ME 04038

Portland Lambert & Washington Ave Ext
October 5, 2021 PM
Sunny
Count by Jen Gilbert

File Name : Portland Lambert Street & Washington Ave Ext 10-5-21 PM
Site Code : 01005212
Start Date : 10/5/2021
Page No : 1

Groups Printed- Passenger Car - Truck - Semi - Bus - Bicycle

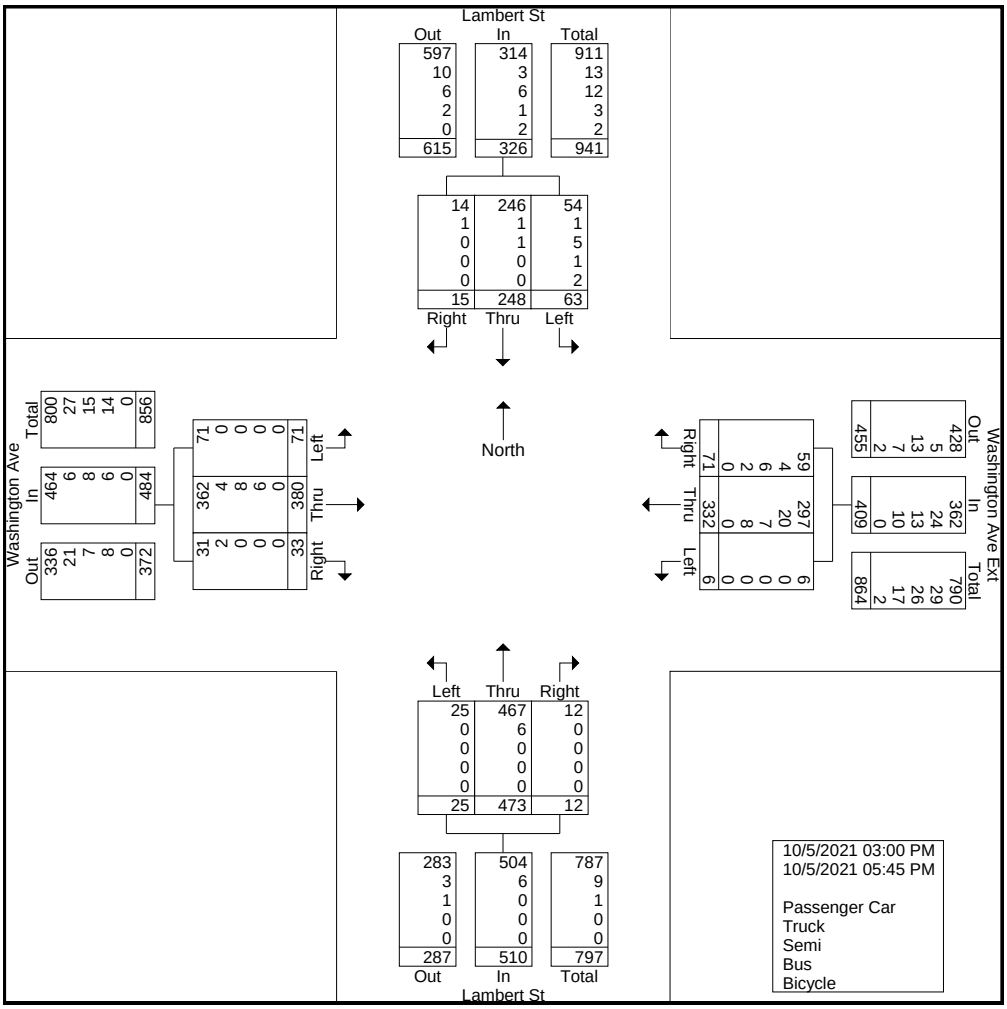
	Lambert St From North				Washington Ave Ext From East				Lambert St From South				Washington Ave From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
03:00 PM	1	21	0	22	4	24	0	28	1	28	6	35	1	23	5	29	114
03:15 PM	0	21	2	23	4	26	1	31	5	23	1	29	3	31	10	44	127
03:30 PM	1	25	8	34	8	27	2	37	0	31	1	32	2	36	1	39	142
03:45 PM	1	17	5	23	8	24	0	32	0	38	1	39	2	25	6	33	127
Total	3	84	15	102	24	101	3	128	6	120	9	135	8	115	22	145	510
04:00 PM	1	22	8	31	9	30	0	39	1	39	3	43	2	45	2	49	162
04:15 PM	0	17	8	25	14	34	2	50	1	54	3	58	3	38	5	46	179
04:30 PM	1	23	6	30	3	30	0	33	1	47	0	48	6	40	7	53	164
04:45 PM	3	14	6	23	7	33	0	40	2	45	3	50	3	32	7	42	155
Total	5	76	28	109	33	127	2	162	5	185	9	199	14	155	21	190	660
05:00 PM	3	23	6	32	7	23	0	30	0	52	4	56	4	33	7	44	162
05:15 PM	0	13	4	17	2	29	1	32	1	49	2	52	2	35	8	45	146
05:30 PM	2	26	6	34	3	25	0	28	0	39	1	40	3	19	10	32	134
05:45 PM	2	26	4	32	2	27	0	29	0	28	0	28	2	23	3	28	117
Total	7	88	20	115	14	104	1	119	1	168	7	176	11	110	28	149	559

Traffic Solutions
17 Mount View Dr
Gorham, ME 04038

File Name : Portland Lambert Street & Washington Ave Ext 10-5-21 PM
Site Code : 01005212
Start Date : 10/5/2021
Page No : 2

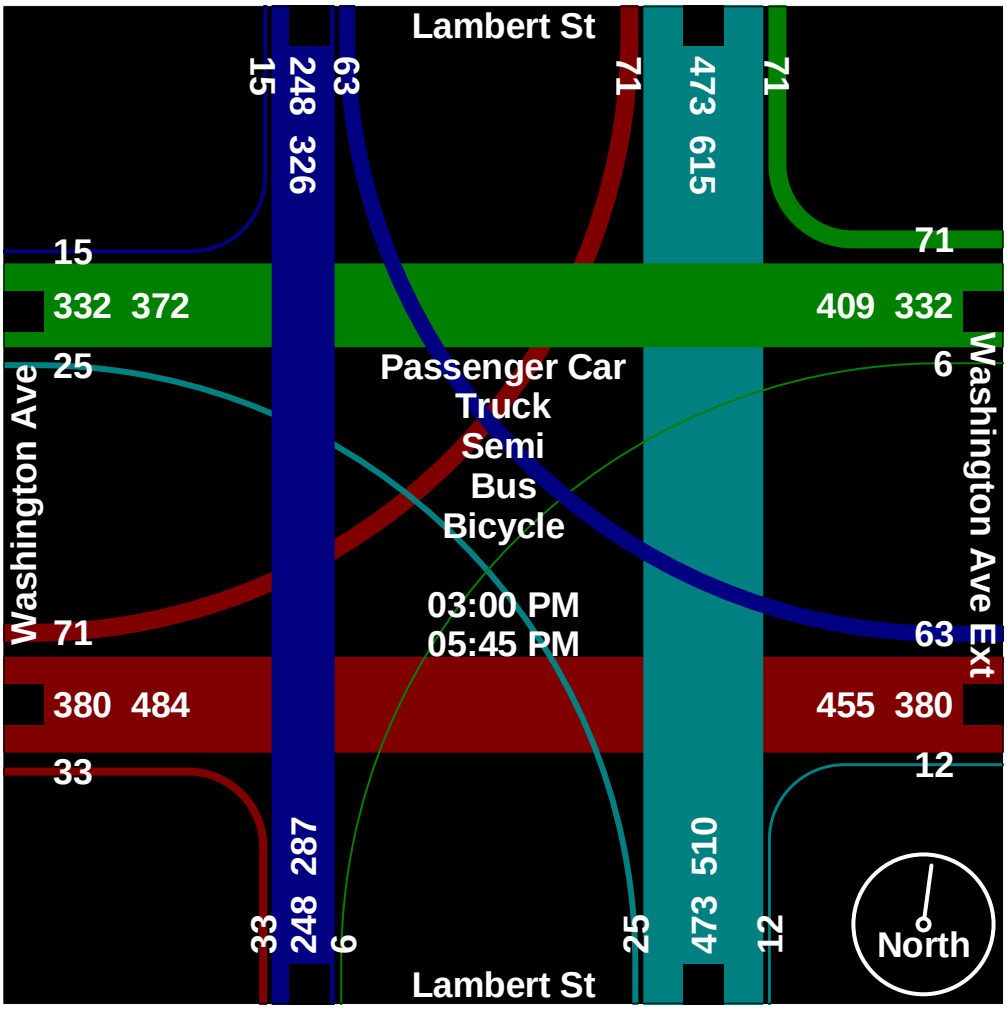
Groups Printed- Passenger Car - Truck - Semi - Bus - Bicycle

	Lambert St From North				Washington Ave Ext From East				Lambert St From South				Washington Ave From West				
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Grand Total	15	248	63	326	71	332	6	409	12	473	25	510	33	380	71	484	1729
Apprch %	4.6	76.1	19.3		17.4	81.2	1.5		2.4	92.7	4.9		6.8	78.5	14.7		
Total %	0.9	14.3	3.6	18.9	4.1	19.2	0.3	23.7	0.7	27.4	1.4	29.5	1.9	22	4.1	28	
Passenger Car	14	246	54	314	59	297	6	362	12	467	25	504	31	362	71	464	1644
% Passenger Car	93.3	99.2	85.7	96.3	83.1	89.5	100	88.5	100	98.7	100	98.8	93.9	95.3	100	95.9	95.1
Truck	1	1	1	3	4	20	0	24	0	6	0	6	2	4	0	6	39
% Truck	6.7	0.4	1.6	0.9	5.6	6	0	5.9	0	1.3	0	1.2	6.1	1.1	0	1.2	2.3
Semi	0	1	5	6	6	7	0	13	0	0	0	0	0	8	0	8	27
% Semi	0	0.4	7.9	1.8	8.5	2.1	0	3.2	0	0	0	0	0	2.1	0	1.7	1.6
Bus	0	0	1	1	2	8	0	10	0	0	0	0	0	6	0	6	17
% Bus	0	0	1.6	0.3	2.8	2.4	0	2.4	0	0	0	0	0	1.6	0	1.2	1
Bicycle	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% Bicycle	0	0	3.2	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0.1



Traffic Solutions
17 Mount View Dr
Gorham, ME 04038

File Name : Portland Lambert Street & Washington Ave Ext 10-5-21 PM
Site Code : 01005212
Start Date : 10/5/2021
Page No : 3

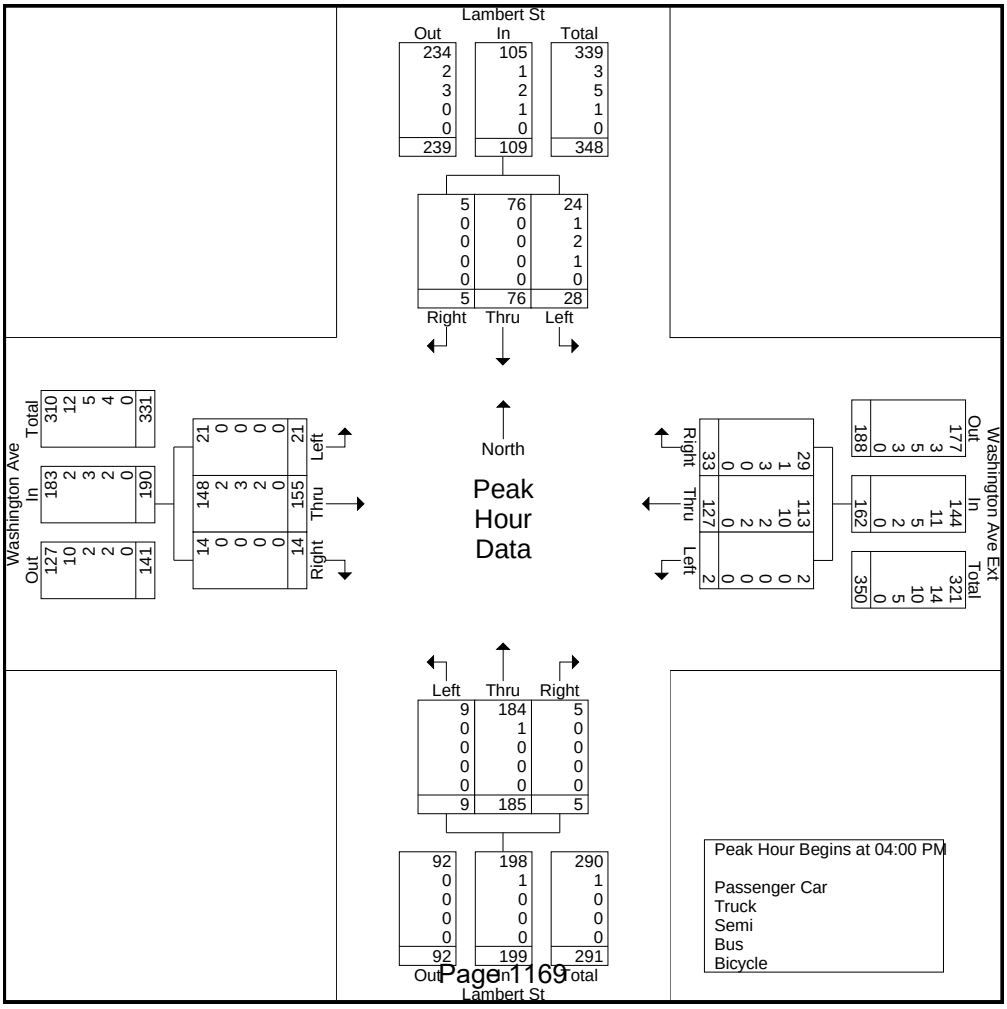


Traffic Solutions

17 Mount View Dr
Gorham, ME 04038

File Name : Portland Lambert Street & Washington Ave Ext 10-5-21 PM
Site Code : 01005212
Start Date : 10/5/2021
Page No : 4

	Lambert St From North				Washington Ave Ext From East				Lambert St From South				Washington Ave From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	22	**8**	**31**	9	30	0	39	1	39	**3**	43	2	**45**	2	49	162
04:15 PM	0	17	8	25	**14**	**34**	**2**	**50**	1	**54**	3	**58**	3	38	5	46	**179**
04:30 PM	1	**23**	6	30	3	30	0	33	1	47	0	48	**6**	40	**7**	**53**	164
04:45 PM	**3**	14	6	23	7	33	0	40	**2**	45	3	50	3	32	7	42	155
Total Volume	5	76	28	109	33	127	2	162	5	185	9	199	14	155	21	190	660
% App. Total	4.6	69.7	25.7		20.4	78.4	1.2		2.5	93	4.5		7.4	81.6	11.1		
PHF	.417	.826	.875	.879	.589	.934	.250	.810	.625	.856	.750	.858	.583	.861	.750	.896	.922
Passenger Car	5	76	24	105	29	113	2	144	5	184	9	198	14	148	21	183	630
% Passenger Car	100	100	85.7	96.3	87.9	89.0	100	88.9	100	99.5	100	99.5	100	95.5	100	96.3	95.5
Truck	0	0	1	1	1	10	0	11	0	1	0	1	0	2	0	2	15
% Truck	0	0	3.6	0.9	3.0	7.9	0	6.8	0	0.5	0	0.5	0	1.3	0	1.1	2.3
Semi	0	0	2	2	3	2	0	5	0	0	0	0	0	3	0	3	10
% Semi	0	0	7.1	1.8	9.1	1.6	0	3.1	0	0	0	0	0	1.9	0	1.6	1.5
Bus	0	0	1	1	0	2	0	2	0	0	0	0	0	2	0	2	5
% Bus	0	0	3.6	0.9	0	1.6	0	1.2	0	0	0	0	0	1.3	0	1.1	0.8
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

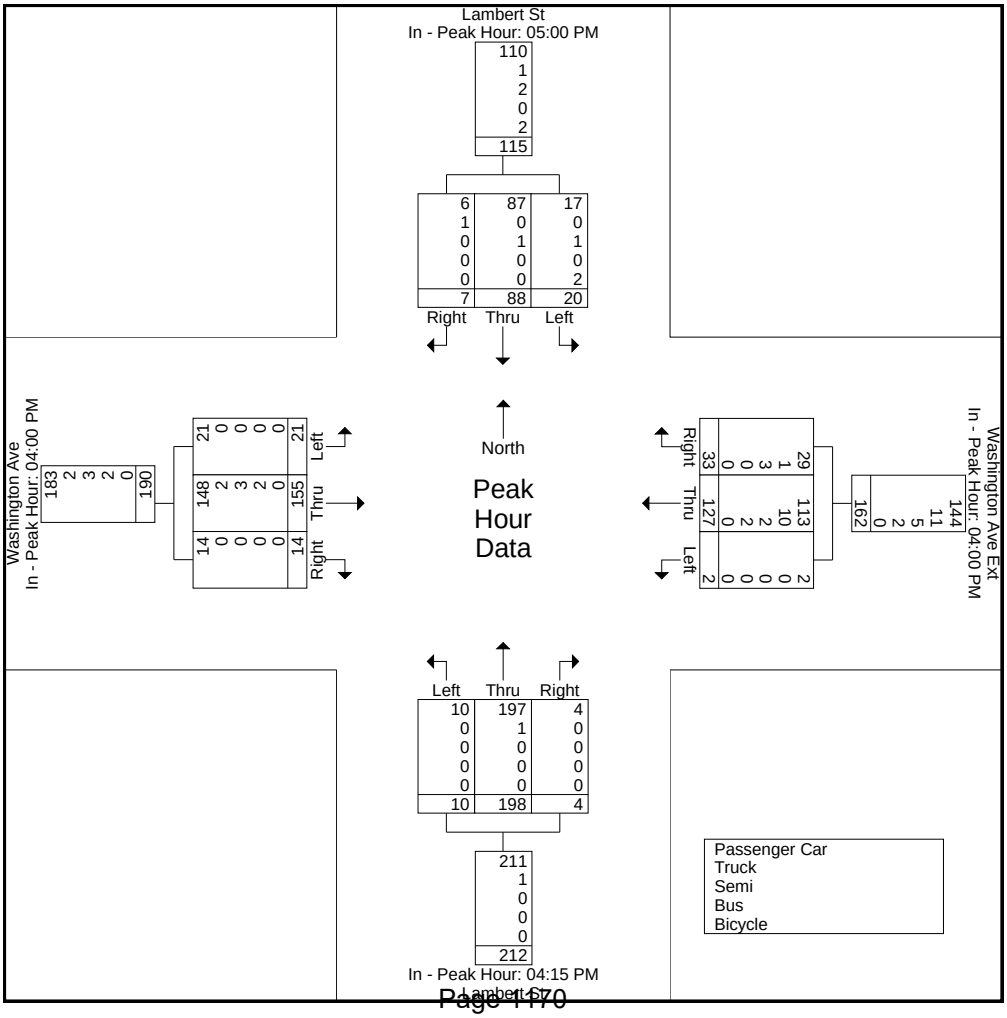


Traffic Solutions

17 Mount View Dr
Gorham, ME 04038

File Name : Portland Lambert Street & Washington Ave Ext 10-5-21 PM
Site Code : 01005212
Start Date : 10/5/2021
Page No : 5

	Lambert St From North				Washington Ave Ext From East				Lambert St From South				Washington Ave From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	05:00 PM				04:00 PM				04:15 PM				04:00 PM				
+0 mins.	**3**	23	**6**	32	9	30	0	39	1	**54**	3	**58**	2	**45**	2	49	
+15 mins.	0	13	4	17	**14**	**34**	**2**	**50**	1	47	0	48	3	38	5	46	
+30 mins.	2	**26**	6	**34**	3	30	0	33	**2**	45	3	50	**6**	40	**7**	**53**	
+45 mins.	2	26	4	32	7	33	0	40	0	52	**4**	56	3	32	7	42	
Total Volume	7	88	20	115	33	127	2	162	4	198	10	212	14	155	21	190	
% App. Total	6.1	76.5	17.4		20.4	78.4	1.2		1.9	93.4	4.7		7.4	81.6	11.1		
PHF	.583	.846	.833	.846	.589	.934	.250	.810	.500	.917	.625	.914	.583	.861	.750	.896	
Passenger Car	6	87	17	110	29	113	2	144	4	197	10	211	14	148	21	183	
% Passenger Car	85.7	98.9	85	95.7	87.9	89	100	88.9	100	99.5	100	99.5	100	95.5	100	96.3	
Truck	1	0	0	1	1	10	0	11	0	1	0	1	0	2	0	2	
% Truck	14.3	0	0	0.9	3	7.9	0	6.8	0	0.5	0	0.5	0	1.3	0	1.1	
Semi	0	1	1	2	3	2	0	5	0	0	0	0	0	3	0	3	
% Semi	0	1.1	5	1.7	9.1	1.6	0	3.1	0	0	0	0	0	1.9	0	1.6	
Bus	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	
% Bus	0	0	0	0	0	1.6	0	1.2	0	0	0	0	0	1.3	0	1.1	
Bicycle	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycle	0	0	10	1.7	0	0	0	0	0	0	0	0	0	0	0	0	



Traffic Solutions
17 Mount View Dr
Gorham, ME 04038

File Name : Portland Lambert Street & Washington Ave Ext 10-5-21 PM
Site Code : 01005212
Start Date : 10/5/2021
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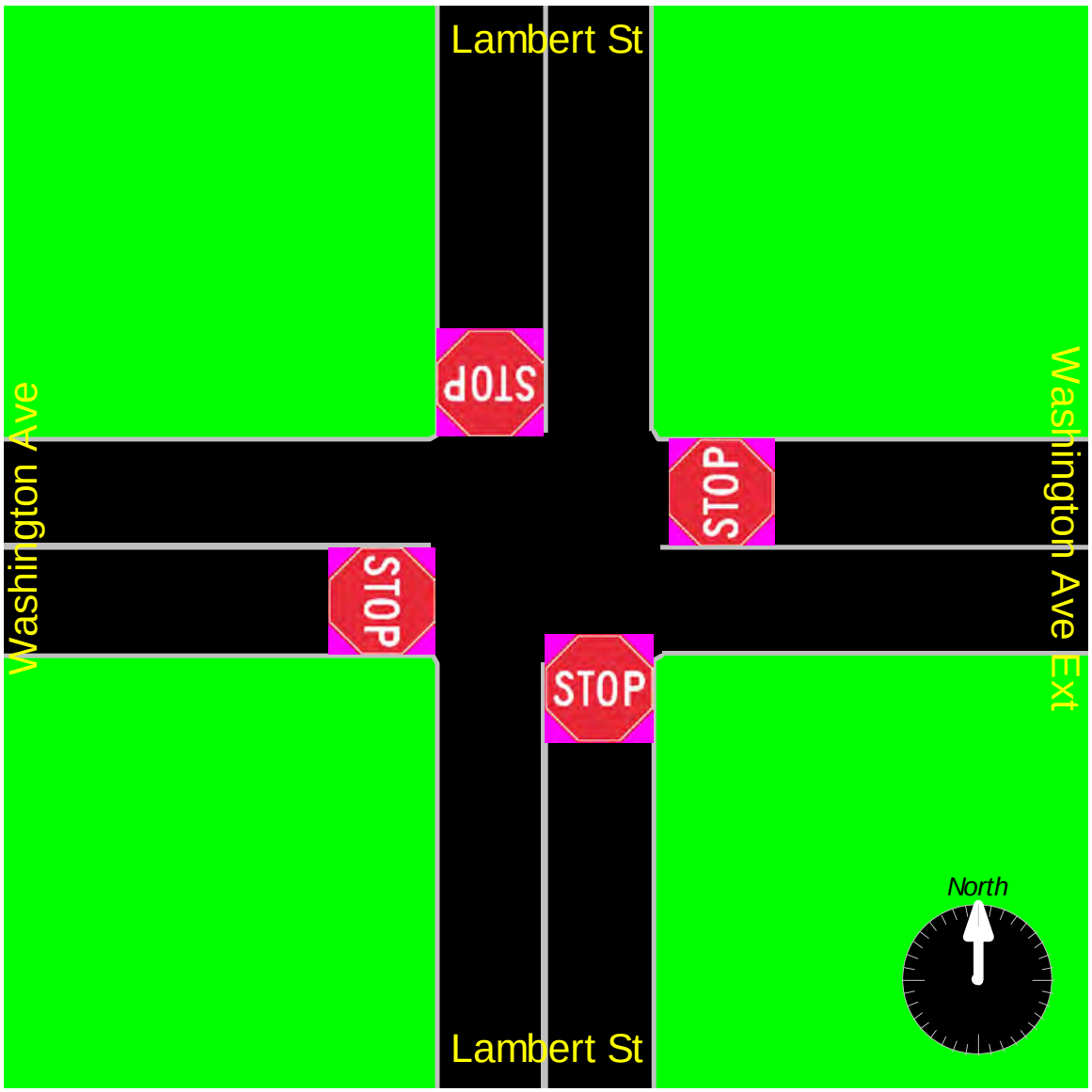
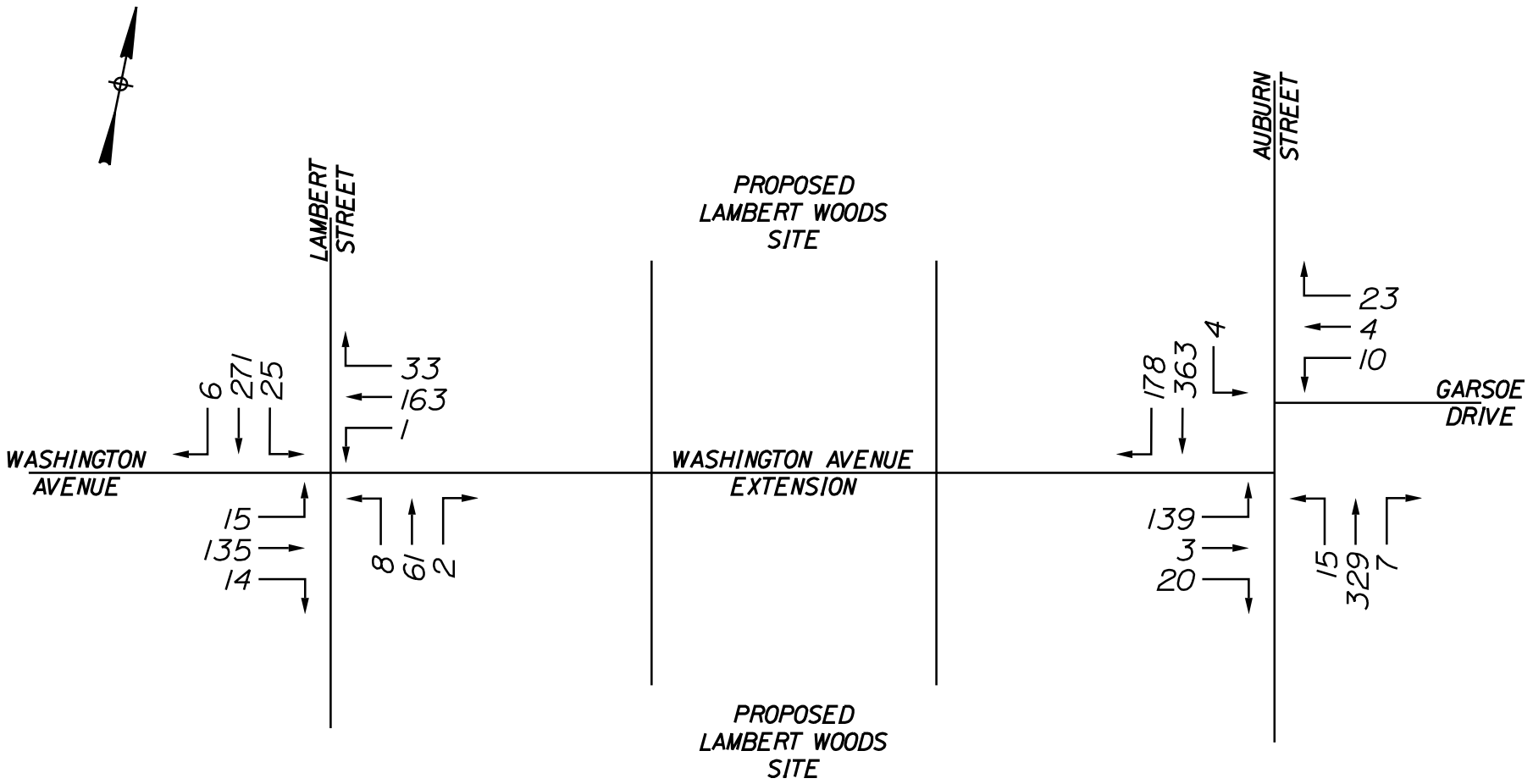


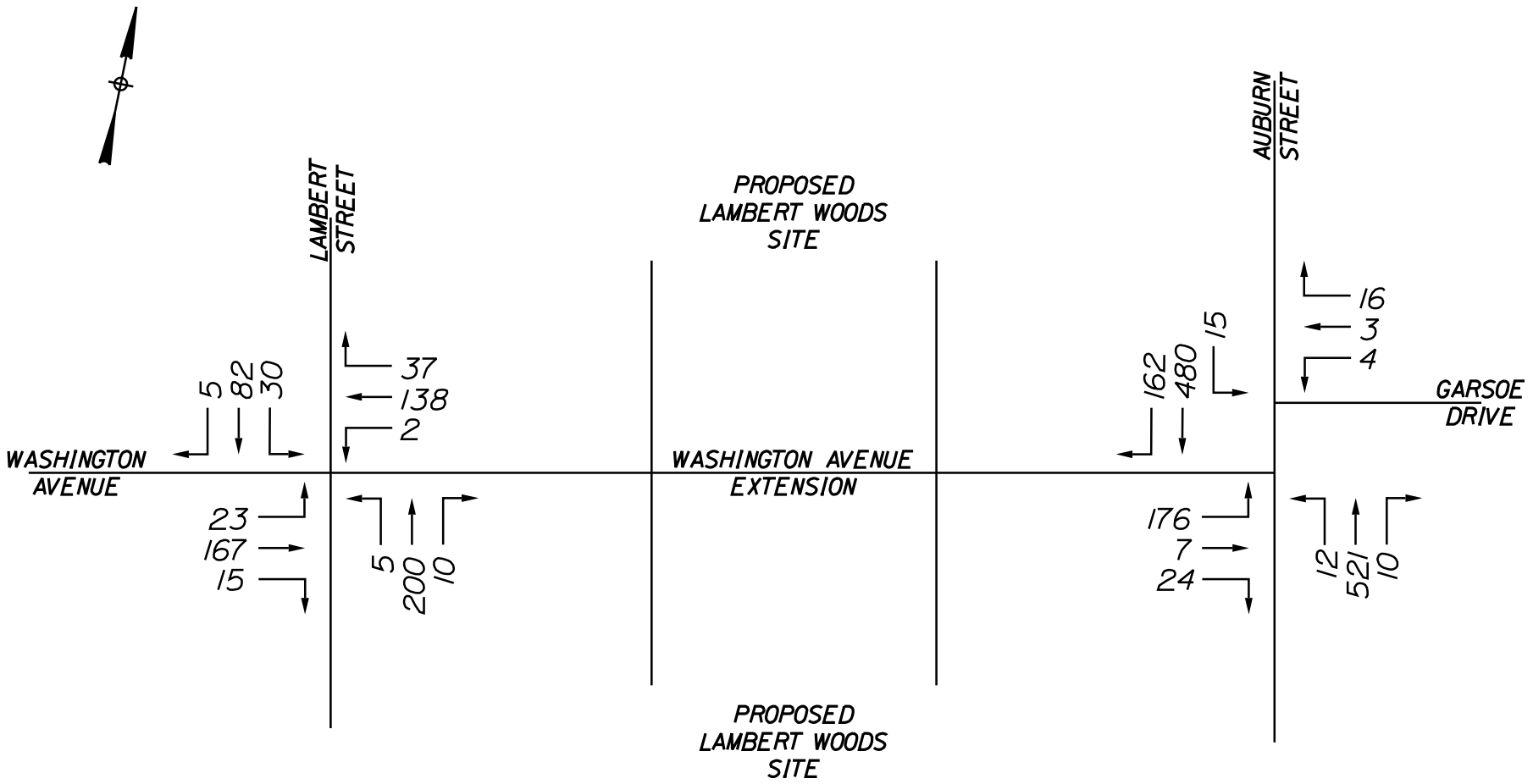
APPENDIX C – TRAFFIC FIGURES



2024 PRE-DEVELOPMENT TRAFFIC
AM PEAK HOUR
FIGURE 1

LAMBERT WOODS RESIDENTIAL
PORTLAND, MAINE
DATE: AUG., 2022

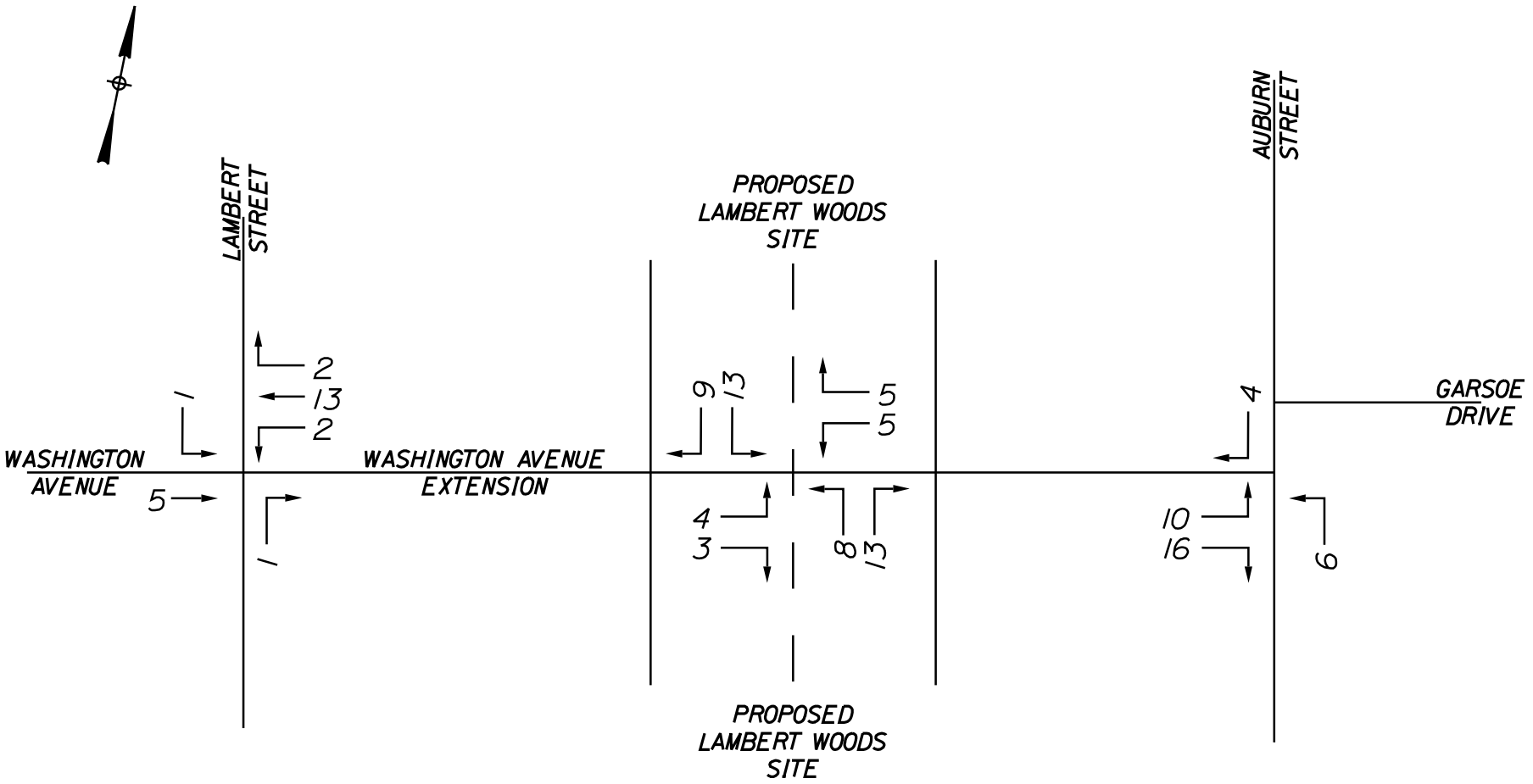
Barton & Loguidice



2024 PRE-DEVELOPMENT TRAFFIC
PM PEAK HOUR
FIGURE 2

LAMBERT WOODS RESIDENTIAL
PORTLAND, MAINE
DATE: AUG., 2022

Barton & Loguidice

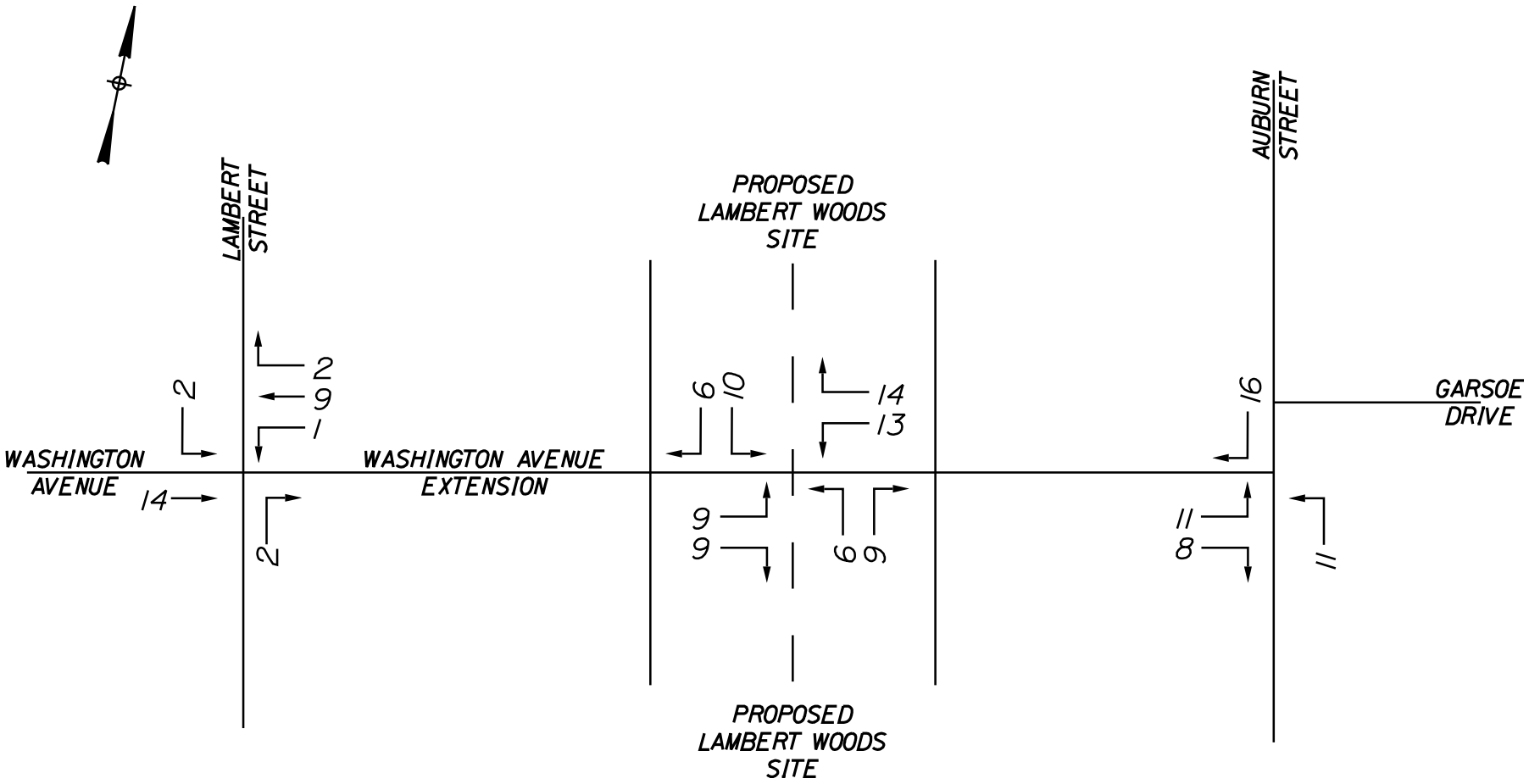


AM PEAK HOUR
SITE TRIP ASSIGNMENT
FIGURE 3

NOTE:
TRAFFIC HAS BEEN ASSIGNED TO
ONE DRIVEWAY ON EITHER SIDE OF THE ROAD

LAMBERT WOODS RESIDENTIAL
PORTLAND, MAINE
DATE: AUG., 2022

Barton & Loguidice

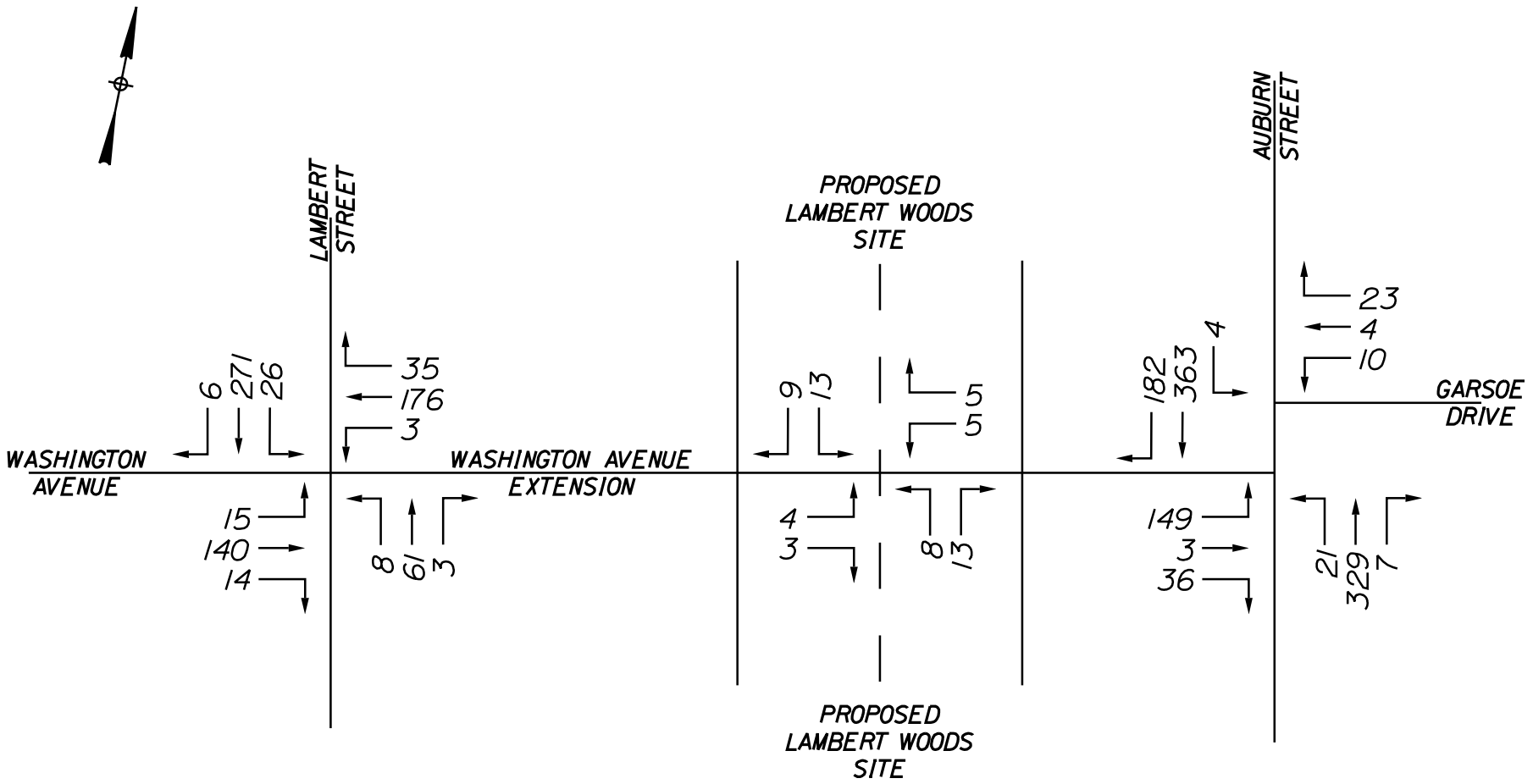


PM PEAK HOUR
SITE TRIP ASSIGNMENT
FIGURE 4

NOTE:
TRAFFIC HAS BEEN ASSIGNED TO
ONE DRIVEWAY ON EITHER SIDE OF THE ROAD

LAMBERT WOODS RESIDENTIAL
PORTLAND, MAINE
DATE: AUG., 2022

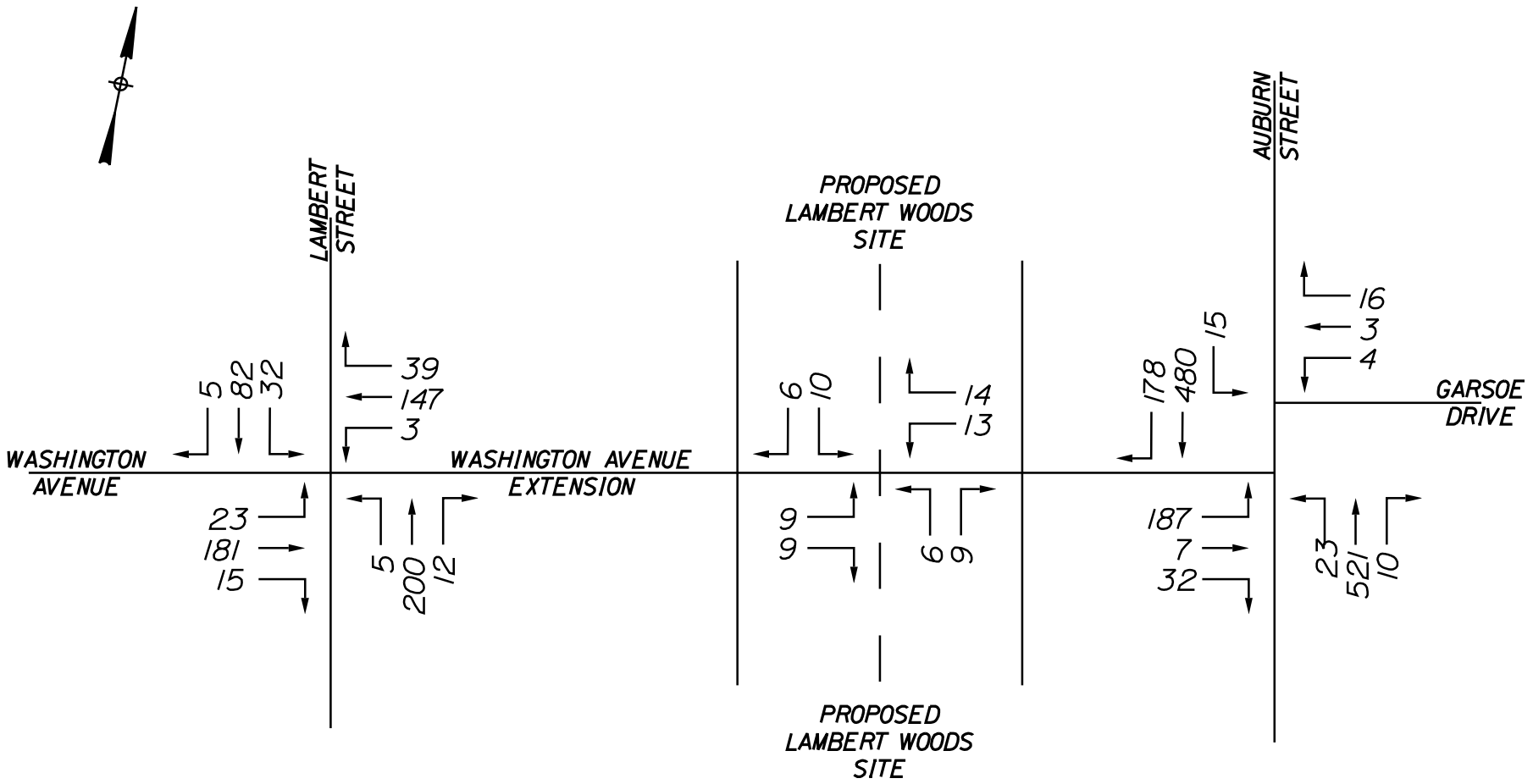
Barton & Loguidice



2024 POST-DEVELOPMENT TRAFFIC
AM PEAK HOUR
FIGURE 5

LAMBERT WOODS RESIDENTIAL
PORTLAND, MAINE
DATE: AUG., 2022

Barton & Loguidice



2024 POST-DEVELOPMENT TRAFFIC
PM PEAK HOUR
FIGURE 6

LAMBERT WOODS
RESIDENTIAL
PORTLAND, MAINE
DATE: AUG., 2022

Barton & Loguidice

APPENDIX D – SIMTRAFFIC REPORT DATA

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1469	1512	1461	1487	1424	1470
Vehs Exited	1474	1518	1467	1491	1415	1472
Starting Vehs	25	15	25	22	13	19
Ending Vehs	20	9	19	18	22	17
Travel Distance (mi)	387	399	382	385	369	384
Travel Time (hr)	17.8	18.6	17.1	17.3	16.5	17.5
Total Delay (hr)	3.9	4.3	3.4	3.6	3.3	3.7
Total Stops	956	960	931	932	883	932
Fuel Used (gal)	14.7	15.4	14.3	14.4	13.6	14.5

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1469	1512	1461	1487	1424	1470
Vehs Exited	1474	1518	1467	1491	1415	1472
Starting Vehs	25	15	25	22	13	19
Ending Vehs	20	9	19	18	22	17
Travel Distance (mi)	387	399	382	385	369	384
Travel Time (hr)	17.8	18.6	17.1	17.3	16.5	17.5
Total Delay (hr)	3.9	4.3	3.4	3.6	3.3	3.7
Total Stops	956	960	931	932	883	932
Fuel Used (gal)	14.7	15.4	14.3	14.4	13.6	14.5

3: Lambert Street & Washington Avenue/Washington Avenue Ext. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.0	0.1	0.3	0.2
Total Del/Veh (s)	7.2	5.9	6.9	8.6	7.4

4: Auburn Street & Washington Avenue Ext./Garsoe Drive Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.3	0.4	0.3
Total Del/Veh (s)	21.5	10.1	1.3	2.2	5.0

Total Network Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	8.6

Intersection: 3: Lambert Street & Washington Avenue/Washington Avenue Ext.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	102	100	75	125
Average Queue (ft)	53	54	33	63
95th Queue (ft)	84	85	61	98
Link Distance (ft)	475	1179	542	518
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Auburn Street & Washington Avenue Ext./Garsoe Drive

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	LTR	LTR
Maximum Queue (ft)	154	58	69	82	24
Average Queue (ft)	74	16	27	7	1
95th Queue (ft)	133	45	54	37	10
Link Distance (ft)	1179		428	508	501
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		145			
Storage Blk Time (%)	1				
Queuing Penalty (veh)	0				

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:57	4:57	4:57	4:57	4:57	4:57
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1735	1808	1742	1724	1654	1734
Vehs Exited	1735	1799	1738	1730	1652	1730
Starting Vehs	24	21	25	25	19	22
Ending Vehs	24	30	29	19	21	23
Travel Distance (mi)	449	457	443	441	417	442
Travel Time (hr)	32.7	41.5	22.6	23.9	19.6	28.1
Total Delay (hr)	16.7	25.4	6.9	8.3	4.8	12.4
Total Stops	1057	1010	965	980	908	986
Fuel Used (gal)	19.5	21.4	17.0	17.4	15.7	18.2

Interval #0 Information Seeding

Start Time	4:57
End Time	5:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1735	1808	1742	1724	1654	1734
Vehs Exited	1735	1799	1738	1730	1652	1730
Starting Vehs	24	21	25	25	19	22
Ending Vehs	24	30	29	19	21	23
Travel Distance (mi)	449	457	443	441	417	442
Travel Time (hr)	32.7	41.5	22.6	23.9	19.6	28.1
Total Delay (hr)	16.7	25.4	6.9	8.3	4.8	12.4
Total Stops	1057	1010	965	980	908	986
Fuel Used (gal)	19.5	21.4	17.0	17.4	15.7	18.2

3: Lambert Street & Washington Avenue/Washington Avenue Ext. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.0	0.2	0.2	0.2
Total Del/Veh (s)	7.3	5.5	7.7	6.4	6.8

4: Auburn Street & Washington Avenue Ext./Garsoe Drive Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	4.1	0.1	0.4	0.6	1.0
Total Del/Veh (s)	150.8	16.6	1.9	2.8	25.9

Total Network Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	24.6

Intersection: 3: Lambert Street & Washington Avenue/Washington Avenue Ext.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	94	92	85	74
Average Queue (ft)	50	49	47	38
95th Queue (ft)	80	79	72	61
Link Distance (ft)	475	1179	542	518
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Auburn Street & Washington Avenue Ext./Garsoe Drive

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	LTR	LTR
Maximum Queue (ft)	559	168	61	146	84
Average Queue (ft)	301	51	20	13	9
95th Queue (ft)	729	162	51	72	44
Link Distance (ft)	1179		428	508	501
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		145			
Storage Blk Time (%)	50	0			
Queuing Penalty (veh)	12	0			

Network Summary

Network wide Queuing Penalty: 12

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1599	1596	1599	1568	1588	1590
Vehs Exited	1604	1596	1591	1560	1590	1588
Starting Vehs	22	15	13	10	17	16
Ending Vehs	17	15	21	18	15	15
Travel Distance (mi)	410	398	407	395	402	402
Travel Time (hr)	19.6	18.4	18.7	18.4	18.6	18.7
Total Delay (hr)	4.8	4.1	4.0	4.1	4.0	4.2
Total Stops	1076	1061	1059	1003	1037	1045
Fuel Used (gal)	15.8	15.3	15.5	15.0	15.5	15.4

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1599	1596	1599	1568	1588	1590
Vehs Exited	1604	1596	1591	1560	1590	1588
Starting Vehs	22	15	13	10	17	16
Ending Vehs	17	15	21	18	15	15
Travel Distance (mi)	410	398	407	395	402	402
Travel Time (hr)	19.6	18.4	18.7	18.4	18.6	18.7
Total Delay (hr)	4.8	4.1	4.0	4.1	4.0	4.2
Total Stops	1076	1061	1059	1003	1037	1045
Fuel Used (gal)	15.8	15.3	15.5	15.0	15.5	15.4

3: Lambert Street & Washington Avenue/Washington Avenue Ext. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.0	0.1	0.3	0.2
Total Del/Veh (s)	7.2	5.7	6.5	8.6	7.3

4: Auburn Street & Washington Avenue Ext./Garsoe Drive Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.3	0.4	0.3
Total Del/Veh (s)	20.8	11.0	1.5	2.3	5.6

9: Lambert Woods South/Lambert Woods North & Washington Avenue Ext. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.7	0.4	3.8	4.6	1.3

Total Network Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	9.1

Intersection: 3: Lambert Street & Washington Avenue/Washington Avenue Ext.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	99	116	70	118
Average Queue (ft)	53	53	34	63
95th Queue (ft)	85	88	58	98
Link Distance (ft)	475	564	542	518
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Auburn Street & Washington Avenue Ext./Garsoe Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	223	65	79	33
Average Queue (ft)	88	27	12	2
95th Queue (ft)	168	56	49	15
Link Distance (ft)	559	428	525	501
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Lambert Woods South/Lambert Woods North & Washington Avenue Ext.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	18	25	45	40
Average Queue (ft)	1	1	16	16
95th Queue (ft)	9	12	42	41
Link Distance (ft)	564	559	162	152
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:57	4:57	4:57	4:57	4:57	4:57
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1813	1909	1837	1791	1869	1844
Vehs Exited	1793	1893	1825	1787	1863	1831
Starting Vehs	21	20	20	20	20	21
Ending Vehs	41	36	32	24	26	29
Travel Distance (mi)	453	470	451	451	468	459
Travel Time (hr)	31.3	40.3	25.0	31.1	38.0	33.1
Total Delay (hr)	15.2	23.6	9.0	14.9	21.4	16.8
Total Stops	1028	1036	984	1020	1085	1031
Fuel Used (gal)	19.3	21.4	17.9	19.2	21.0	19.7

Interval #0 Information Seeding

Start Time	4:57
End Time	5:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1813	1909	1837	1791	1869	1844
Vehs Exited	1793	1893	1825	1787	1863	1831
Starting Vehs	21	20	20	20	20	21
Ending Vehs	41	36	32	24	26	29
Travel Distance (mi)	453	470	451	451	468	459
Travel Time (hr)	31.3	40.3	25.0	31.1	38.0	33.1
Total Delay (hr)	15.2	23.6	9.0	14.9	21.4	16.8
Total Stops	1028	1036	984	1020	1085	1031
Fuel Used (gal)	19.3	21.4	17.9	19.2	21.0	19.7

3: Lambert Street & Washington Avenue/Washington Avenue Ext. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.0	0.2	0.2	0.2
Total Del/Veh (s)	7.5	5.1	7.7	6.6	6.8

4: Auburn Street & Washington Avenue Ext./Garsoe Drive Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	44.6	0.1	0.5	0.6	7.5
Total Del/Veh (s)	164.2	14.5	2.4	2.9	28.2

9: Lambert Woods South/Lambert Woods North & Washington Avenue Ext. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	2.0	0.6	4.5	4.9	1.5

Total Network Performance

Denied Del/Veh (s)	6.1
Total Del/Veh (s)	26.5

Intersection: 3: Lambert Street & Washington Avenue/Washington Avenue Ext.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	93	101	82	78
Average Queue (ft)	54	51	47	38
95th Queue (ft)	84	83	72	63
Link Distance (ft)	475	568	542	518
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Auburn Street & Washington Avenue Ext./Garsoe Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	524	55	169	103
Average Queue (ft)	327	20	25	10
95th Queue (ft)	573	48	94	55
Link Distance (ft)	555	428	525	501
Upstream Blk Time (%)	2			
Queuing Penalty (veh)	4			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Lambert Woods South/Lambert Woods North & Washington Avenue Ext.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	37	35	40	35
Average Queue (ft)	2	4	11	11
95th Queue (ft)	19	22	36	36
Link Distance (ft)	568	555	176	179
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 4

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1599	1596	1599	1568	1588	1590
Vehs Exited	1604	1596	1591	1560	1590	1588
Starting Vehs	22	15	13	10	17	16
Ending Vehs	17	15	21	18	15	15
Travel Distance (mi)	410	398	407	395	402	402
Travel Time (hr)	19.4	18.4	18.7	18.4	18.6	18.7
Total Delay (hr)	4.5	4.1	3.9	4.2	3.9	4.1
Total Stops	1079	1065	1063	1007	1037	1049
Fuel Used (gal)	15.8	15.3	15.4	15.1	15.5	15.4

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1599	1596	1599	1568	1588	1590
Vehs Exited	1604	1596	1591	1560	1590	1588
Starting Vehs	22	15	13	10	17	16
Ending Vehs	17	15	21	18	15	15
Travel Distance (mi)	410	398	407	395	402	402
Travel Time (hr)	19.4	18.4	18.7	18.4	18.6	18.7
Total Delay (hr)	4.5	4.1	3.9	4.2	3.9	4.1
Total Stops	1079	1065	1063	1007	1037	1049
Fuel Used (gal)	15.8	15.3	15.4	15.1	15.5	15.4

3: Lambert Street & Washington Avenue/Washington Avenue Ext. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.0	0.1	0.3	0.2
Total Del/Veh (s)	7.2	5.8	6.5	8.6	7.3

4: Auburn Street & Washington Avenue Ext./Garsoe Drive Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.3	0.4	0.3
Total Del/Veh (s)	19.4	11.5	1.5	2.3	5.4

9: Lambert Woods South/Lambert Woods North & Washington Avenue Ext. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.7	0.4	3.8	4.7	1.3

Total Network Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	9.0

Intersection: 3: Lambert Street & Washington Avenue/Washington Avenue Ext.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	99	116	70	118
Average Queue (ft)	53	53	34	63
95th Queue (ft)	85	88	58	98
Link Distance (ft)	475	564	542	518
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Auburn Street & Washington Avenue Ext./Garsoe Drive

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	LTR	LTR
Maximum Queue (ft)	202	129	65	77	27
Average Queue (ft)	79	30	27	10	2
95th Queue (ft)	150	78	56	46	14
Link Distance (ft)	559		428	508	501
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		145			
Storage Blk Time (%)	3	0			
Queuing Penalty (veh)	1	0			

Intersection: 9: Lambert Woods South/Lambert Woods North & Washington Avenue Ext.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	18	25	45	40
Average Queue (ft)	1	1	16	16
95th Queue (ft)	9	12	42	41
Link Distance (ft)	564	559	162	152
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 1

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:57	4:57	4:57	4:57	4:57	4:57
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1808	1910	1837	1795	1871	1844
Vehs Exited	1786	1896	1828	1792	1865	1832
Starting Vehs	21	21	20	20	22	22
Ending Vehs	43	35	29	23	28	29
Travel Distance (mi)	451	471	451	452	468	459
Travel Time (hr)	35.9	40.9	24.0	29.4	39.2	33.9
Total Delay (hr)	19.8	24.1	8.0	13.2	22.5	17.5
Total Stops	1058	1067	1001	1030	1154	1060
Fuel Used (gal)	20.1	21.5	17.7	18.9	21.3	19.9

Interval #0 Information Seeding

Start Time	4:57
End Time	5:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1808	1910	1837	1795	1871	1844
Vehs Exited	1786	1896	1828	1792	1865	1832
Starting Vehs	21	21	20	20	22	22
Ending Vehs	43	35	29	23	28	29
Travel Distance (mi)	451	471	451	452	468	459
Travel Time (hr)	35.9	40.9	24.0	29.4	39.2	33.9
Total Delay (hr)	19.8	24.1	8.0	13.2	22.5	17.5
Total Stops	1058	1067	1001	1030	1154	1060
Fuel Used (gal)	20.1	21.5	17.7	18.9	21.3	19.9

3: Lambert Street & Washington Avenue/Washington Avenue Ext. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.0	0.2	0.2	0.2
Total Del/Veh (s)	7.5	5.1	7.7	6.6	6.8

4: Auburn Street & Washington Avenue Ext./Garsoe Drive Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	44.7	0.1	0.5	0.6	7.5
Total Del/Veh (s)	171.6	15.2	2.4	3.0	29.4

9: Lambert Woods South/Lambert Woods North & Washington Avenue Ext. Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	4.4	0.6	21.9	5.1	3.2

Total Network Performance

Denied Del/Veh (s)	6.1
Total Del/Veh (s)	27.9

Intersection: 3: Lambert Street & Washington Avenue/Washington Avenue Ext.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	93	100	82	78
Average Queue (ft)	54	51	47	38
95th Queue (ft)	84	83	72	64
Link Distance (ft)	475	568	542	518
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Auburn Street & Washington Avenue Ext./Garsoe Drive

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	LTR	LTR
Maximum Queue (ft)	514	170	55	160	98
Average Queue (ft)	336	88	20	22	10
95th Queue (ft)	603	218	48	87	54
Link Distance (ft)	555		428	508	501
Upstream Blk Time (%)	5				
Queuing Penalty (veh)	10				
Storage Bay Dist (ft)		145			
Storage Blk Time (%)	71	0			
Queuing Penalty (veh)	23	0			

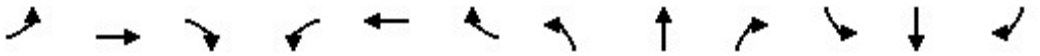
Intersection: 9: Lambert Woods South/Lambert Woods North & Washington Avenue Ext.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	75	35	57	35
Average Queue (ft)	10	4	13	11
95th Queue (ft)	59	22	46	36
Link Distance (ft)	568	555	176	179
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 33

APPENDIX E – CALIBRATED SYNCHRO REPORT DATA



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	3	20	10	4	23	15	329	7	4	363	178
Future Volume (Veh/h)	139	3	20	10	4	23	15	329	7	4	363	178
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	139	3	20	10	4	23	15	329	7	4	363	178
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			6									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	848	826	452	834	912	332	541			336		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	848	826	452	834	912	332	541			336		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	48	99	97	96	99	97	99			100		
cM capacity (veh/h)	266	302	608	272	269	709	1028			1223		

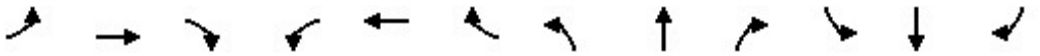
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	162	37	351	545
Volume Left	139	10	15	4
Volume Right	20	23	7	178
cSH	304	440	1028	1223
Volume to Capacity	0.53	0.08	0.01	0.00
Queue Length 95th (ft)	73	7	1	0
Control Delay (s)	30.2	13.9	0.5	0.1
Lane LOS	D	B	A	A
Approach Delay (s)	30.2	13.9	0.5	0.1
Approach LOS	D	B		

Intersection Summary				
Average Delay	5.2			
Intersection Capacity Utilization	52.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	7	24	4	3	16	12	521	10	15	480	162
Future Volume (Veh/h)	176	7	24	4	3	16	12	521	10	15	480	162
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	176	7	24	4	3	16	12	521	10	15	480	162
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			6									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1158	1146	561	1156	1222	526	642			531		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1158	1146	561	1156	1222	526	642			531		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	96	95	97	98	97	99			99		
cM capacity (veh/h)	162	194	527	158	175	552	943			1036		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	207	23	543	657
Volume Left	176	4	12	15
Volume Right	24	16	10	162
cSH	182	322	943	1036
Volume to Capacity	1.13	0.07	0.01	0.01
Queue Length 95th (ft)	262	6	1	1
Control Delay (s)	159.8	17.1	0.4	0.4
Lane LOS	F	C	A	A
Approach Delay (s)	159.8	17.1	0.4	0.4
Approach LOS	F	C		

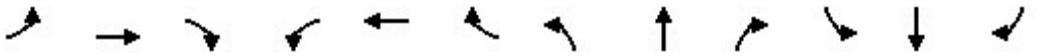
Intersection Summary				
Average Delay	23.7			
Intersection Capacity Utilization	66.1%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	3	36	10	4	23	21	329	7	4	363	182
Future Volume (Veh/h)	149	3	36	10	4	23	21	329	7	4	363	182
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	149	3	36	10	4	23	21	329	7	4	363	182
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	862	840	454	874	928	332	545			336		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	862	840	454	874	928	332	545			336		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	42	99	94	96	98	97	98			100		
cM capacity (veh/h)	259	294	606	248	262	709	1024			1223		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	188	37	357	549
Volume Left	149	10	21	4
Volume Right	36	23	7	182
cSH	291	420	1024	1223
Volume to Capacity	0.65	0.09	0.02	0.00
Queue Length 95th (ft)	103	7	2	0
Control Delay (s)	37.4	14.4	0.7	0.1
Lane LOS	E	B	A	A
Approach Delay (s)	37.4	14.4	0.7	0.1
Approach LOS	E	B		

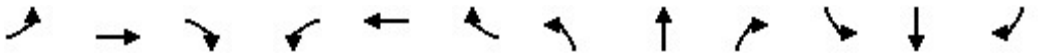
Intersection Summary				
Average Delay	7.0			
Intersection Capacity Utilization	56.0%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	7	32	4	3	16	23	521	10	15	480	178
Future Volume (Veh/h)	187	7	32	4	3	16	23	521	10	15	480	178
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	187	7	32	4	3	16	23	521	10	15	480	178
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1188	1176	569	1206	1260	526	658			531		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1188	1176	569	1206	1260	526	658			531		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	96	94	97	98	97	98			99		
cM capacity (veh/h)	153	184	522	142	164	552	930			1036		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	226	23	554	673
Volume Left	187	4	23	15
Volume Right	32	16	10	178
cSH	171	304	930	1036
Volume to Capacity	1.32	0.08	0.02	0.01
Queue Length 95th (ft)	331	6	2	1
Control Delay (s)	231.0	17.8	0.7	0.4
Lane LOS	F	C	A	A
Approach Delay (s)	231.0	17.8	0.7	0.4
Approach LOS	F	C		

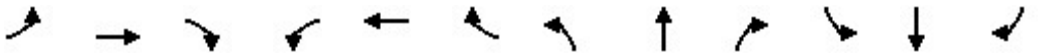
Intersection Summary				
Average Delay	36.1			
Intersection Capacity Utilization	67.7%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	3	36	10	4	23	21	329	7	4	363	182
Future Volume (Veh/h)	149	3	36	10	4	23	21	329	7	4	363	182
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	149	3	36	10	4	23	21	329	7	4	363	182
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			6									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	862	840	454	856	928	332	545			336		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	862	840	454	856	928	332	545			336		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	42	99	94	96	98	97	98			100		
cM capacity (veh/h)	259	294	606	255	262	709	1024			1223		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	188	37	357	549
Volume Left	149	10	21	4
Volume Right	36	23	7	182
cSH	321	425	1024	1223
Volume to Capacity	0.59	0.09	0.02	0.00
Queue Length 95th (ft)	88	7	2	0
Control Delay (s)	31.9	14.3	0.7	0.1
Lane LOS	D	B	A	A
Approach Delay (s)	31.9	14.3	0.7	0.1
Approach LOS	D	B		

Intersection Summary				
Average Delay	6.0			
Intersection Capacity Utilization	53.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	7	32	4	3	16	23	521	10	15	480	178
Future Volume (Veh/h)	187	7	32	4	3	16	23	521	10	15	480	178
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	187	7	32	4	3	16	23	521	10	15	480	178
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			6									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1188	1176	569	1190	1260	526	658			531		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1188	1176	569	1190	1260	526	658			531		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	96	94	97	98	97	98			99		
cM capacity (veh/h)	153	184	522	145	164	552	930			1036		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	226	23	554	673
Volume Left	187	4	23	15
Volume Right	32	16	10	178
cSH	175	307	930	1036
Volume to Capacity	1.29	0.07	0.02	0.01
Queue Length 95th (ft)	323	6	2	1
Control Delay (s)	218.1	17.7	0.7	0.4
Lane LOS	F	C	A	A
Approach Delay (s)	218.1	17.7	0.7	0.4
Approach LOS	F	C		

Intersection Summary				
Average Delay	34.1			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C	
Analysis Period (min)	15			

APPENDIX F – TRAFFIC SIGNAL WARRANT

TOWN: Portland ENG: JWS

ROUTE: 100 DATE: 8/16/2022

LOCATION: Auburn Street and Washington Street Extension_Post Development Analysis

AREA TYPE (URBAN=U, RURAL OR 85TH PERCENTILE SPEED>40=R): R

	MAJOR STREET			MINOR STREET			MININUM VEH. VOLUME WARRANT			80% Combo	INTERRUPTION OF TRAFFIC WARRANT			80% Combo
	#OF LANES: 1			#OF LANES: 1										
TIME	SB	NB		EB	WB		Major Rd	Minor Rd		Warrant	Major Rd	Minor Rd		Warrant
BEG HR	APP.	APP.	TOTAL	APP:	APP.	HIGHER	350	105	Met?	Met?	525	53	Met?	Met?
12 AM	0	0	0	0	0	0	0%	0%			0%	0%		
1 AM	0	0	0	0	0	0	0%	0%			0%	0%		
2 AM	0	0	0	0	0	0	0%	0%			0%	0%		
3 AM	0	0	0	0	0	0	0%	0%			0%	0%		
4 AM	0	0	0	0	0	0	0%	0%			0%	0%		
5 AM	0	0	0	0	0	0	0%	0%			0%	0%		
6 AM	336	152	488	69	9	69	139%	65%			93%	129%		YES
7 AM	558	300	858	174	37	174	245%	166%	YES	YES	164%	329%	YES	YES
8 AM	533	314	847	179	25	179	242%	171%	YES	YES	161%	338%	YES	YES
9 AM	383	252	635	117	19	117	182%	112%	YES	YES	121%	222%	YES	YES
10 AM	367	271	638	123	13	123	182%	117%	YES	YES	122%	233%	YES	YES
11 AM	390	281	670	133	28	133	192%	127%	YES	YES	128%	251%	YES	YES
12 PM	419	350	769	130	13	130	220%	124%	YES	YES	147%	245%	YES	YES
1 PM	385	307	692	116	19	116	198%	111%	YES	YES	132%	219%	YES	YES
2 PM	409	356	764	140	21	140	218%	133%	YES	YES	146%	264%	YES	YES
3 PM	483	444	927	173	23	173	265%	165%	YES	YES	177%	326%	YES	YES
4 PM	567	492	1060	215	24	215	303%	205%	YES	YES	202%	406%	YES	YES
5 PM	580	457	1037	148	29	148	296%	141%	YES	YES	198%	279%	YES	YES
6 PM	0	0	0	0	0	0	0%	0%			0%	0%		
7 PM	0	0	0	0	0	0	0%	0%			0%	0%		
8 PM	0	0	0	0	0	0	0%	0%			0%	0%		
9 PM	0	0	0	0	0	0	0%	0%			0%	0%		
10 PM	0	0	0	0	0	0	0%	0%			0%	0%		
11 PM	0	0	0	0	0	0	0%	0%			0%	0%		
TOTAL HOURS MET:									11	11			11	12

TOWN: Portland ENG: JWS

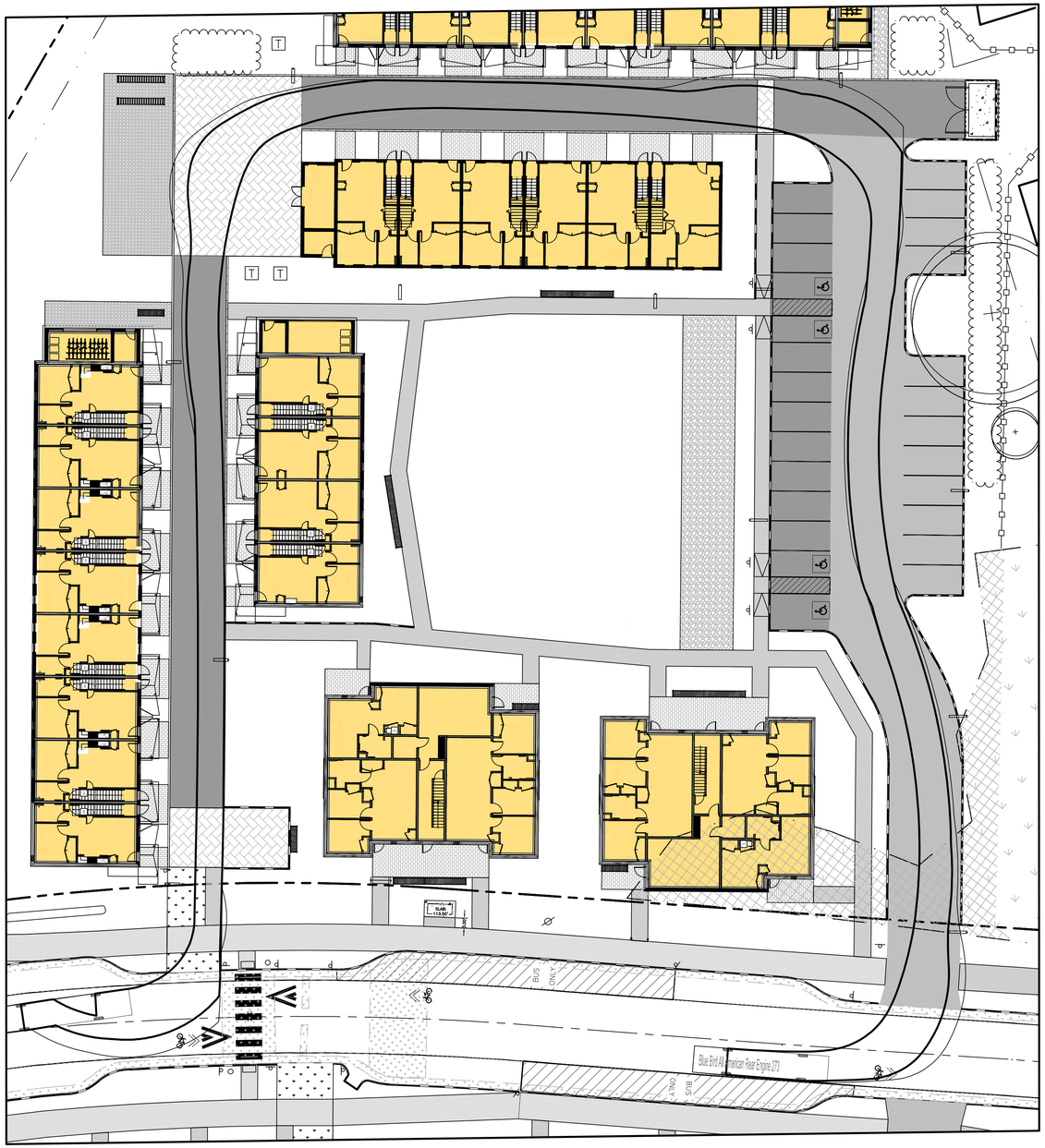
ROUTE: 100 DATE: 8/16/2022

LOCATION: Auburn Street and Washington Street Extension_Existing Conditions

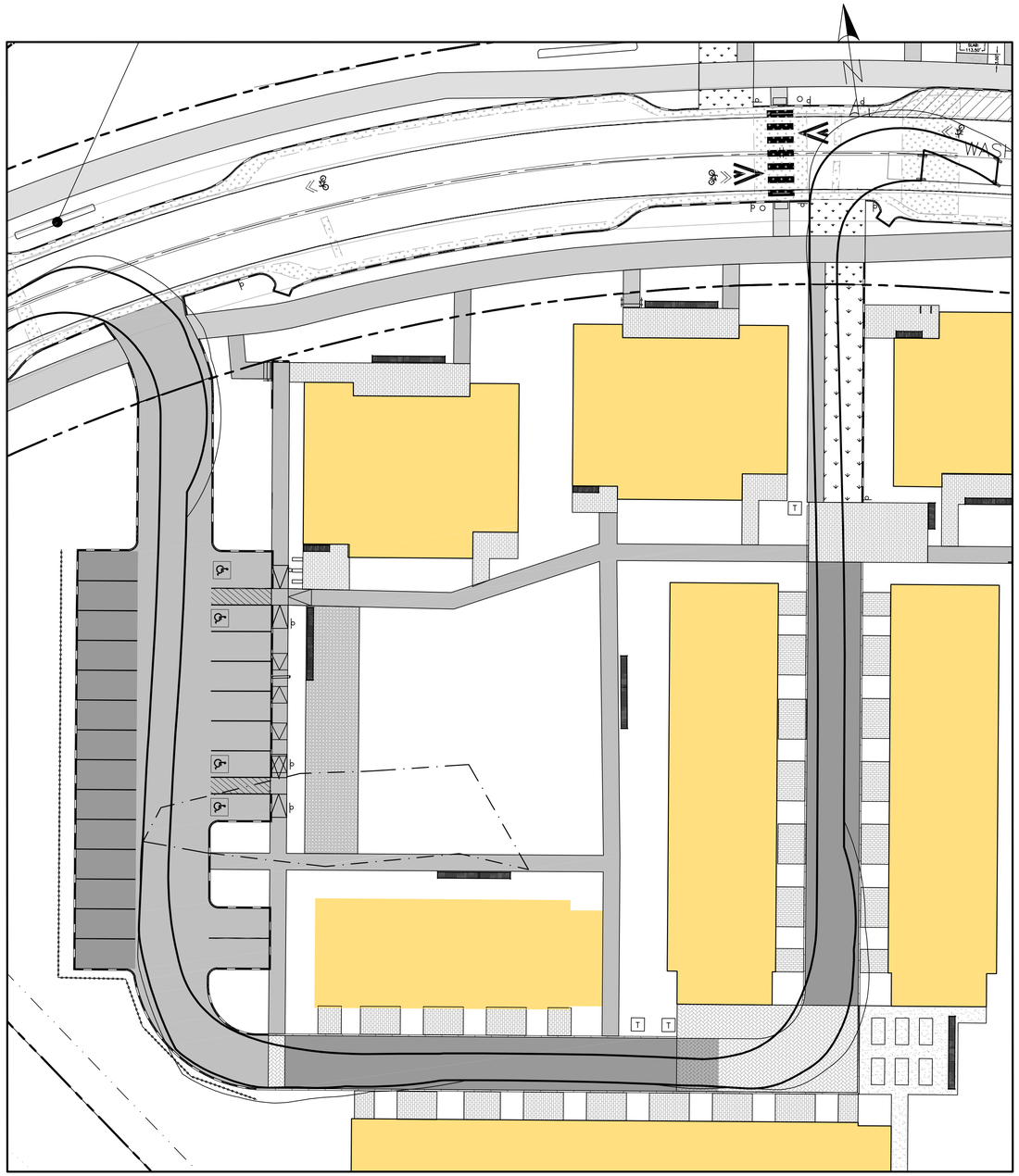
AREA TYPE (URBAN=U, RURAL OR 85TH PERCENTILE SPEED>40=R): R

	MAJOR STREET			MINOR STREET			MININUM VEH. VOLUME WARRANT			80%	INTERRUPTION OF TRAFFIC WARRANT			80%
	#OF LANES: 1			#OF LANES: 1						Combo				Combo
TIME	SB	NB		EB	WB		Major Rd	Minor Rd		Warrant	Major Rd	Minor Rd		Warrant
BEG HR	APP.	APP.	TOTAL	APP:	APP.	HIGHER	350	105	Met?	Met?	525	53	Met?	Met?
12 AM	0	0	0	0	0	0	0%	0%			0%	0%		
1 AM	0	0	0	0	0	0	0%	0%			0%	0%		
2 AM	0	0	0	0	0	0	0%	0%			0%	0%		
3 AM	0	0	0	0	0	0	0%	0%			0%	0%		
4 AM	0	0	0	0	0	0	0%	0%			0%	0%		
5 AM	0	0	0	0	0	0	0%	0%			0%	0%		
6 AM	323	144	467	50	9	50	133%	48%			89%	95%		YES
7 AM	536	285	821	117	37	117	235%	112%	YES	YES	156%	221%	YES	YES
8 AM	513	297	809	129	25	129	231%	122%	YES	YES	154%	243%	YES	YES
9 AM	368	239	607	78	19	78	173%	74%			116%	146%	YES	YES
10 AM	353	256	609	84	13	84	174%	80%		YES	116%	159%	YES	YES
11 AM	374	266	640	94	28	94	183%	89%		YES	122%	177%	YES	YES
12 PM	392	330	722	97	13	97	206%	93%		YES	138%	184%	YES	YES
1 PM	360	289	650	85	19	85	186%	81%		YES	124%	161%	YES	YES
2 PM	382	336	718	106	21	106	205%	101%	YES	YES	137%	200%	YES	YES
3 PM	452	420	872	129	23	129	249%	122%	YES	YES	166%	243%	YES	YES
4 PM	531	464	996	165	24	165	285%	158%	YES	YES	190%	312%	YES	YES
5 PM	543	431	974	110	29	110	278%	104%	YES	YES	186%	207%	YES	YES
6 PM	0	0	0	0	0	0	0%	0%			0%	0%		
7 PM	0	0	0	0	0	0	0%	0%			0%	0%		
8 PM	0	0	0	0	0	0	0%	0%			0%	0%		
9 PM	0	0	0	0	0	0	0%	0%			0%	0%		
10 PM	0	0	0	0	0	0	0%	0%			0%	0%		
11 PM	0	0	0	0	0	0	0%	0%			0%	0%		
TOTAL HOURS MET:									6	10			11	12

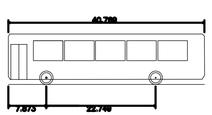
APPENDIX G – OFF SITE IMPROVEMENTS



41' FIRE TEMPLATE ON NORTH SIDE OF DEVELOPMENT



41' FIRE TEMPLATE ON SOUTH SIDE OF DEVELOPMENT



Blue Bird All American Rear Engine 273	
Overall Length	40.769ft
Overall Width	8.000ft
Overall Body Height	10.500ft
Min Body Ground Clearance	1.086ft
Track Width	8.000ft
Lock-to-lock time	6.00s
Max Wheel Angle	50.00°

40 0 20 40

SCALE: 1"=20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	8/31/22
	8/12/22
COMMENT RESPONSE	SJL 9/28/22

DRAWING NAME: 41' FIRE TURNING TEMPLATE

PROJECT NAME/ADDRESS: 165 LAMBERT ST CO-OP
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

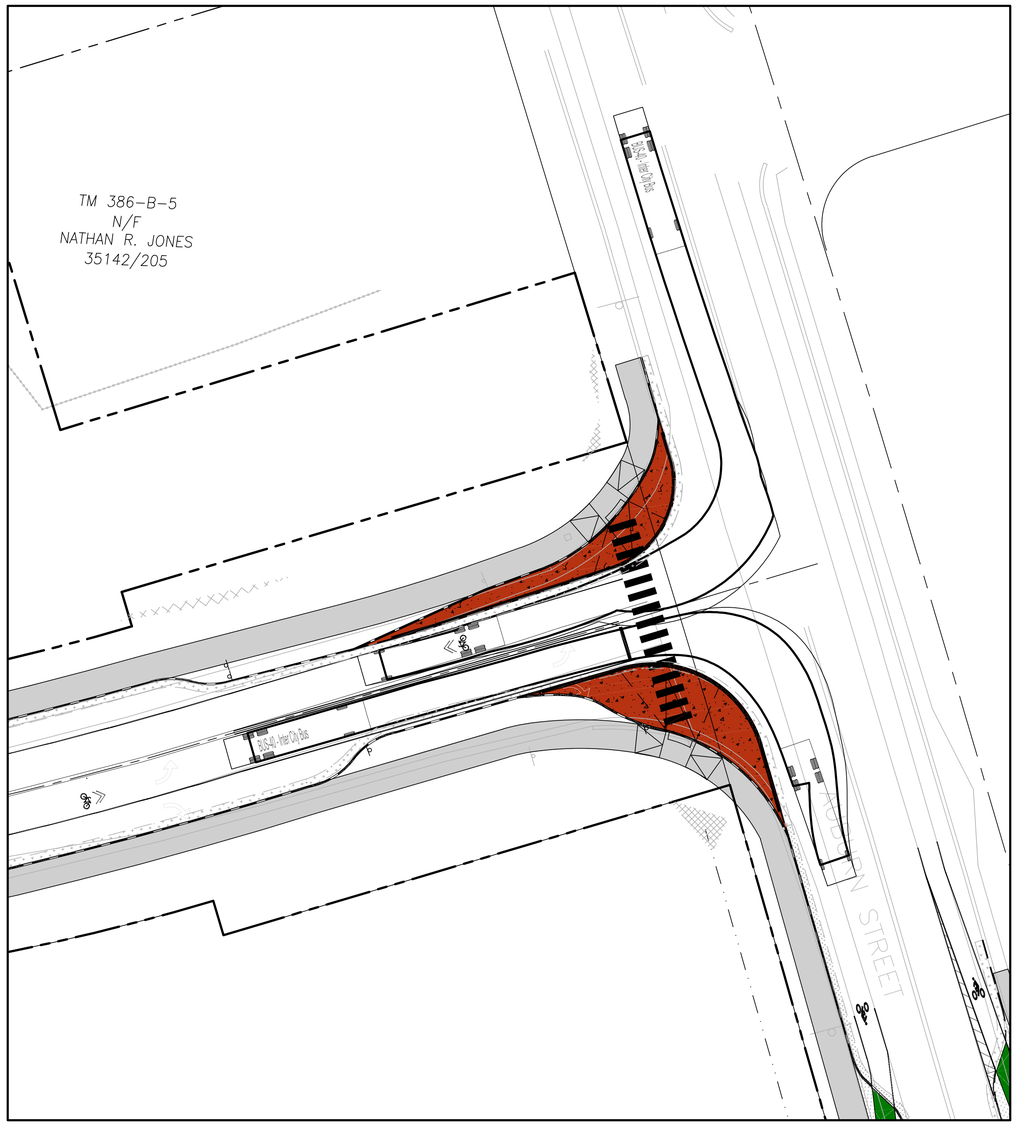
ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC.
PO BOX 4593, PORTLAND, MAINE 04101
(207) 775-2655

THESE PLANS, WHETHER MODIFIED OR UNMODIFIED, ARE NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE EXPRESS WRITTEN PERMISSION OF ACORN ENGINEERING, INC. ANY SUCH UNAUTHORIZED USE, WHETHER OR NOT SUCH PERMISSION IS GRANTED, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

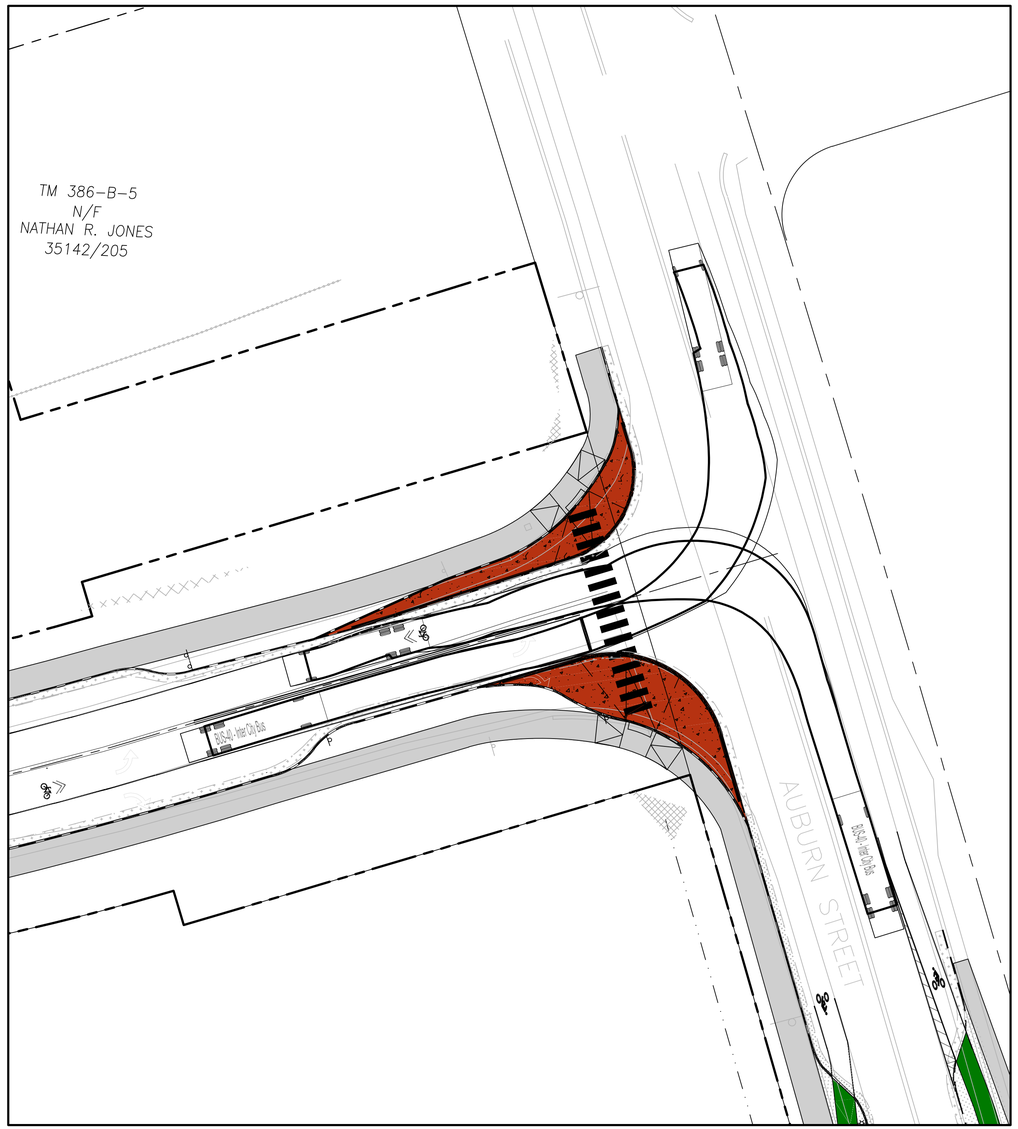
FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

DRAWING NO.

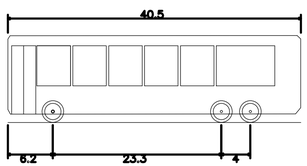
TT1



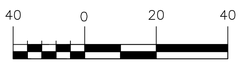
40' BUS RIGHT HAND TURN TEMPLATES



40' BUS LEFT HAND TURN TEMPLATES



BUS-40 – Inter City Bus	
Overall Length	40.500ft
Overall Width	8.500ft
Overall Body Height	12.000ft
Min Body Ground Clearance	1.158ft
Track Width	8.500ft
Lock-to-lock time	5.00s
Max Steering Angle (Virtual)	41.90°



SCALE: 1"=20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SITE/SUB	SJL	8/31/22
		8/12/22
COMMENT RESPONSE	SJL	9/26/22
COMMENT RESPONSE II	SJL	12/23/22

DRAWING NAME:
AUBURN STREET BUS TURN TEMPLATE

PROJECT NAME/ADDRESS:
165 LAMBERT ST CO-OP
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

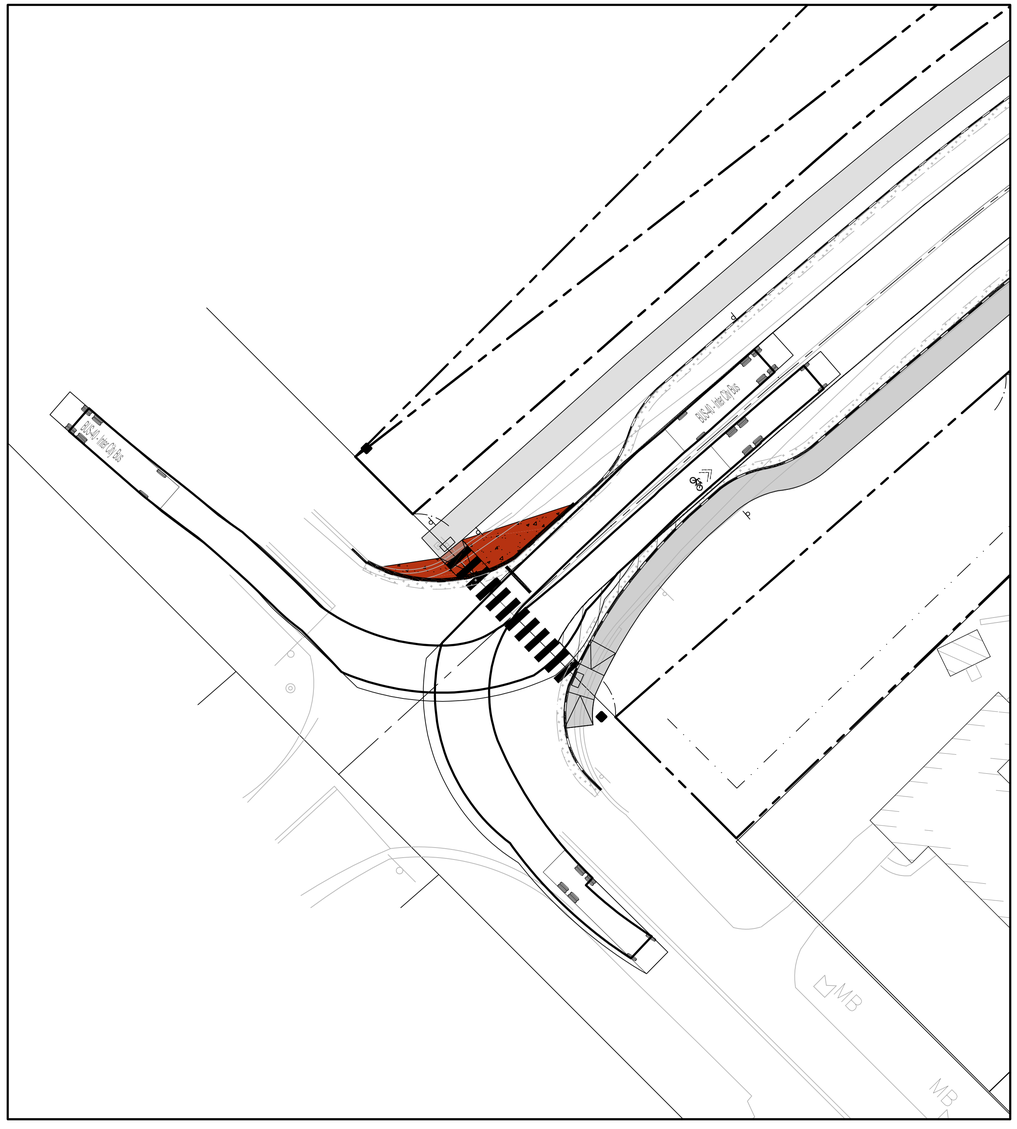
ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT THE WRITTEN PERMISSION OF ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE TO THIS PLAN SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

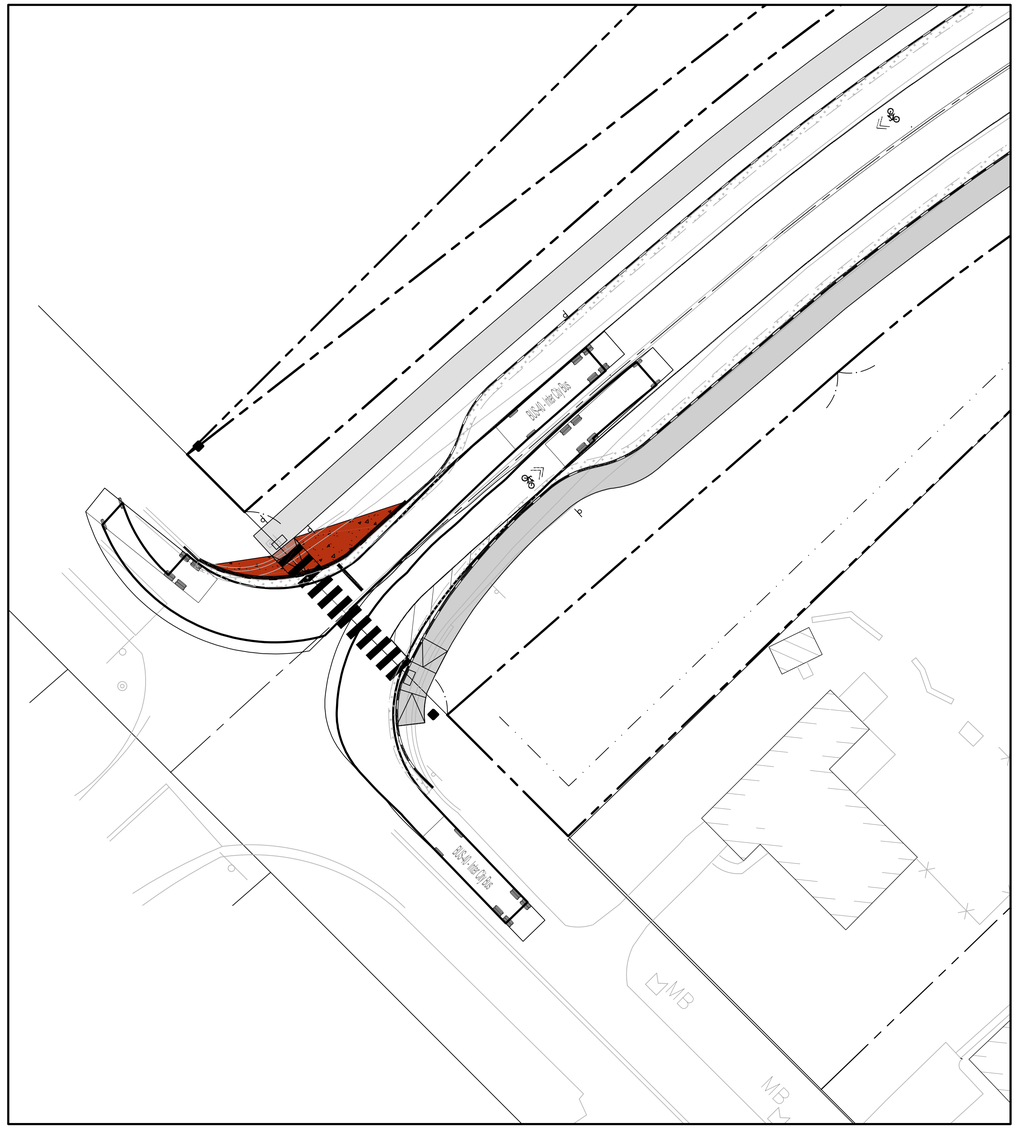
ACORN ENGINEERING, INC.
P.O. BOX 3271, PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

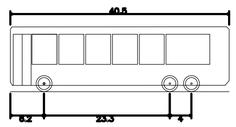
DRAWING NO.
TT2



40' BUS LEFT HAND TURN TEMPLATE



40' BUS RIGHT HAND TURN TEMPLATE



BUS-40 – Inter City Bus	
Overall Length	40.500ft
Overall Width	8.500ft
Overall Body Height	12.000ft
Min Body Ground Clearance	1.158ft
Track Width	8.500ft
Lock-to-lock time	5.00s
Max Steering Angle (Virtual)	41.90°

40 0 20 40

SCALE: 1"=20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	8/31/22
COMMENT RESPONSE	8/12/22 SJL 9/28/22

DRAWING NAME:
LAMBERT STREET BUS TURN TEMPLATE

PROJECT NAME/ADDRESS:
165 LAMBERT ST CO-OP
PORTLAND, MAINE 04103

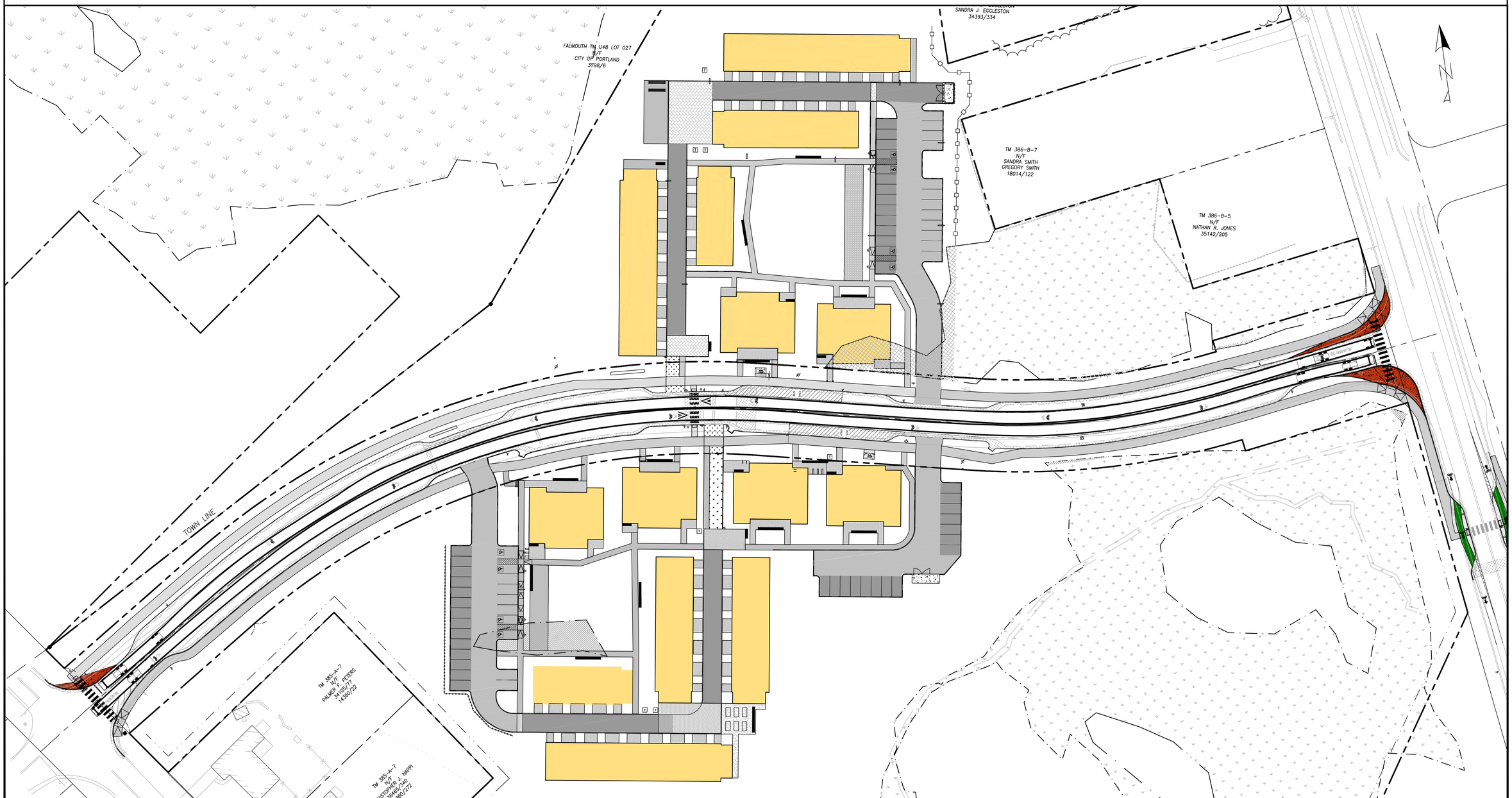
CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

THESE PLANS SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. AND SHALL NOT BE USED BY THE OWNER OR OTHERWISE FOR ANY PURPOSE OR PROJECT TO WHICH ACORN ENGINEERING, INC. IS NOT A PARTY, WITHOUT THE EXPRESS WRITTEN CONSENT OF ACORN ENGINEERING, INC. AND WITHOUT ADEQUATE COMPENSATION TO ACORN ENGINEERING, INC. FOR THE RISK AND LIABILITY ASSOCIATED WITH SUCH USE.

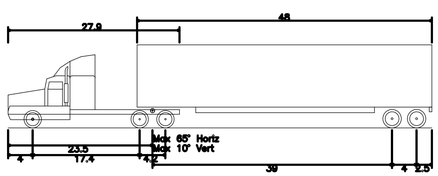
ACORN ENGINEERING, INC.
PO BOX 3422 PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

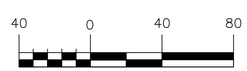
DRAWING NO.
TT3



WB–62 TEMPLATE ON WASHINGTON AVE. EXTENSION



WB–62 – Interstate Semi–Trailer	
Overall Length	69.000ft
Overall Width	8.500ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock–to–lock time	6.00s
Max Steering Angle (Virtual)	28.40°



SCALE: 1"=40'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 8/31/22
COMMENT RESPONSE	SJL 9/28/22

DRAWING NAME:
WB 62 WASHINGTON EXTENSION TEMPLATE

PROJECT NAME/ADDRESS:
165 LAMBERT ST CO–OP
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC
P.O. BOX 4737 PORTLAND, MAINE 04101
(207) 775-2655

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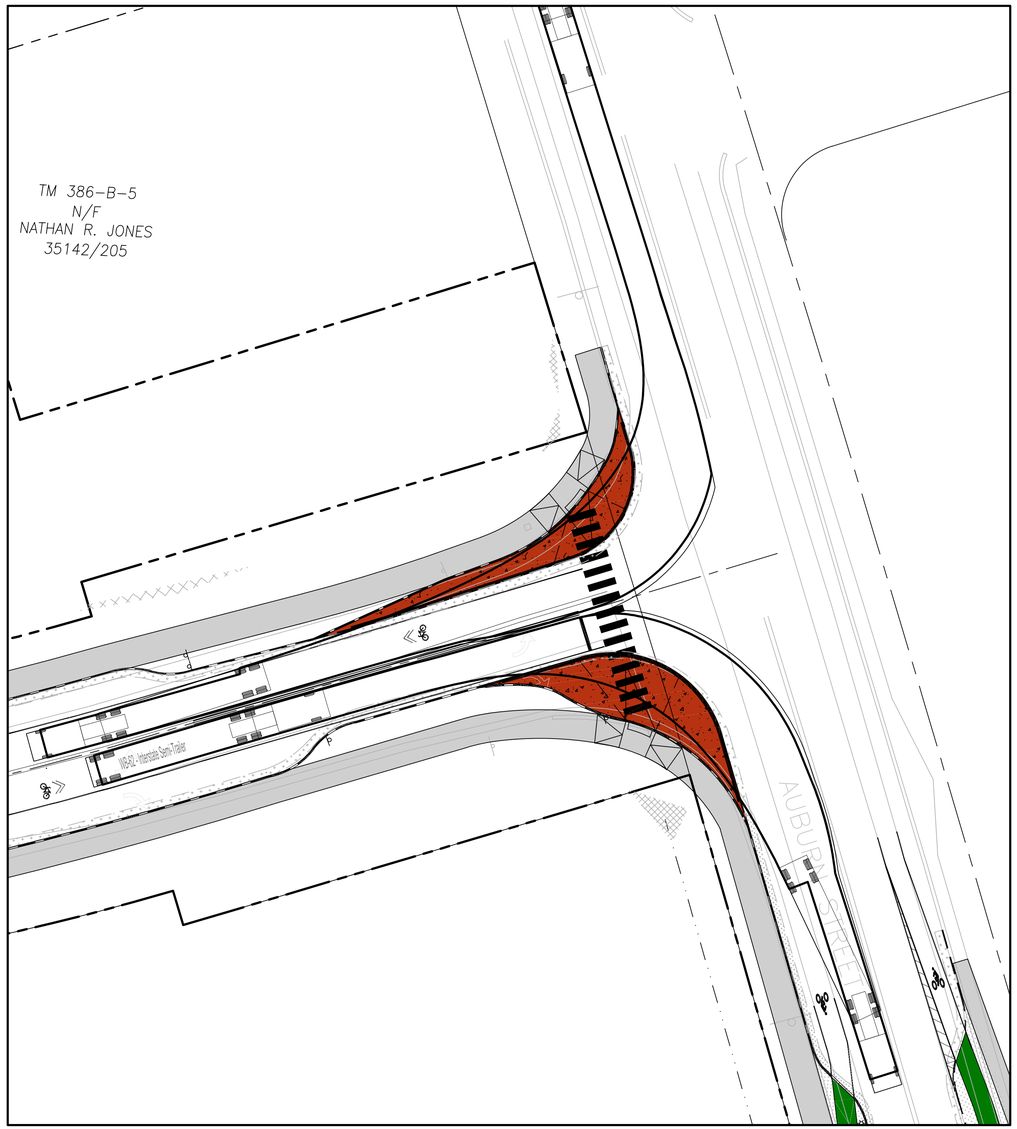
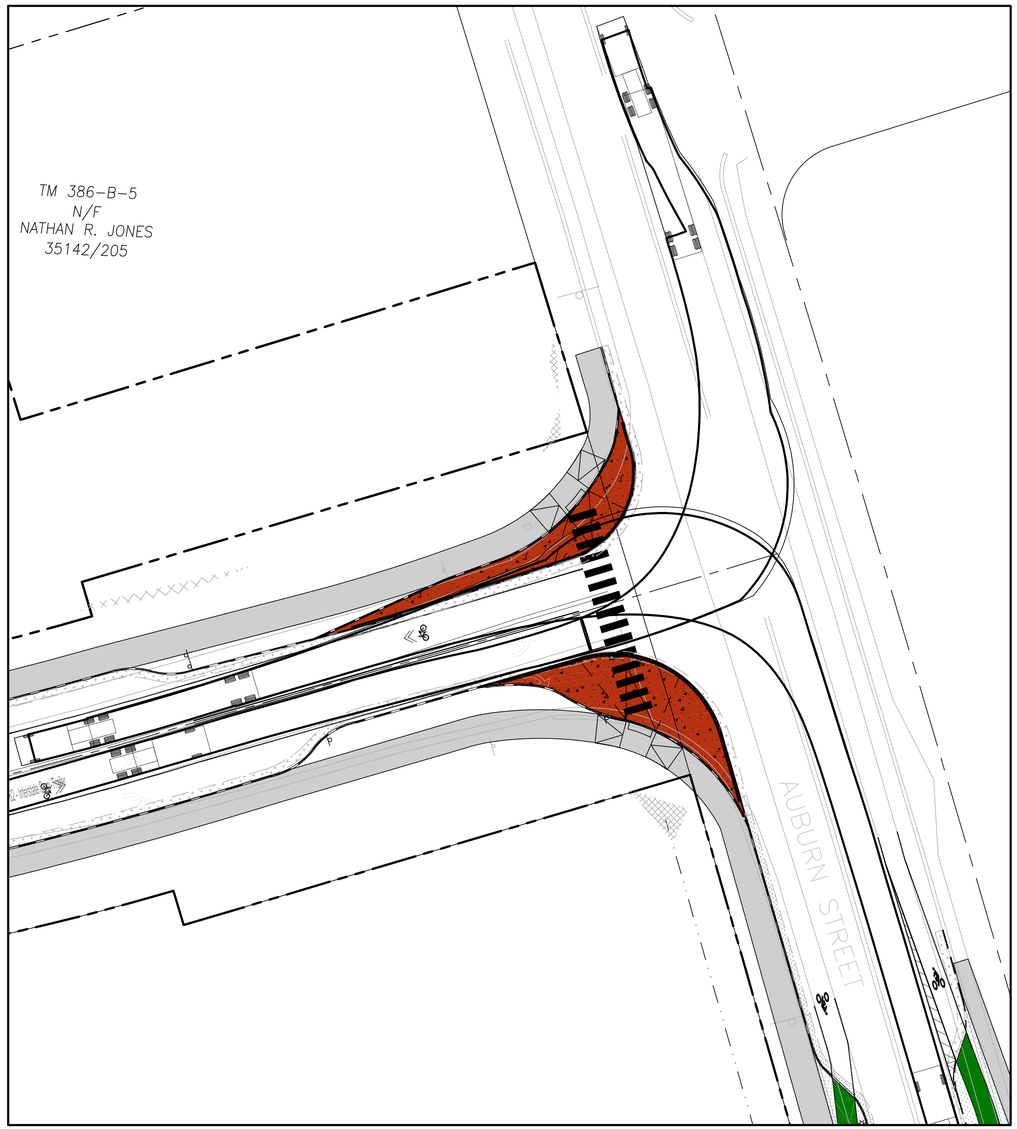
FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

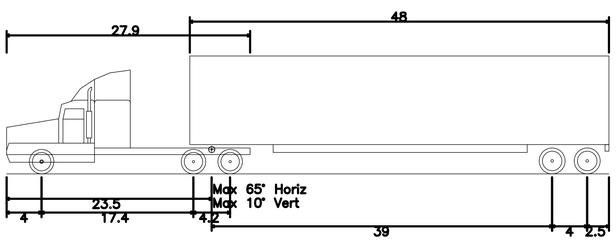
DRAWING NO.
TT4



WB-62 RIGHT HAND TURN TEMPLATES



WB-62 LEFT HAND TURN TEMPLATES



WB-62 – Interstate Semi-Trailer	
Overall Length	69.000ft
Overall Width	8.500ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	28.40°

SCALE: 1"=20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/30/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22

DRAWING NAME: **AUBURN STREET WB-62 TURN TEMPALTE**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC
ENGINEERING
PO BOX 327 FREEPORT, MAINE 04101
(207) 775-2655

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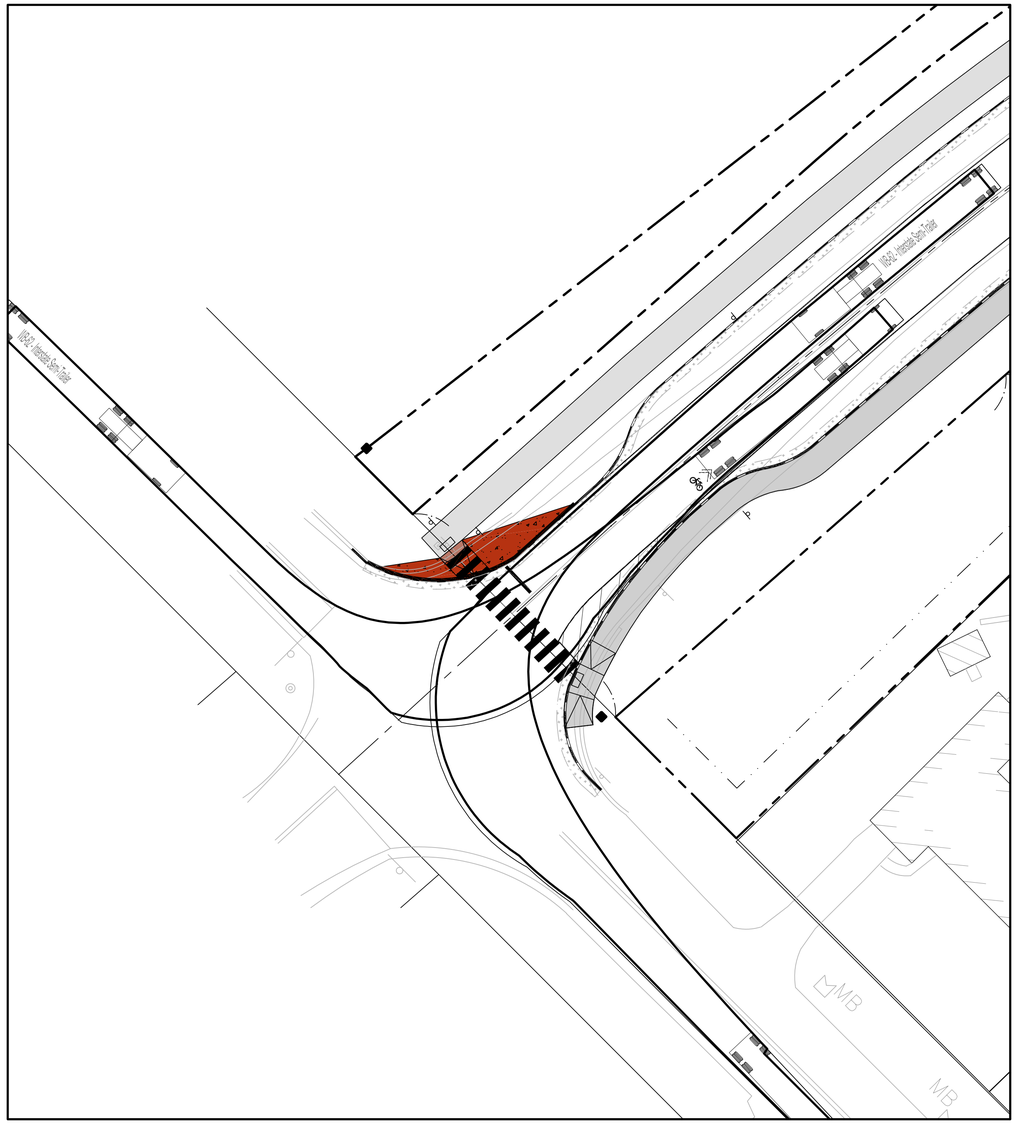
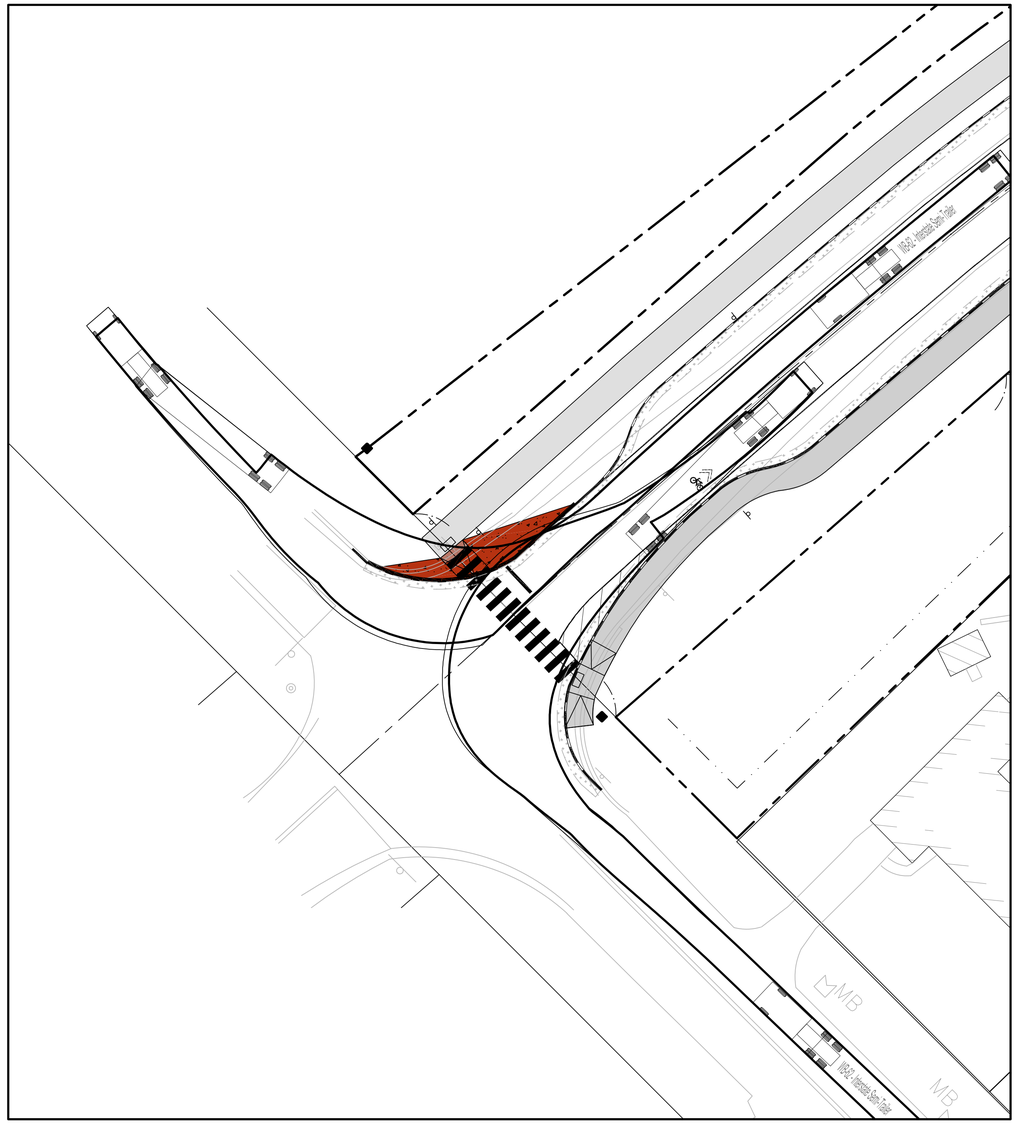
FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

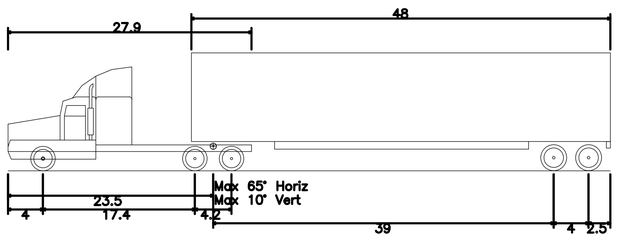
DRAWING NO.
TT5



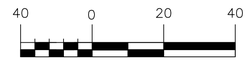
WB-62 LEFT HAND TURN TEMPLATES



WB-62 RIGHT HAND TURN TEMPLATES



WB-62 – Interstate Semi-Trailer	
Overall Length	69.000ft
Overall Width	8.500ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	28.40°



SCALE: 1"=20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/30/22
COMMENT RESPONSE	SJL 9/28/22

DRAWING NAME: **LAMBERT STREET WB-62 TURN TEMPALTE**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.
PO BOX 3477 PORTLAND, MAINE 04101
(207) 775-2655

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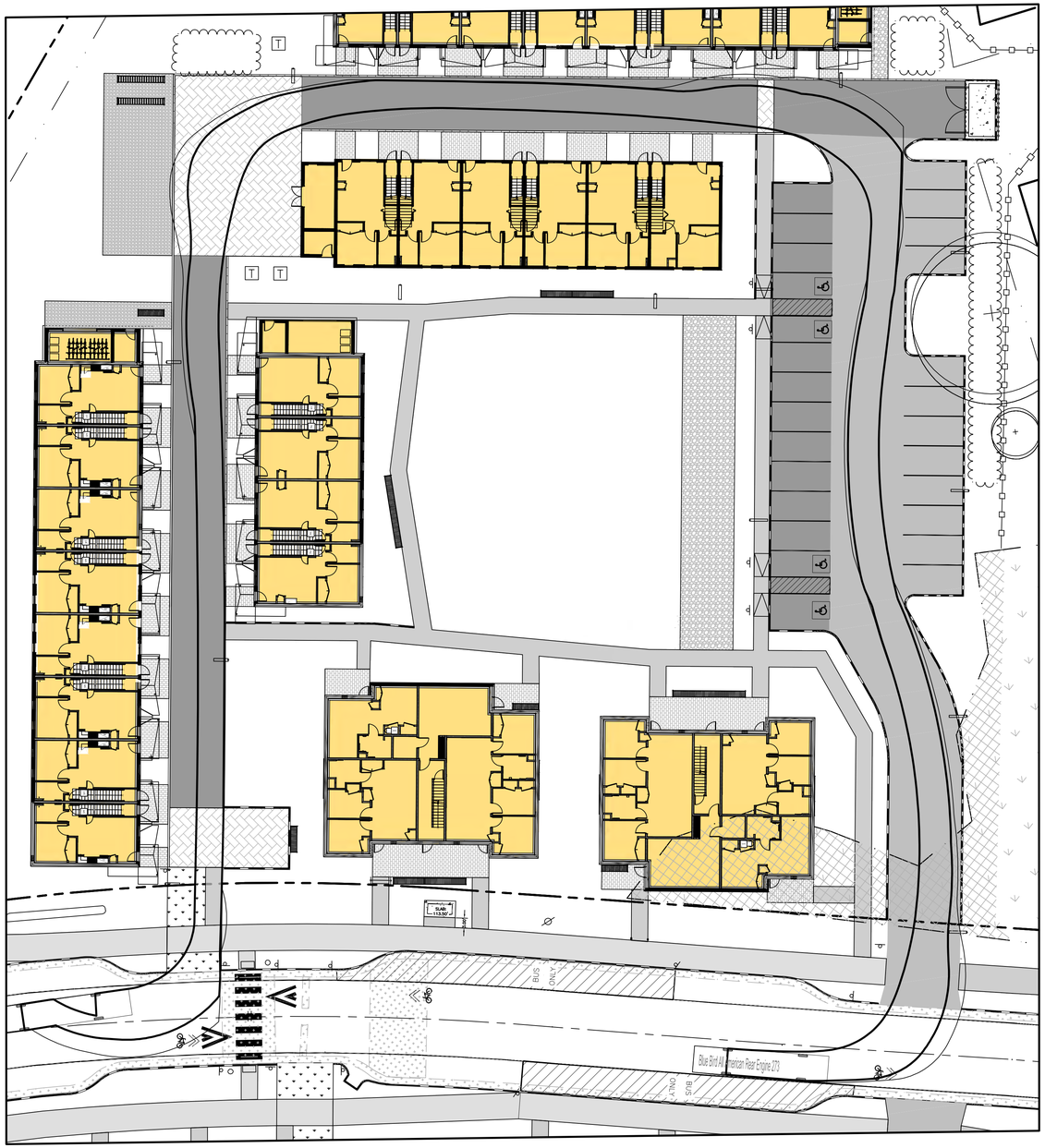
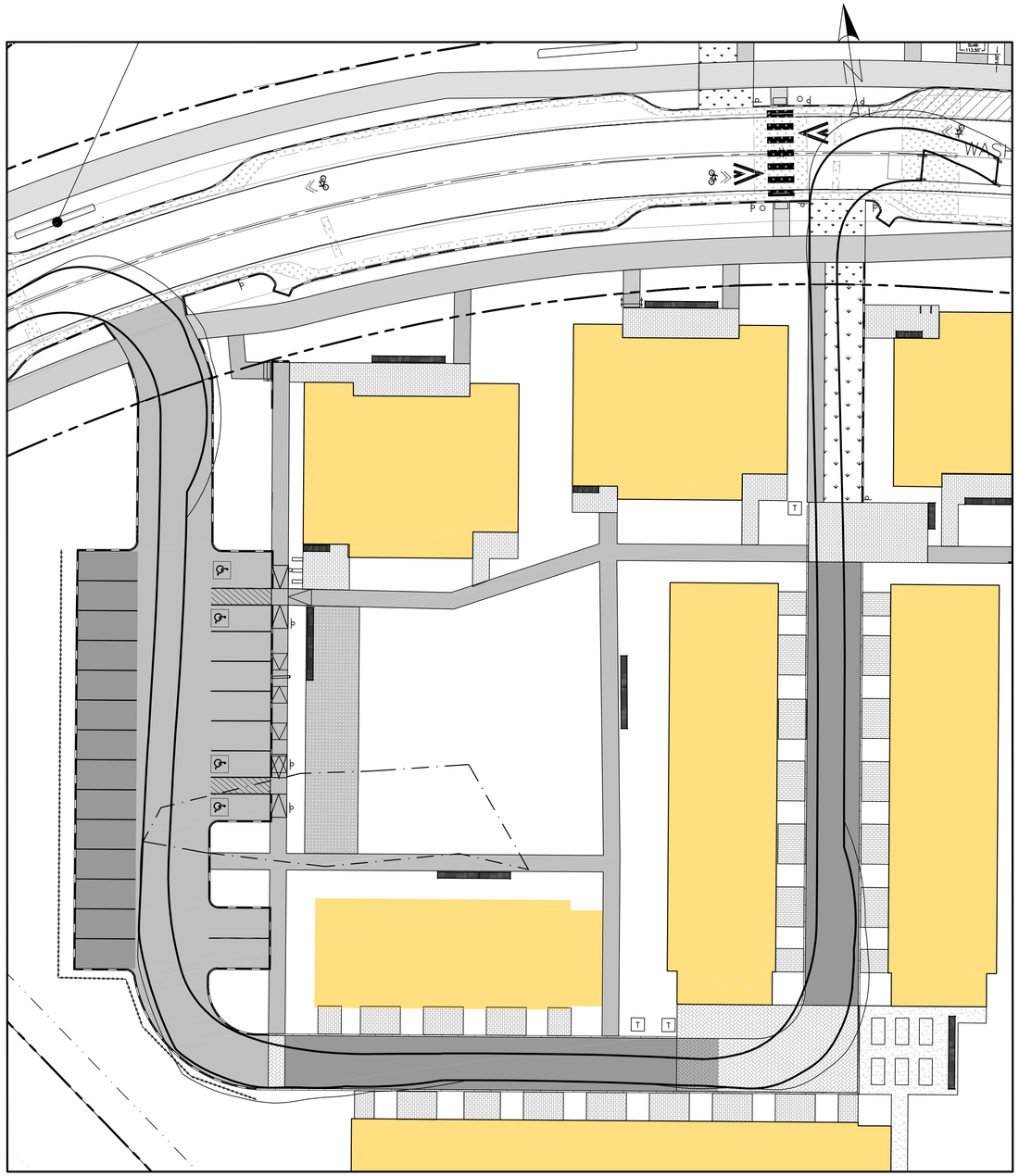
FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

DRAWING NO.

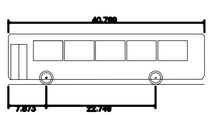
TT6



41' FIRE TEMPLATE ON NORTH SIDE OF DEVELOPMENT



41' FIRE TEMPLATE ON SOUTH SIDE OF DEVELOPMENT



Blue Bird All American Rear Engine 273	
Overall Length	40.769ft
Overall Width	8.000ft
Overall Body Height	10.500ft
Min Body Ground Clearance	1.086ft
Track Width	8.000ft
Lock-to-lock time	6.00s
Max Wheel Angle	50.00°

40 0 20 40

SCALE: 1"=20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	8/31/22
	8/12/22
COMMENT RESPONSE	SJL 9/28/22

DRAWING NAME: 41' FIRE TURNING TEMPLATE

PROJECT NAME/ADDRESS: 165 LAMBERT ST CO-OP
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC.
PO BOX 1237 FALMOUTH, MAINE 04101
(207) 775-2655

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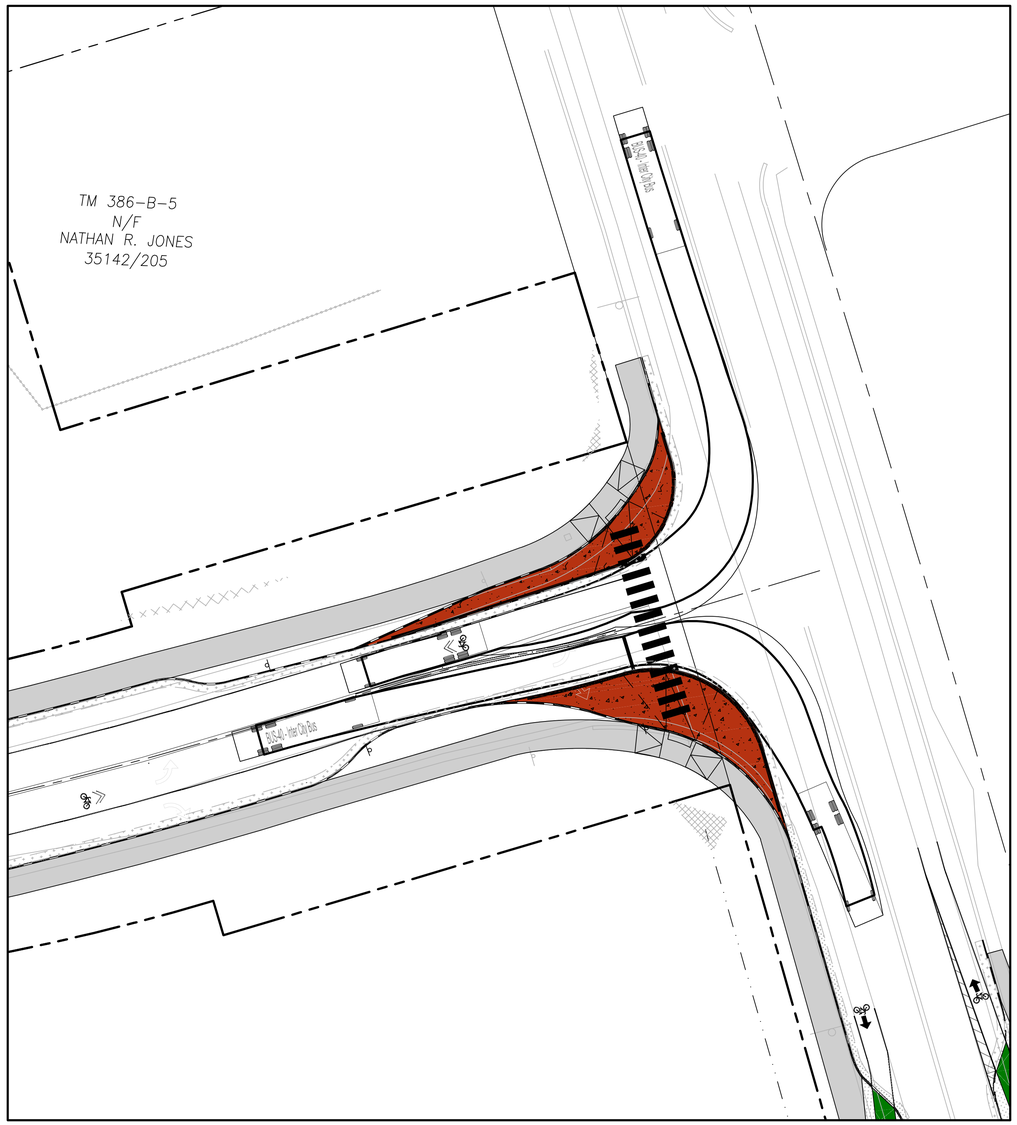
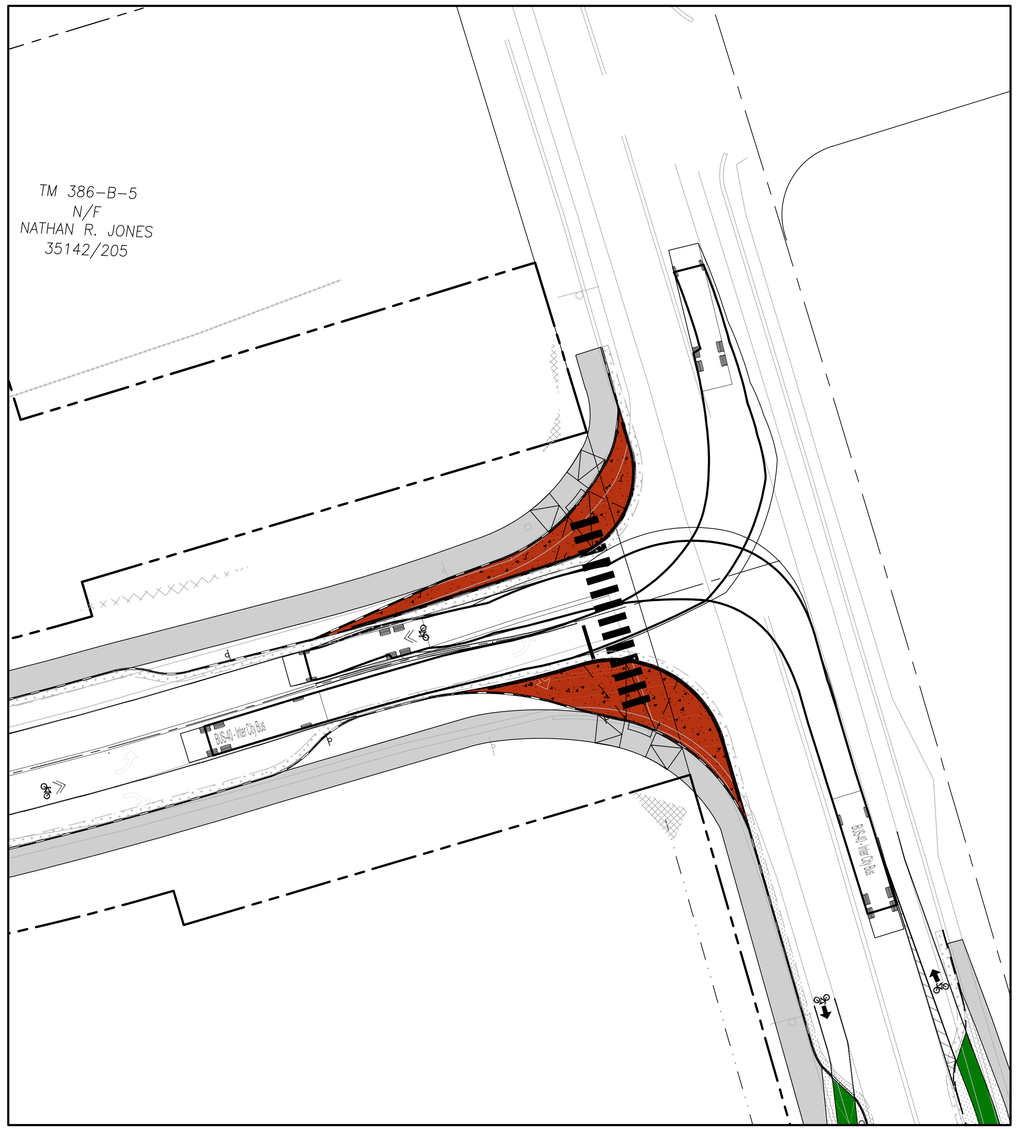
FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

DRAWING NO.

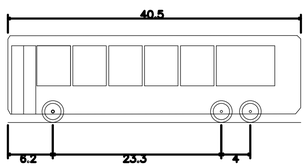
TT1



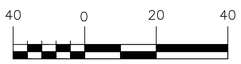
40' BUS LEFT HAND TURN TEMPLATES



40' BUS RIGHT HAND TURN TEMPLATES



BUS-40 – Inter City Bus	
Overall Length	40.500ft
Overall Width	8.500ft
Overall Body Height	12.000ft
Min Body Ground Clearance	1.158ft
Track Width	8.500ft
Lock-to-lock time	5.00s
Max Steering Angle (Virtual)	41.90°



SCALE: 1"=20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	8/31/22
COMMENT RESPONSE	8/10/22 SJL 9/28/22

DRAWING NAME:
AUBURN STREET BUS TURN TEMPLATE

PROJECT NAME/ADDRESS:
165 LAMBERT ST CO-OP
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.

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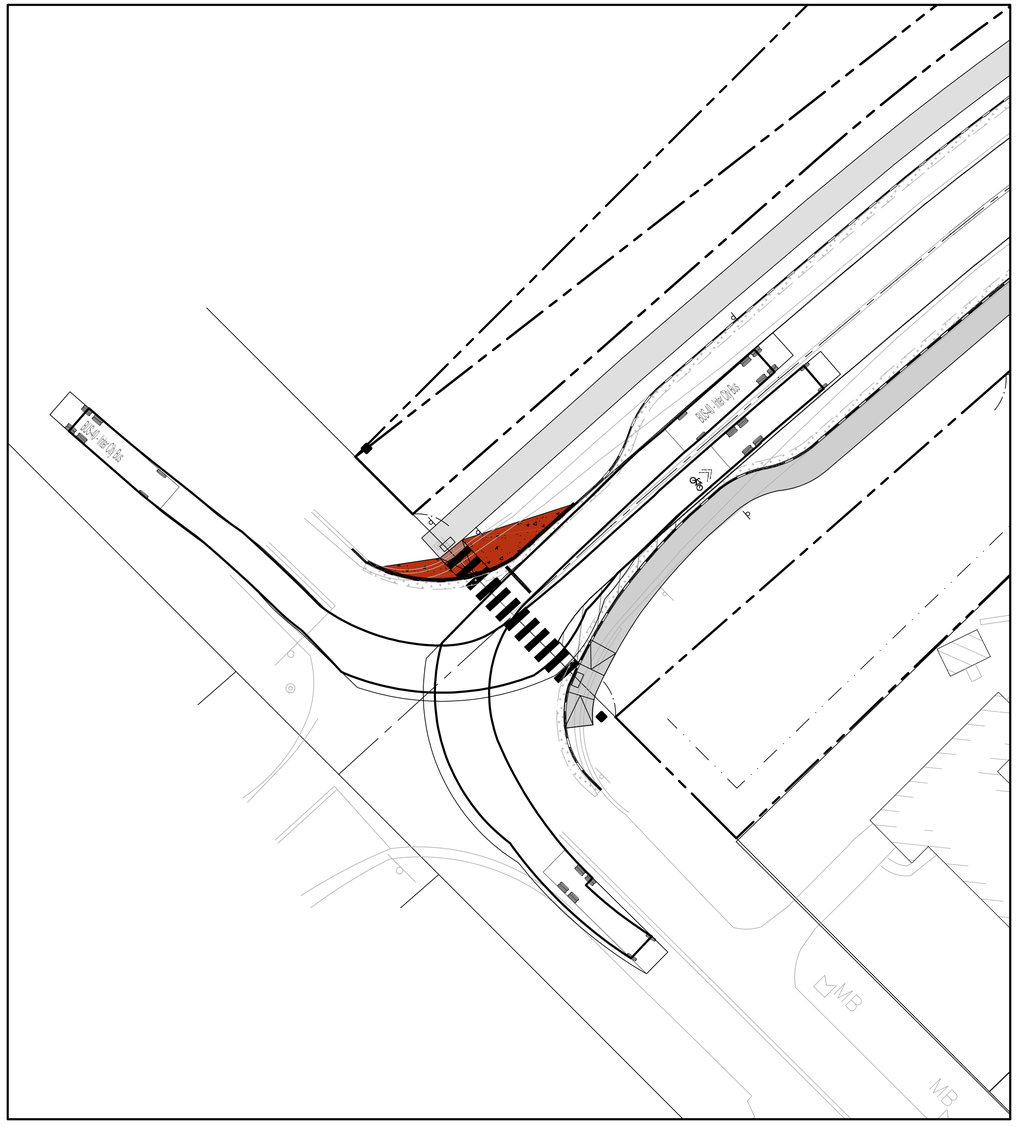
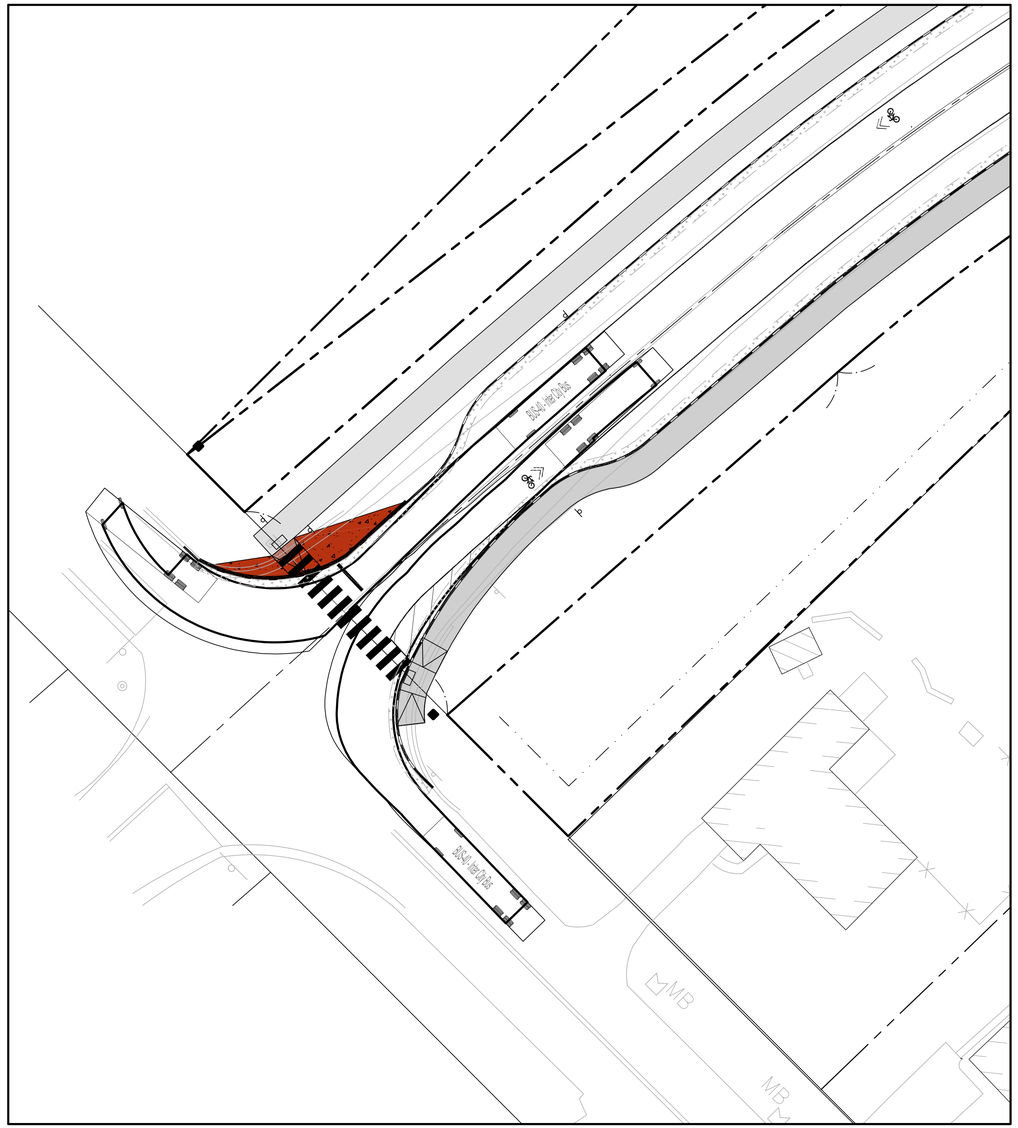
ACORN ENGINEERING, INC.
57 PLEASANT STREET, PORTLAND, MAINE 04101
PO BOX 3477, PORTLAND, MAINE 04104
(207) 775-2655

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

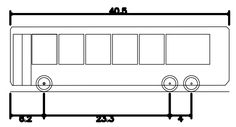
DRAWING NO.
TT2



40' BUS LEFT HAND TURN TEMPLATE



40' BUS RIGHT HAND TURN TEMPLATE



BUS-40 – Inter City Bus	
Overall Length	40.500ft
Overall Width	8.500ft
Overall Body Height	12.000ft
Min Body Ground Clearance	1.158ft
Track Width	8.500ft
Lock-to-lock time	5.00s
Max Steering Angle (Virtual)	41.90°

40 0 20 40

SCALE: 1"=20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	8/31/22
COMMENT RESPONSE	8/12/22 SJL 9/28/22

DRAWING NAME:
LAMBERT STREET BUS TURN TEMPLATE

PROJECT NAME/ADDRESS:
165 LAMBERT ST CO-OP
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.

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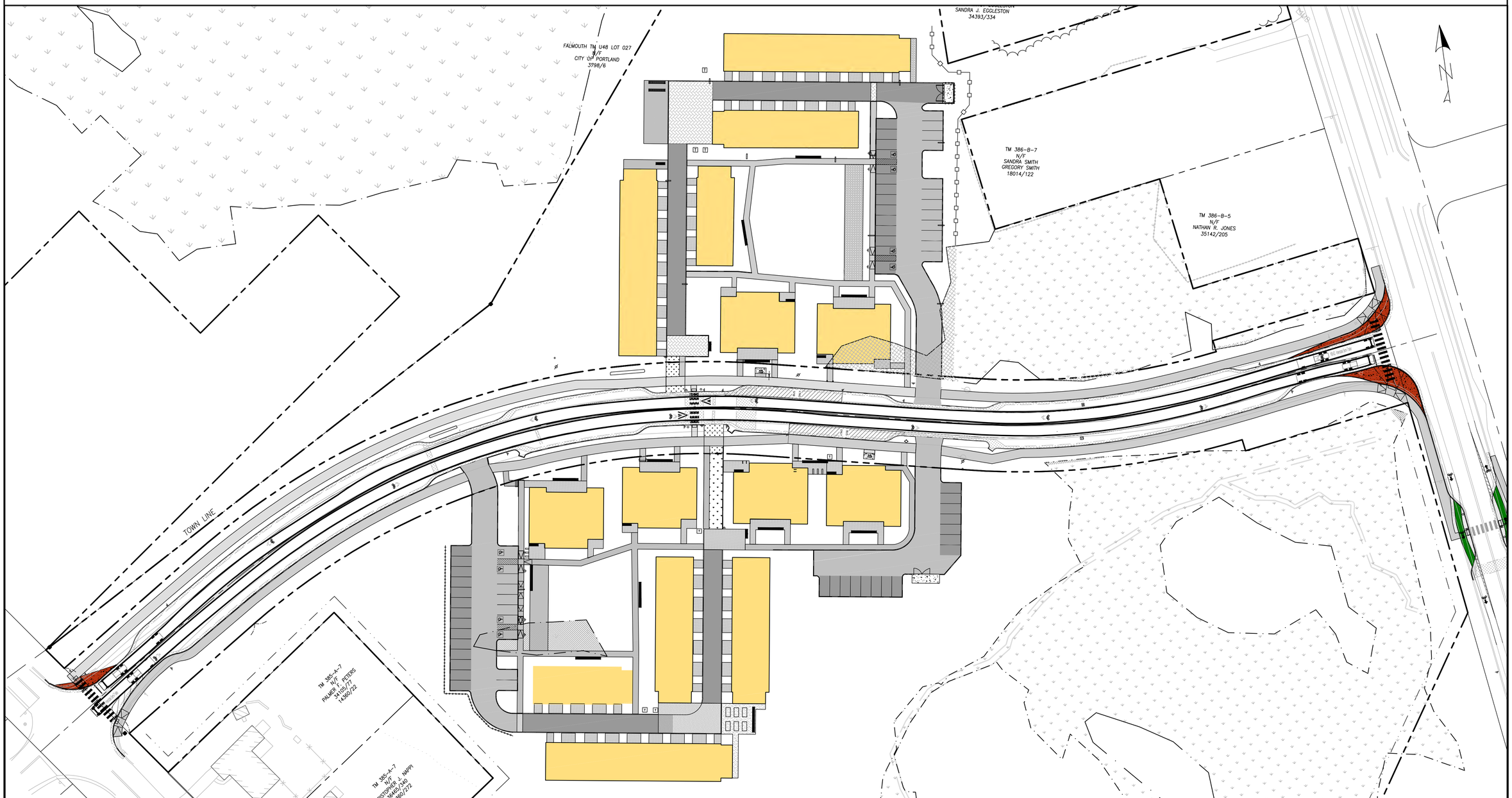
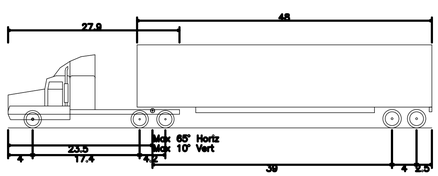
P.O. BOX 3422, PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

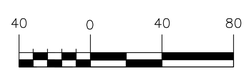
DRAWING NO.
TT3



WB–62 TEMPLATE ON WASHINGTON AVE. EXTENSION



WB–62 – Interstate Semi–Trailer	
Overall Length	69.000ft
Overall Width	8.500ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock–to–lock time	6.00s
Max Steering Angle (Virtual)	28.40°



SCALE: 1"=40'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	5/31/22
	6/10/22
COMMENT RESPONSE	SJL 9/28/22

DRAWING NAME: **WB 62 WASHINGTON EXTENSION TEMPLATE**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO–OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.

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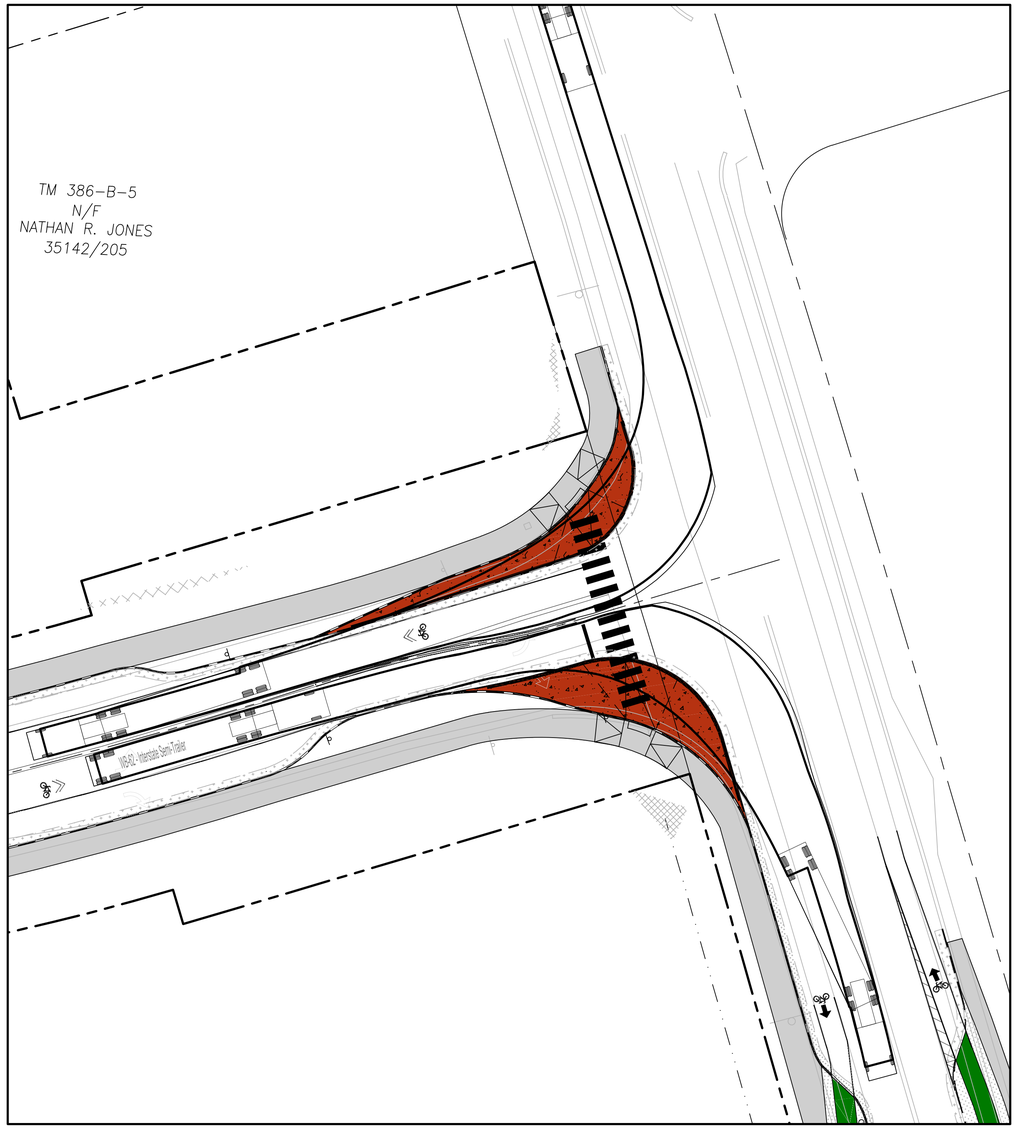
P.O. BOX 4137, PORTLAND, MAINE 04101
(207) 775-2655

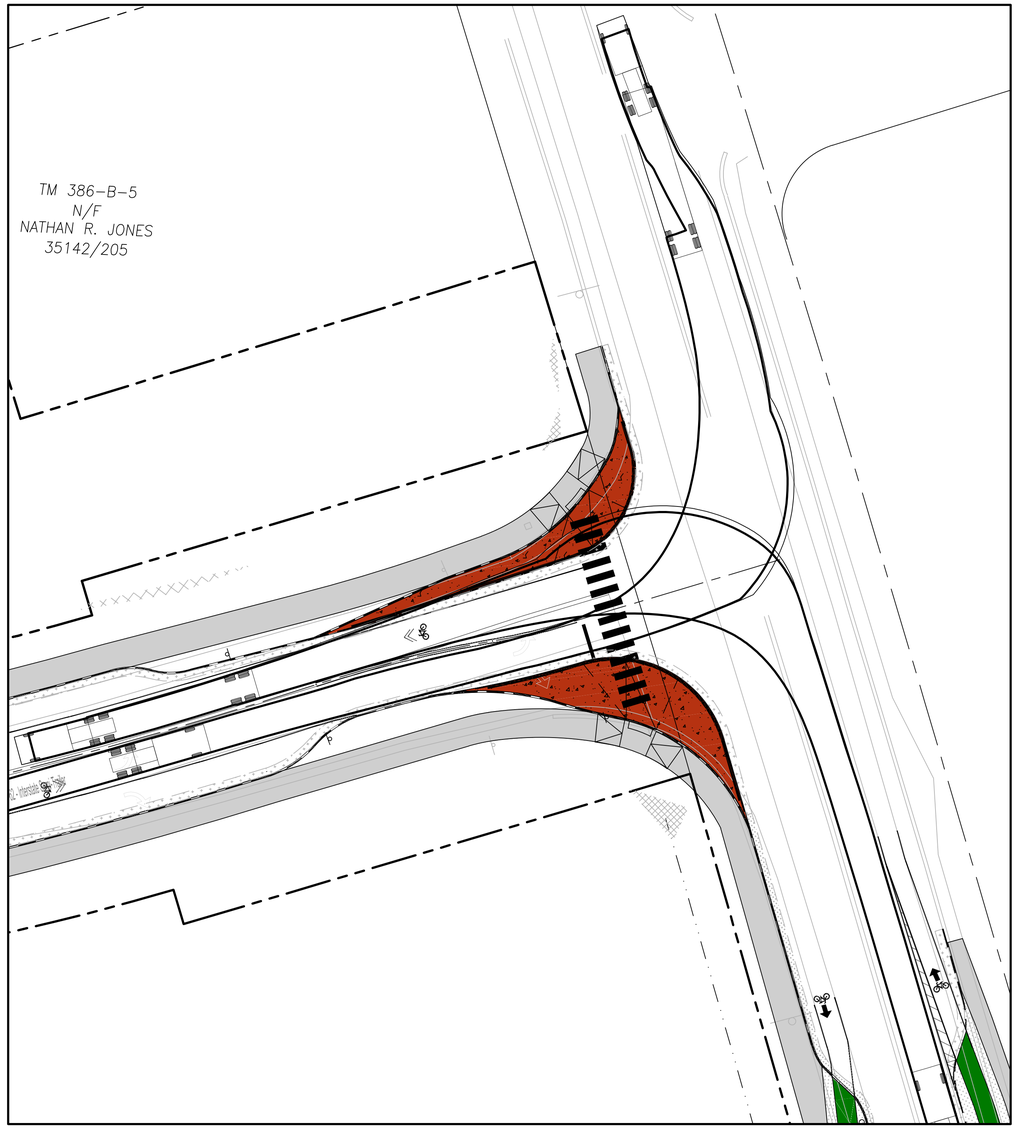
FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

DRAWING NO.

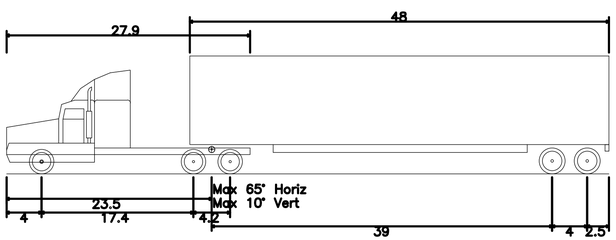
TT4



WB-62 RIGHT HAND TURN TEMPLATES



WB-62 LEFT HAND TURN TEMPLATES



WB-62 – Interstate Semi-Trailer	
Overall Length	69.000ft
Overall Width	8.500ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	28.40°

40 0 20 40

SCALE: 1"=20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/30/22
COMMENT RESPONSE	SJL 9/28/22

DRAWING NAME: **AUBURN STREET WB-62 TURN TEMPALTE**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC
ENGINEERING • PLANNING • SURVEYING
PO BOX 3257 PORTLAND, MAINE 04101
(207) 775-2655

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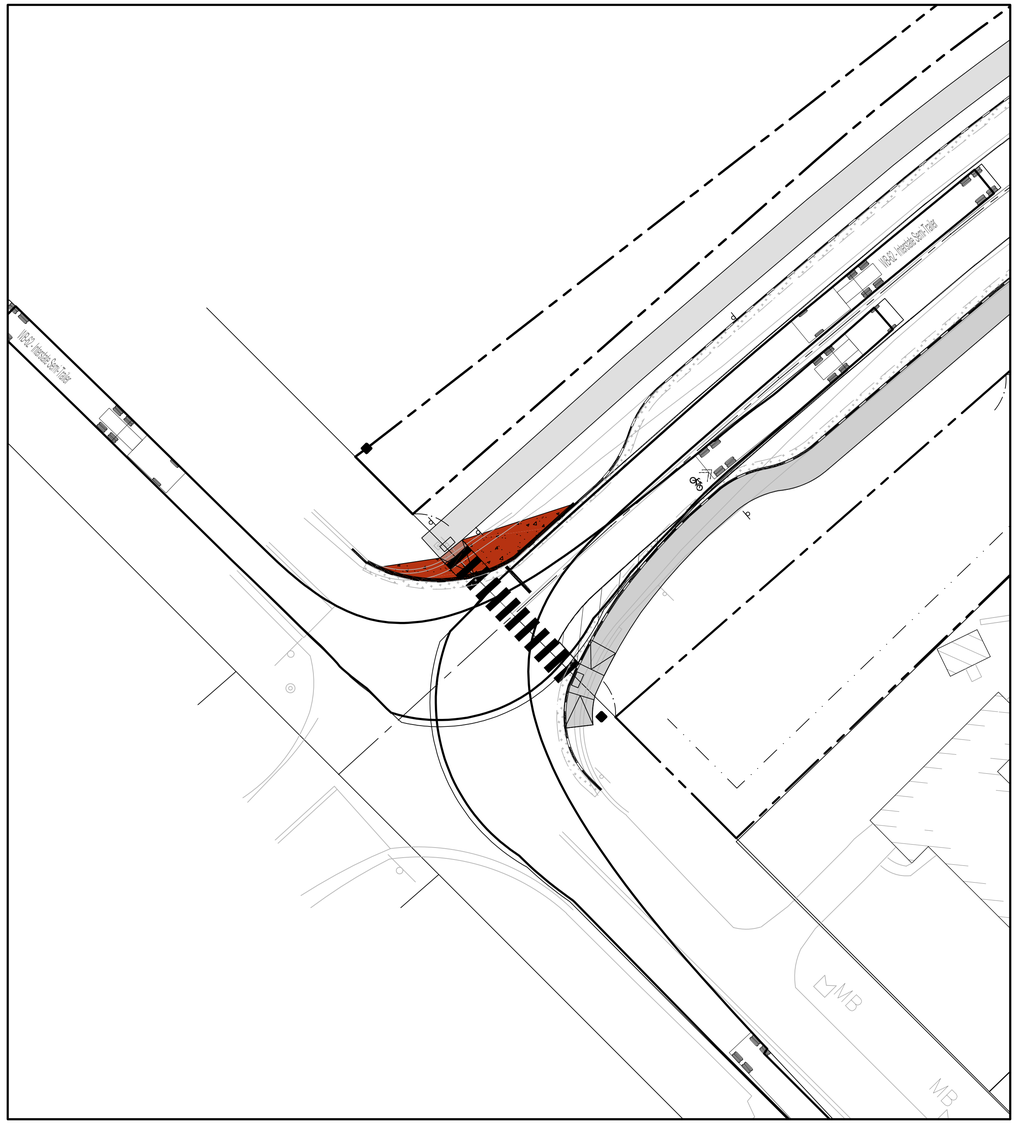
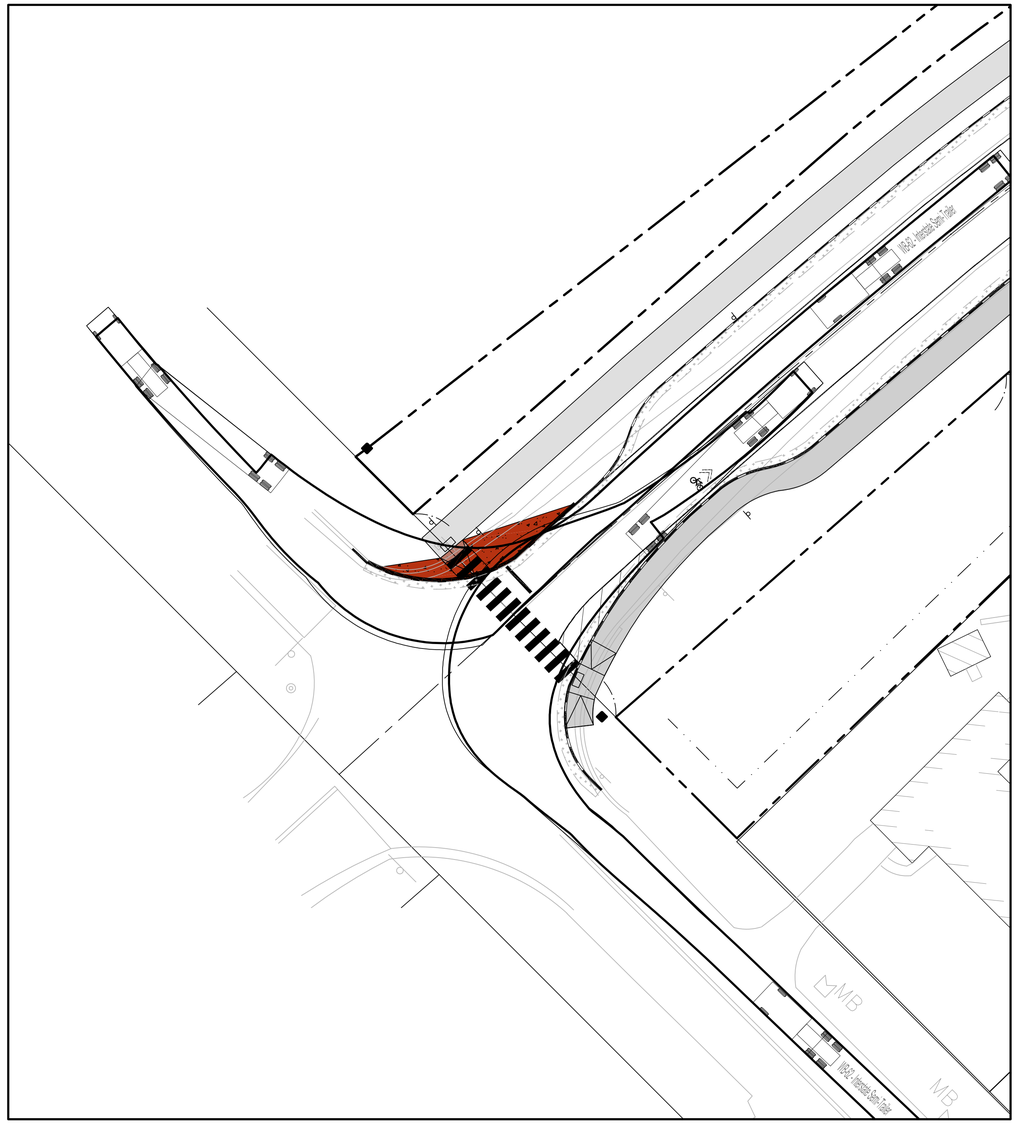
FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

DRAWING NO.

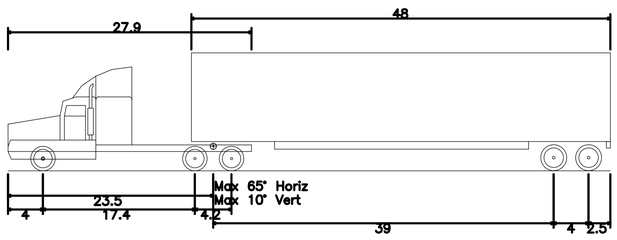
TT5



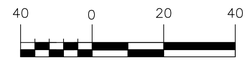
WB-62 LEFT HAND TURN TEMPLATES



WB-62 RIGHT HAND TURN TEMPLATES



WB-62 – Interstate Semi-Trailer	
Overall Length	69.000ft
Overall Width	8.500ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	28.40°



SCALE: 1"=20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/30/22
COMMENT RESPONSE	SJL 9/28/22

DRAWING NAME: **LAMBERT STREET WB-62 TURN TEMPALTE**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.
ENGINEERING, INC.
PO BOX 3422 PORTLAND, MAINE 04101
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FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

DRAWING NO.

TT6

Lambert Woods Cooperative Housing
Transportation Demand Management Plan

January 12, 2023

Att. U

Summary

Cushman Transportation Consulting, LLC provides this Transportation Demand Management (TDM) Plan for Maine Cooperative Development Partner's (MCDP) Lambert Woods Housing Development, located on two former city parcels at 165 Lambert and 622 Auburn Streets. Specifically, this is the construction of 162 new transit-oriented, income-restricted, cooperatively owned housing units – as well as transportation infrastructure improvements and open space - on what until now has been undeveloped and underutilized municipal property. The Portland Housing Authority (PHA) will be hired to manage the property long-term.

Site Overview at Lambert Woods

- *Residential housing*: a total of 125,338 square feet and 162 dwelling units:
  - 8 three-story rowhomes, and 6 three-story flats
  - 2 studios, 74 one-bedroom, 30 two-bedroom, and 56 three-bedroom units
  - 25% of units are for people with incomes of up to 80% of Area Median Income (AMI) and 75% of units are for people with incomes of up to 100% of AMI
- *Parking*: 67 off-street surface parking spaces and 56 new on-street spaces
- *Transportation improvements*: bus shelters and seating, multi-use and pedestrian paths, lighting, crosswalks, pedestrian and bicycle signage, on-street parking and reduced lane widths and intersection traffic calming, unloading zone for package deliveries, and restricted driving areas to reduce on-site vehicle traffic

TDM Plan & Targets

This project is a key opportunity for transit-oriented and more affordable housing in the City of Portland, for people who are employed locally, have children, are disabled, and/or are retired. The site's TDM Plan works further to encourage multimodal trips to and from the site, reduce parking demand, and significantly benefit the local transportation system. This includes marketing the housing to nearby employees; reducing parking; offering on-site amenities; and supporting transportation alternatives such as walking, bicycling and using public transportation.

The plan sets the following TDM targets for 3 years after Lambert Woods is fully occupied. These targets will be reassessed after the first full year of occupancy by tenants:

- *25% of all resident trips to be multimodal*
- *maintain up to .45 parking space per unit ratio*

COVID-19 NOTE: Site occupancy is forecast for 2024 and, while COVID-19 variants continue to be disruptive, we have learned much in the past two years regarding managing the virus' impact on daily life – including through vaccinations first made available last year and consistent use of non-pharmaceutical interventions such as wearing masks. Transportation alternatives that were deemed less viable during the early wave of the pandemic - such as transit and carpooling – are anticipated to continue to make significant recoveries, with marketing and other efforts. COVID-related parking demand increases due to driving alone are also expected to decline. In addition, TDM efforts will likely be supported by long-term cultural changes in walking, bicycling, use of teleservices and working from home.

Interim Site TDM Coordinator:

Brian Eng, Maine Cooperative Development Partners, bri.d.eng@gmail.com, (413) 262-2610

TDM Table of Contents

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C.	Site Transportation Projections & TDM Targets	19
D.	Trip and Parking Reduction Strategies	21
E.	Plan for Monitoring, Data Collection and Reporting	26

A. Property Description & Transportation Context

The Lambert Woods development is comprised of 165 Lambert Street and 622 Auburn Street - two of four parcels chosen by the City of Portland in separate RFPs from 2020 and 2021, to be redeveloped as robust mixed-income, multi-generational housing. Maine Cooperative Development Partners was chosen to develop the property included in the 2020 RFP (165 Lambert Street). MCDP was then also awarded the 2021 RFP, which included 622 Auburn Street and 0 Gray Road (located in Falmouth). Of the awarded parcels, the development will occur on the 165 Lambert Street and 622 Auburn Street properties. The project is expected to be completed in 2024.

Located in Portland's North Deering Neighborhood on the Portland/Falmouth town line, Lambert Woods is on a quiet stretch of Washington Avenue Extension, that is also part of the regional Sebago to the Sea Trail. Just beyond the development on both sides are two busy north-south commuter corridors – Lambert Street/Blackstrap Road and Auburn Street/Gray Road (State Routes 26 and 100).

One of these, Route 26/100, is a Priority Transit Corridor of the Portland Area Comprehensive Transportation System (PACTS). In addition, the site is positioned between two of PACTS' Priority Transit Centers: West Falmouth Crossing and the center of

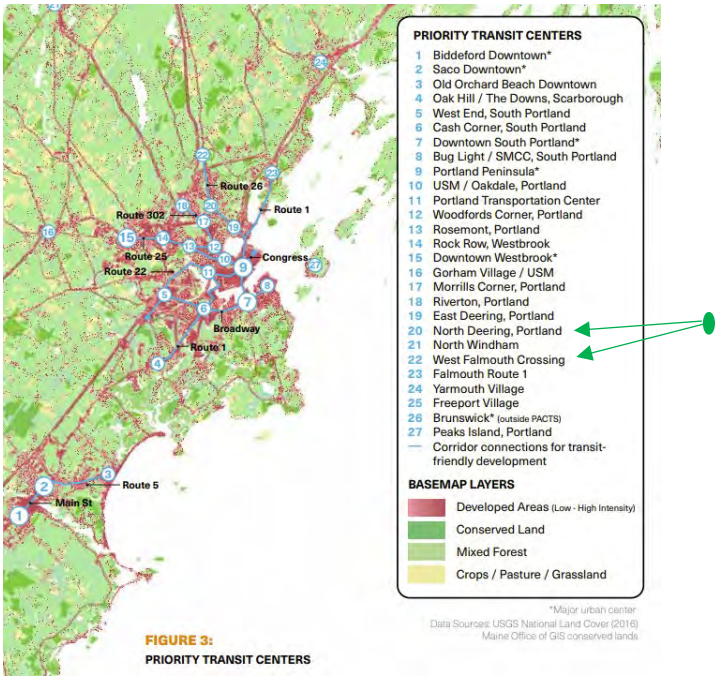


FIGURE 3:
PRIORITY TRANSIT CENTERS

North Deering (see graphic above right). Perhaps most significantly, Lambert Woods sits right at the outer terminus of the #9A/9B METRO bus route loop, which serves most of the city's neighborhoods, schools, service centers, and runs on Congress Street through all of downtown Portland. Finally, the site is a mile from Exit 53 of the Maine Turnpike, with a quick connection to the Falmouth Spur to access Interstate 295.

Lambert Woods has been rezoned as R-3 to allow for this Planned Residential Unit Development and is adjacent to residential areas and light industrial uses. The development team proposed a B-1 designation to the city, to enable more mixed use on the site, which unfortunately was denied. However, this is an indication of the progressive nature of this development, in terms of smart growth and sustainable transportation.

Consisting of almost 18 acres of forested land in Portland, about 5.6 acres of Lambert Woods are wetlands or exceed a 25% slope and can be excluded from a net residential density calculation. Five to seven acres of the site will ultimately be developed. Conservatively, this will result in a residential density of 13.3 units per acre. In terms of encouraging less driving, this is an incredibly beneficial improvement to the existing land use pattern. For comparison, see the following table from Portland and South Portland's *One Climate Future* plan. North Deering currently is in the 2.5-5 dwelling units per acre category, with a significantly higher associated Vehicle Miles Traveled (VMT), versus helping the area move more toward the greater-than-12 units per acre that dramatically decreases VMT. Furthermore – and perhaps counter intuitively – research has shown that the greatest VMT reductions can actually happen at the level of lowest density. (Holtzclaw, 1994)

How does density relate to how much we drive?

Research has shown that people who live in denser areas drive fewer miles, on average, resulting in lower vehicle miles traveled (VMT) per capita in areas with higher densities (persons per square mile, or ppsm). For reference, much of Portland's East End reaches densities over 10,000 ppsm, while Ferry Village (South Portland), Thornton Heights (South Portland), and North Deering (Portland) fall in the 2,000 – 3,999 ppsm range.

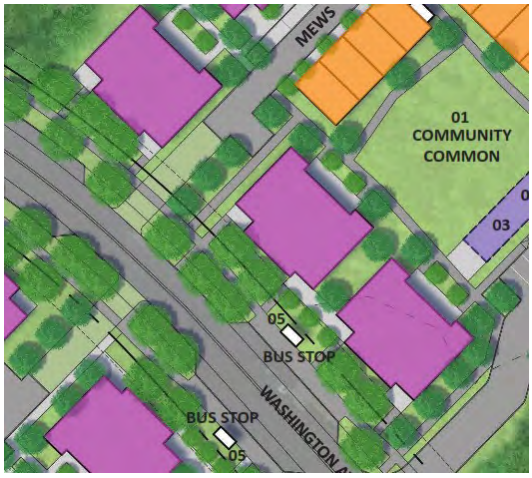
Table 3. Vehicle miles traveled (VMT) forecasts by Census Tract Density

Persons per Square Mile (ppsm)	Approximate dwelling units per acre	2005 VMT	VMT Compared to < 500 ppsm	2035 VMT	VMT Compared to < 500 ppsm
0-499	< 0.6	11,422	0.0%	13,798	0.0%
500-1,999	0.6-2.5	10,083	-11.7%	12,196	-11.6%
2,000-3,999	2.5-5	9,345	-18.2%	11,345	-17.8%
4,000-9,999	5-12	7,986	-30.1%	9,792	-29.1%
10,000+	> 12	4,437	-61.2%	5,651	-59.0%

Table adapted from Cambridge Systematics. (2013).[82] Dwelling units per acre conversions are gross densities estimated at roughly 50% residential land per tract.

One Climate Future: charting a course for Portland and South Portland, 2021

Existing Washington Avenue Extension street frontage



Recent site visits and Google Street View images show that, despite the current car-dominated infrastructure, local people already walk, run and bicycle regularly on this street. Lambert Woods will dramatically improve the human scale of the pedestrian environment along both the north and south frontages of Washington Avenue Extension. This includes the proposed narrowing gateway feel to the street: with reduced lane widths, on-street parking and shared lane markings; proposed 8-foot multi-use paths on both sides of the street; active building facades; bus shelters and seating; lighting, crossings and signage; street trees and landscaping; trail connections and emergency vehicle access points that will be able to be used by walkers and bicyclists; and an intentional choice to not align both driving entrances, to discourage cross-development motor vehicle traffic. Furthermore, the development team will build a short section of connecting sidewalk on the south side of Auburn Street with a crossing to the existing sidewalk on the north side - complete with curb extensions, travel paths for the existing bicycle lanes and Rectangular Rapid Flashing Beacons (RRFBs).

Residential Housing at Lambert Woods

In addition to the density improvements named above, neighborhood infill development of any kind contributes to single-occupancy automobile trip reduction. That much more so in the case of transit-oriented and income-restricted housing, which is the use proposed for Lambert Woods.

In direct support of increasing housing stock and people's ability to afford to live in Portland, all of the residential units at Lambert Woods will be income-restricted. Twenty-five percent of the units will be for people with incomes of up to 80% of Area Median Income (AMI) and 75% for people with incomes of up to 100% of AMI. A total of 125,338 square feet in housing – 162 dwelling units - are proposed. There will be 8 three-story rowhomes, and 6 three-story flats - consisting of a total of 2 studios, 74 one-bedroom, 30 two-bedroom, and 56 three-bedroom units.

Moreover, Lambert Woods is being developed as a Limited Equity Housing Cooperative - that is, as a legal entity where residents jointly own and democratically manage a residential property. A Limited Equity Housing Cooperative indicates that part of the equity is owned by individual residents and the remainder is owned by the cooperative as a whole. This ensures that homes remain permanently affordable for future residents. Ultimately, Portland Housing Authority and the Lambert Woods Co-op will manage the buildings on site.

New residential sites like Lambert Woods also provide a significant opportunity to help meet the city's goals for population growth. In *Portland's Plan 2030* (2017 Comprehensive Plan), analysis showed the number of people both living and working in the city decreased between 2002 and 2014. The Comprehensive Plan "supports the principle that all who work in Portland should have the option of living in Portland." The city set a 10-year population goal of 75% of the municipality's approximate daytime population of 96,000.

Furthermore, the development proposes a number of on-site features that encourage the use of alternate transportation and teleservices, as well as working from home. These include:

- 8-foot paved multi-use paths along the north and south sides of Washington Avenue Extension
- bus shelters and seating
- pathways and trail connections within and across the site
- covered bicycle/stroller/handcart storage areas
- bike repair station
- package delivery and storage locations
- free basic wifi in all units and community areas and hardwired infrastructure for broadband
- communal gathering spaces, including those that can be used to do telework
- fitness room/gym
- community terraces and pavilions
- kitchen garden
- dog runs
- drop-off and pick-up areas with ADA access and opportunities for residents and visitors to more easily carpool and use taxis and Transportation Network Companies (such as Uber and Lyft)

…One of the more interesting studies found in reviewing the literature was a 2003 German social science experiment conducted by three researchers (Bamberg, Rolle and Weber) where an individualized marketing intervention was used at a time of what they called a "changed decision" context, meaning immediately after relocation. The research found that if, when in a new situation, people received personally relevant and persuasive information, they were more likely to use it for making new behavioral decisions.

Portland Oregon SmartTrips Welcome Program, Tools of Change Landmark Case Study, 2012

Finally, behavioral research illuminates an additional reason for vehicle trip reduction. When people move from one specific residence to another, this disrupts their habitual daily living and travel patterns. This provides a key opportunity and critical juncture at which to help them understand their transportation choices and the benefits of using public transportation, walking and bicycling, carpooling and telecommuting. (Kirkman, 2019; Thøgersen, 2012; Verplanken, Walker, Davis & Jurasek, 2008; Bamberg, 2006; Fujii, Gärling & Kitamura, 2001)

Parking

On-site parking that is both more limited and also not immediately adjacent to dwelling units makes car ownership less convenient, and further encourages the use of alternate modes. Lambert Woods proposes a forward-thinking balance between previous parking minimums and providing no parking. The developers will build and maintain 67 surface parking spaces on site, with a parking per unit ratio of .41. (Of note, in addition to the on-site spaces, MCDP will construct 56 new public on-street parking spaces along Washington Avenue Extension.)

Research has shown that abundant and free or low-cost parking is the main reason people are more likely to drive for most of their trips. (Kirkman, 2019; McCahill, et al, 2016; Chatman, 2013; McCahill and Garrick, 2010 & 2014; Thøgersen, 2012; Weinberger, 2008, 2012; Higgins, 1990) A number of larger cities across North America have started tying their TDM targets and mitigation efforts primarily to parking. One example can be seen in the following table from Los Angeles' growing TDM program – where small projects that have a parking ratio of less than 0.5 spaces per unit require fewer TDM mitigation "points" or set of TDM strategies.

Table 1. Relation of project size and parking capacity to TDM mitigation requirements, based on preliminary program development in Los Angeles.

Parking capacity (stalls per housing unit or 500 sf of non-residential space)			**Mitigation points required**
Small project	Medium project	Large project	
Less than 0.5			5
0.5-.99	Less than 0.5		10
1-1.49	0.5-.99	Less than 0.5	15
1.5-1.99	1-1.49	0.5-.99	20
2 or more	1.5-1.99	1-1.49	25
	2 or more	1.5-1.99	30
		2 or more	35

Source: State Smart Transportation Initiative

***Modernizing Mitigation: A Demand-Centered Approach,* State Smart Transportation Initiative, 2018**

Closer to home, in 2019, Boston's Metropolitan Area Planning Council (MAPC) conducted its *Perfect Fit Parking Study* across multiple municipalities and suburban contexts. They found similar conclusions:

> *In the vast majority of developments we studied, the average parking use was less than one space per household, and across the entire sample, only 70 percent of the available spaces were full when surveyed. In affordable housing developments (sites where 50 percent or more of the apartments are deed restricted) demand was even lower: only 0.55 cars were parked per household.*

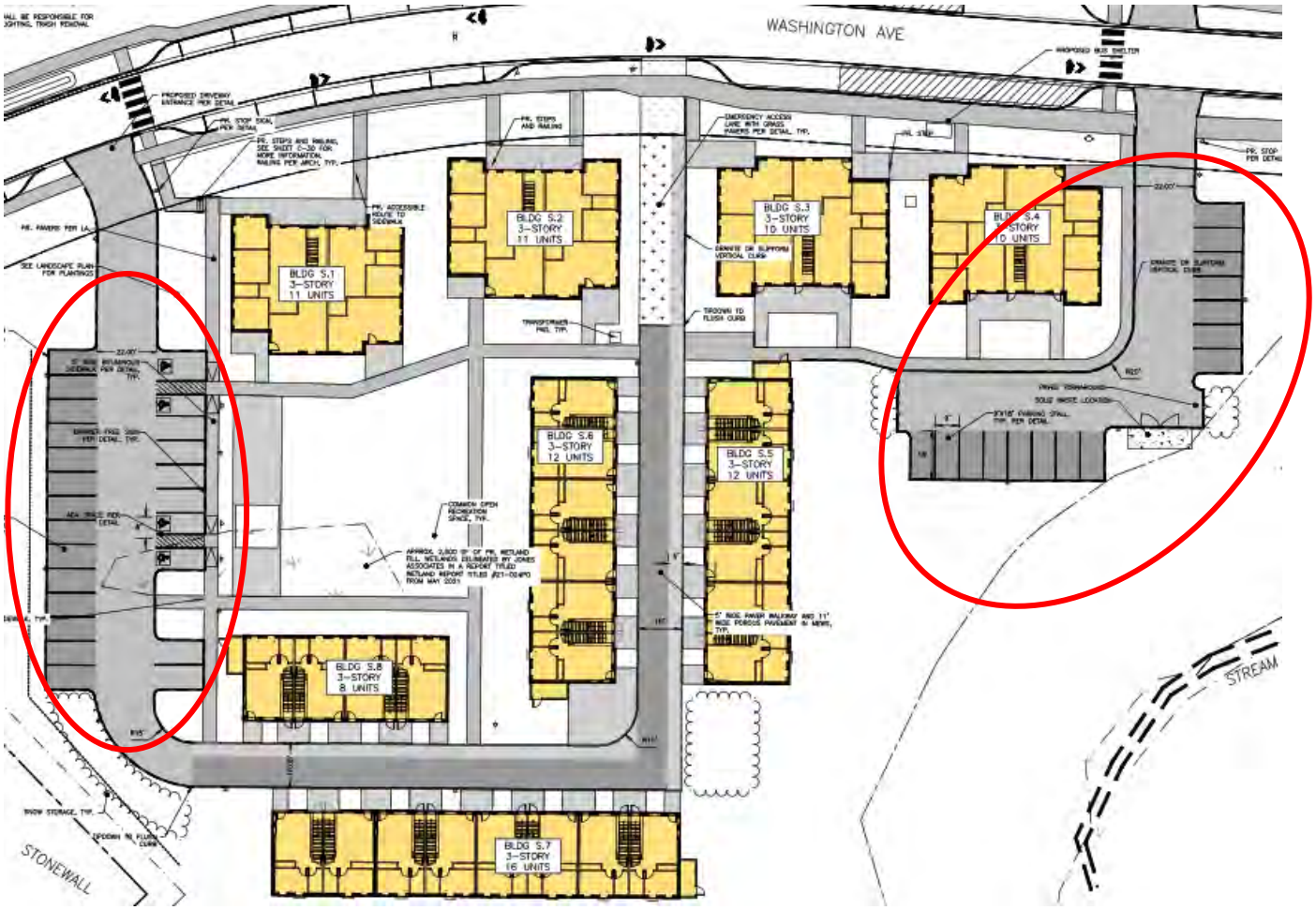
Overall, 30 percent of the available parking we surveyed was not being used. At a quarter of the sites, less than half the parking was occupied. The pattern of oversupply was observed in all 14 cities and towns…

Of course, supply and demand differed at every site. To help explain the variation, we measured 25 neighborhood and building characteristics and investigated their correlation with parking demand (defined as parked cars per occupied housing unit). After exploring all of those variables and their interactions, ***we identified three factors as strongly predictive of parking demand: transit connectivity (jobs within a 30-minute transit commute); percentage of deed-restricted affordable units; and the amount of parking supplied. In fact, supply (spaces per unit) was the single biggest predictor of demand, suggesting that the availability of parking is attracting car-owning households and influencing their behavior. The more parking is provided, the more likely it is that a household will use it.*** (emphasis added)

Similarly, the City of Portland has been working to reduce the impact of required parking minimums that historically have induced more vehicle trips. A primary example, and the impetus for this TDM plan, is the city's recently amended *Land Use Code*, Article 19, Table 19-B: Categorical Exceptions to Off-Street Parking Minimums, "No off-street parking shall be required within ¼ mile of fixed route transit service. New uses or changes of use of more than 10,000 SF taking advantage of this exception shall be required to provide a Transportation Demand Management Plan if they use this provision in lieu of parking requirements."

For some additional background on how the number of on-site spaces at Lambert Woods has been determined, this ratio is generally consistent with other comparable affordable housing projects in the region. In addition, the parking analysis and design included work to maximize housing on the site and reduce environmental impacts within the wetland and slope confines of both parcels. MCDP also has sought intentionally to minimize the car-dominance and feeling of endless pavement typically found in suburban residential projects. For example, within the development, there will be no parking in the mews, to ensure the pedestrian friendly nature of these areas. Instead, parking will be primarily at a distance from the housing units on site, with one communal parking area in Lambert North and two in Lambert South. For similar reasons, passenger vehicles are not permitted to drive through the Lambert South site from the parking area on one side to the parking area on the other. (See site plan image on next page.)

Strong parking management is another linchpin strategy to discourage drive alone trips. All residential leases at Lambert Woods will be exclusive of parking. Units designated for residents with incomes at 100% and 80% AMI levels will be charged $125 per month per parking space. Residents with incomes under 60% AMI will get parking first-come first serve and not be charged. Under the affordable housing financing regulations, low-income tenants are not permitted to be charged for parking. However, simply unbundling parking from tenant leases is of benefit to site TDM efforts. The 67 off-street spaces will be managed by the Portland Housing Authority and the Lambert Woods Co-op.



Occupant Demographics

The development team anticipates the Co-op will attract a diverse group of tenants, including those interested in a transit-oriented, walkable, low-car-use lifestyle. This will consist of singles, couples, and families – mostly working people, likely many long-term renters, and some older people who are downsizing. As stated in Portland's comprehensive plan, *Portland's Plan 2030* (2017), "Millennials (20-29) and Gen Xers (30-39) comprise the largest share of Portland's population, while Baby Boomers (50-69) are the fastest growing age group."

Lambert Woods also dovetails well with people's growing interest in living in a 20-Minute Neighborhood (or Urban Village). The 20-Minute Neighborhood in concept and practice allows residents to meet their daily needs – generally not work-related - within a short trip from home, without driving. A 20-minute walkshed to services is ideal and a 10-minute bicycle or transit trip is a reasonable alternative. The latter is the context for this development.

The growing popularity of the 20-Minute Village (also known as the urban village) is confirmed by the National Association of Realtors (NAR), whose most recent community preference research found that 85 percent of survey participants said that "sidewalks are a positive factor when purchasing a home, and 79 percent place importance on being within easy walking distance of places."

Walkable neighborhoods are also seeing significant jumps in property values. A one-point increase on Walkscore, a website that rates the walkability of U.S. neighborhoods on a 1 to 100 scale, translates into $3,250 more in value, according to the influential real estate database Redfin.

"Welcome to the 20-Minute Village: a solution to the problem of having to drive everywhere for everything", Jay Walljasper, AARP Livable Communities, February 2017

In terms of equity, the site has a Housing + Transportation Affordability Index (HTA) rate of 42%; that is, housing (23%) and transportation (19%) costs, combined, equal 42% of household income. This meets the definition of affordability, which is considered to be combined housing and transportation costs equaling 45% or less of income. For comparison, the average Cumberland County household spends 52% of income on housing and transportation; the average Maine household spends 58%.

Often lower transportation costs at sites like Lambert Woods are because people don't need to own as many (or any) private vehicles; that is, vehicle ownership rates are lower for people who live near public transportation and closer to urban centers. They are also lower for people with less income. With good access to transit (see more in Public Transportation Access section starting on page 15), Lambert Woods' affordable housing rates, and significantly reduced parking on-site discouraging car ownership, residents should be readily able to afford area transit passes. The site's Property Manager/Residential Services Coordinator will also be able to assist lower income residents with applying for reduced-fare passes at METRO and other local transit providers.

In addition, Lambert Woods has a good Job Access Score of 7.7 out of 10. This is based on employment location and the variety of employment types, similarly provided through the HTA Index utilizing census data. Of major significance to the site's TDM program, Maine Cooperative Development Partners will develop a list of major employers within a 1/4 mile of bus stops on the 9A/9B, to conduct outreach to those employers regarding housing availability at Lambert Woods, to encourage these worksites to offer transit passes to their employees, and for sharing with Lambert residents seeking employment.

This may assist with what can be a challenge to robust transit use for residents living in a suburban context, who often need to transfer between routes to access their place of employment. On the other hand, a number of low-income earners have to travel quickly between multiple jobs or work off-peak shifts outside of public transportation run times – and both situations often require the use of a private vehicle. However, at least these varied tenant occupations and timing of work shifts often lead to drive alone travel that is outside the peak weekday morning and afternoon commute hours.

Co-op residents who are students are well served by multiple transportation options. The Portland Public Schools provides bus transportation for elementary school students and requires middle school students to walk up to two miles to school. Lambert Woods is just 1.3 miles from the Lyman Moore Middle School campus and, as mentioned previously, in an effort to serve these middle schoolers and the public in general, MCDP will build a short section of sidewalk on the south side of Auburn Street near the Washington Ave. Extension intersection. This will connect via a crosswalk to the existing sidewalk on the

north side of Auburn. The crossing will include curb extensions, travel paths for the existing bicycle lanes and Rectangular Rapid Flashing Beacons (RRFBs).

Finally, all high schoolers receive a METRO bus pass and they are well served to attend any of the Portland high schools; Casco Bay, Deering, Portland Arts & Technology, and Portland High are each situated directly on the 9A/9B. Post-secondary education, such as at the University of New England, Maine College of Art, University of Southern Maine, and Portland Adult Education are also readily accessible from the site by bike and via public transportation.

Per U.S. Census data, Generation Z and Millennials have been shown to prefer more urban environments; they also tend to be more comfortable using modes other than the single-occupancy automobile for transportation. These multimodal habits were heavily influenced by the Great Recession and driving by these generations increased slowly as the economy improved. Travel behavior has been impacted once again by the COVID-19 pandemic – which has negatively affected bus and carpool rates; although it has positively impacted the number of people who walk, bicycle, use teleservices and work from home. Overall, from a behavior change perspective, this familiarity with different ways of getting around will greatly facilitate tenants' participation in the Lambert Woods TDM program.

Larger Transportation Setting

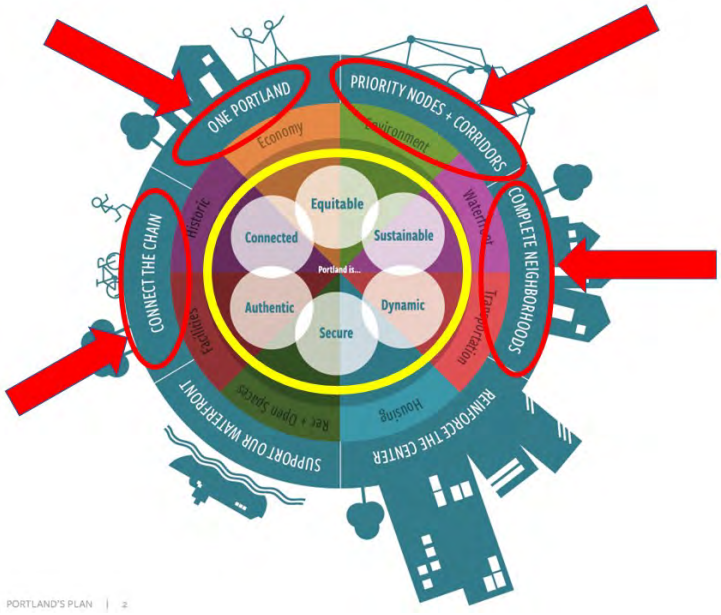
The Lambert Woods Co-op and its TDM initiatives bring to fruition of number of the housing, urban form, and transportation goals of several recent and historically important Portland and regional studies and planning efforts. These include:

- *A Time of Change: Portland Transportation Plan* (1993)
- *Green Spaces Blue Edges* (2001)
- *Housing, Sustaining Portland's Future* (2002)
- *Sustainable Portland* (2009)
- *Lyseth-Lyman Moore School Travel Plan* (2011)
- *Falmouth Bicycle & Pedestrian Plan* (2015)
- Comprehensive Plan, *Portland's Plan 2030* (2017)
- *Getting There from Here: an active transportation plan* for the region (Greater Portland Council of Governments (GPCOG) and PACTS, 2018)
- *Cultural Plan Update* (2018)
- *Transit Tomorrow* (PACTS and GPCOG, 2021)
- *One Climate Future: charting a course for Portland and South Portland* (2021)
- *Connect 2045* (update to PACTS Long-Range Transportation Plan, 2022)
- *Transit Together* (GPCOG, final draft expected 2023)

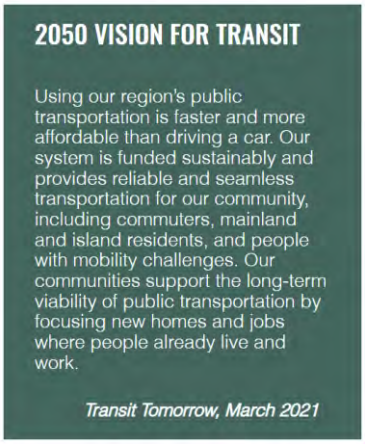
Portland's Plan 2030 (2017 Comprehensive Plan)

For example, the development of this site addresses several of the Future Land Use principles outlined in *Portland's Plan* (2017) and in the image on the next page – described further as:

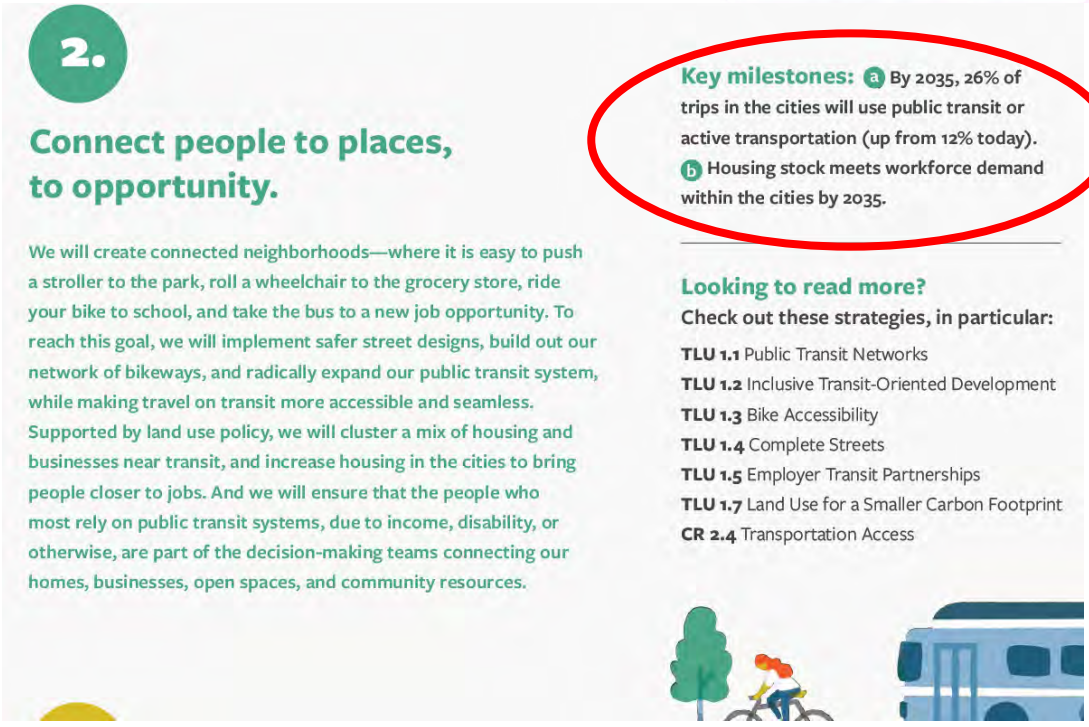
- Connect the Chain – "physically integrated transportation systems and open spaces"
- One Portland – "all areas can expect appropriate City services and amenities"
- Priority Nodes and Corridors – "areas that would be appropriate for new development to provide needed housing, business and services proximate to transit"
- Complete Neighborhoods – "where all residents regardless of age, ability, or income have access to the basic necessities of daily life - high quality and affordable housing, schools and other civic functions, food, open space, other amenities and services - within a walkable, bikeable distance"



Moreover, Lambert Woods's transit-oriented development efforts align well with the 2050 Vision from the regional *Transit Tomorrow* plan at right. These public transportation efforts are being developed further as part of PACTS' *Transit Together* and *Connect 2045* planning processes this year.



In addition, TDM efforts are part of several aspects of Portland and South Portland's *One Climate Future* plan. This includes the overarching multimodal target the plan has set: "By 2035, 26% of trips in the cities will use public transit or active transportation (up from 12% today)."



The following table breaks out commute travel data by the metropolitan region, City of Portland and the North Deering neighborhood, using census information assessed by local data analyst Abraham Dailey. The existing neighborhood context does not show strong current multimodal use. However, the Lambert Woods transit-oriented development, its associated infrastructure improvements and TDM program, plus the larger METRO transit improvements in the works (more about this in the Public Transportation Access section on page 15) should result in significantly higher multimodal numbers for Co-op residents. In addition, telecommute percentages for about 40% of the population have increased significantly during the pandemic and are expected to continue at a higher rate than before COVID-19 (for example, continuing to work from home 2-3 days per week, for those who can).

Commute Mode Share Trends by Home Origin

	Commuter Home Location	Drive Alone	Carpool	Transit	Bicycle	Walked	Work from Home
2019 5-year sample	**Portland-South Portland MSA**	79%	8%	1%	1%	4%	7%
	City of Portland	66%	8%	3%	2%	13%	7%
	North Deering	87%	2%	1%	1%	4%	5%

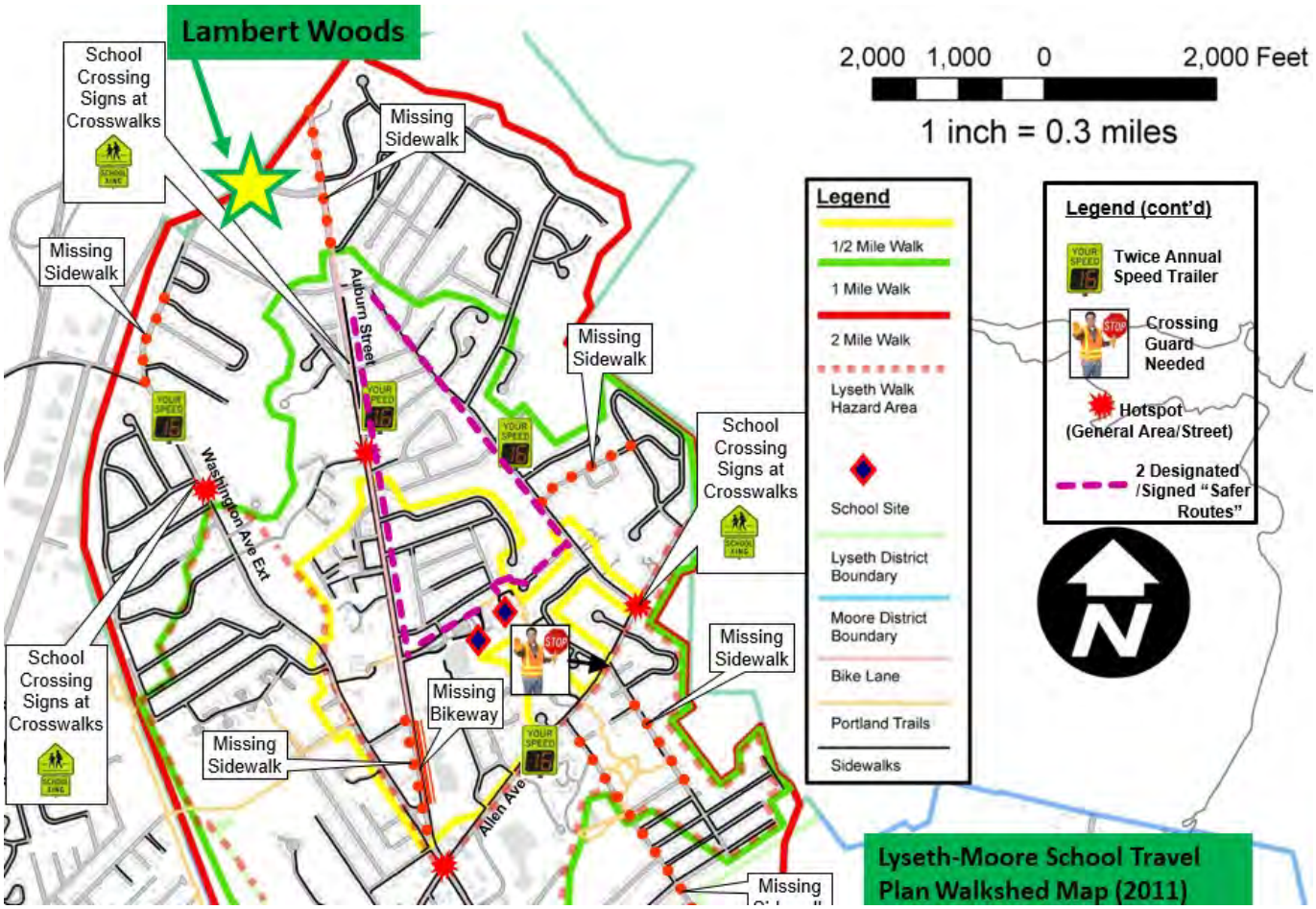
Bicycle & Pedestrian Access

The numbers in the table above reference commute trips, which generally represent only about 30% of total vehicle trips. A greater percentage of non-commute trips are typically taken by walking and bicycling. Therefore, the 5% combined figure for active transportation use in the North Deering census block does not paint a complete picture of the amount of walking and bicycling that occurs on a daily basis in the neighborhood at this point in time.

In addition, and perhaps surprisingly with the more suburban context of this location, the site has a Compact Neighborhood Score (CNS) of 7.9 out of 10; the CNS is a measure of walkability. This scoring is based on a natural logarithm of household density and census data, also provided through the Housing + Transportation Affordability Index. Still, from a pedestrian and bicycling perspective, the area can feel rather auto-centric.

As mentioned in the previous section, the Lambert Woods development itself will significantly improve the walking and bicycling experience on Washington Avenue Extension. Moreover, none of the nearby streets are multi-lane corridors and there is a relatively robust sidewalk and crossing network in the

neighborhood. The city has worked consistently to improve these conditions over the years. For example, as a result of the *Lyseth-Lyman Moore Campus School Travel Plan* process (2011), Portland has made a number of the North Deering pedestrian and bicycle safety improvements originally identified in the following map.



In addition to the Lambert Woods active transportation infrastructure efforts, the development sits in close proximity to the following existing and proposed bicycle and pedestrian facilities from the *Portland Bicycle & Pedestrian Network* (map on next page) and the *Falmouth Bicycle & Pedestrian Plan*:

- Auburn Street (Portland) and Gray Road (Falmouth) bicycle lanes and sidewalks
- Planned on-road bikeways on Washington Avenue Extension (which the Lambert Woods' improvements will create on that section of the roadway), Riverside Street and Allen Avenue
- Planned sections of the Neighborhood Byway network – i.e., Summit-Lambert and Parsons Pond-Shepherd Lane
- Proposed bicycle lane or other designated shared access on Blackstrap Road from Brook Road to Hurricane Road
- Proposed shared-use pathway along the rail line adjacent to the site's 0 Gray Road, Falmouth parcel
- Potential multi-use trail along the Falmouth Spur

In the context of the 20-Minute Neighborhoods mentioned in the previous section, significant area amenities and recreational facilities also provide people with a full-service living environment. This does much to encourage individuals to walk or bike instead of choosing to drive. Those features within walking and bicycling distance of the Co-op include:

- Two daycare facilities within a one-mile radius (15-minute walk) and the neighborhood elementary and middle schools are 1.3 miles from the site (25 minutes)
- Markets such as Eddie's (3-minute bike ride or 11-minute walk), Hannaford (7-minute bike ride or 22-minute walk), and Shaw's (7-minute bike ride)
- Home product suppliers such as Cherished Possessions and the Dollar Store

- Services such as several pharmacies, the U.S. Post Office at the UPS Store; dentist and medical offices, veterinarian services, tax preparation services, hair salons, banks, yoga and other exercise classes, etc.
- Recreational spaces such as the Sebago to the Sea Trail, Presumpscot River Preserve, Haverty Track, Oat Nuts Park, Riverside Golf Course, River Point Conservation Area, and the Lyseth Elementary and Lyman Moore Middle campus playground, basketball court and fields
- Food and beverage locations such as Lib's Ice Cream, Starbucks, Dunkin Donuts, Portland House of Pizza, Taco Bell, etc.

Public Transportation Access

As mentioned previously, Lambert Woods is strategically located on the important on-off Peninsula, crosstown, bidirectional METRO Route 9A/9B. The 9A/9B serves the vast majority of the city's neighborhoods, service centers, and downtown. In addition, it provides direct connections at different points to most other routes. For example, it is timed to intersect well for transfer to the Husky route, with express service to Westbrook and Gorham.

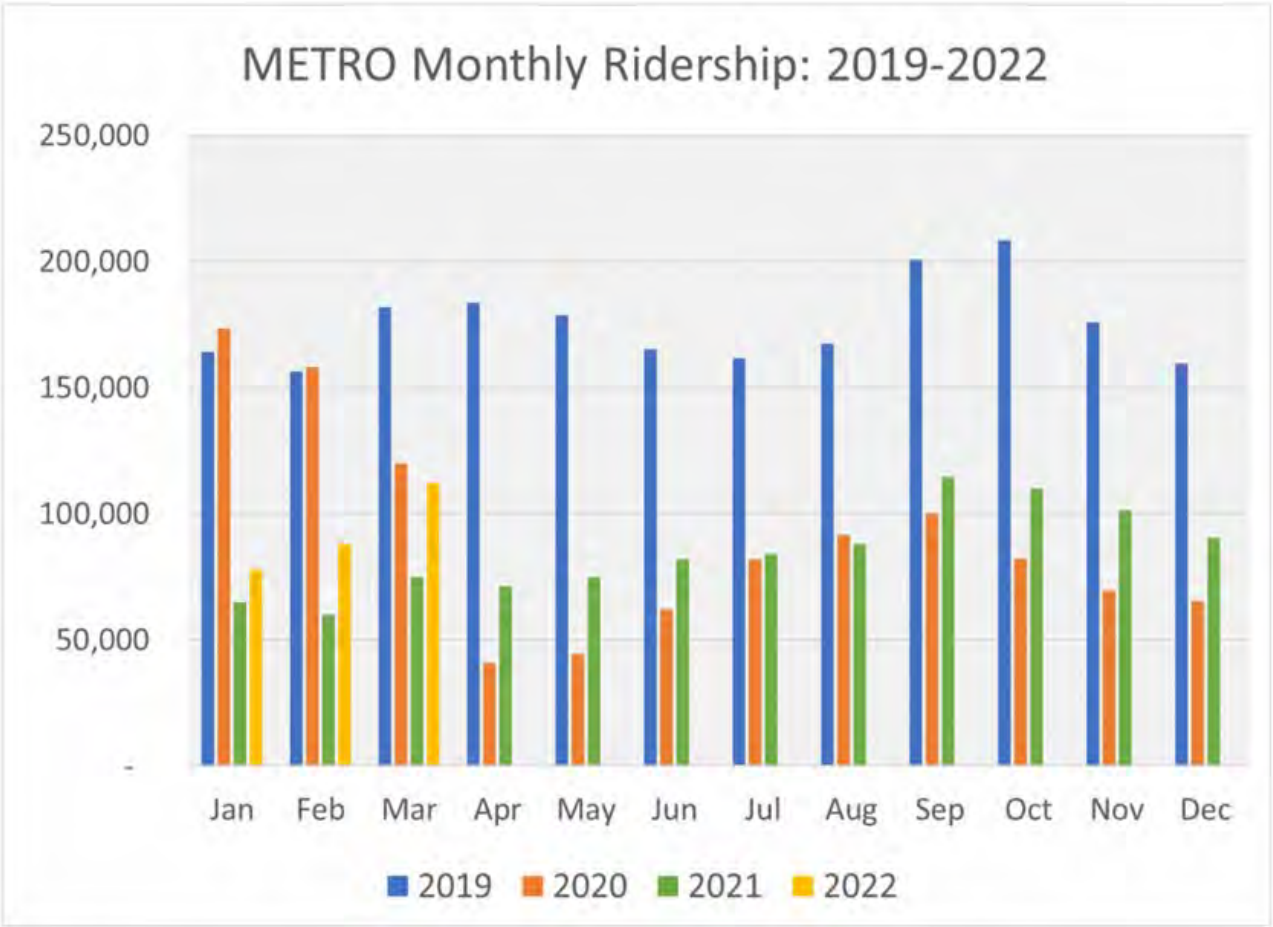
In general, transit is considered by the public to be a reasonable alternative to driving when the bus comes every 15 minutes or so. METRO currently operates with 25-35-minute peak hour headways on both the 9A and 9B (more frequently on school days). Off-peak headways on the Route 9A/9B are as low as 60 minutes.

However – and to the tremendous benefit of Lambert Woods and all residents, employers and services along the 9A/9B - METRO staff recently shared the following update:

> *METRO is in the process of securing American Rescue Plan Act (ARPA) funding which will, among other things, improve Route 9A/9B service to every 30 minutes during off-peak periods. Staggered well, the Route 9A or 9B would depart the Lambert Woods project every ~15 minutes all day, so a resident traveling downtown could take either bus and arrive downtown in 20-30 minutes.*
> *This funding strategy will fund these headways for 2-3 years, after which the funding would be picked up by other federal funding options and local contributions in order to remain permanent. In*

short, METRO anticipates that headways of about 30 minutes or better throughout the day will be the norm by the time the Lambert Woods project is occupied sometime in 2024-2025.

Despite the dramatic declines in transit use earlier in the pandemic on a number of METRO routes, analyst Abraham Dailey assessed 2019-2021 METRO data and found the ridership on Routes 9A/9B has actually grown over that period, and at a higher rate than any route except for the Husky Line. In further good news, one can see in this April 2022 *METRO Connects* graph and newsletter item that broader ridership behavior is really starting to change from its early pandemic lows.



Let's do the (Ridership) Numbers -- In March, METRO had our best month in terms of relative ridership compared to pre-pandemic levels, with over 112,000 rides taken. For the first time since the start of the pandemic, ridership exceeded 60% of 2019 ridership.

Each route had more riders in March than in January or February of this year, and several routes (Routes 2, 4, 8, 9A//9B, and BREEZ) had more ridership in March 2022 than any month since the start of the pandemic.

As we get further into 2022, we hope that strong ridership trends continue as we roll out new buses, new stops, and new ridership recovery initiatives.

On-site at Lambert Woods, a number of transit infrastructure enhancements will greatly improve upon the existing transit landscape and encourage residents to ride. First, the stops will be slightly relocated on Washington Avenue Extension to be right at the entrance to Lambert North (the 9B stop) and South (the 9A stop). Each stop will have a shelter and seating for riders. In addition, the development is collaborating to provide access to the lobby restroom nearest the bus stops for METRO driver use; drivers currently do not have any facilities when they pause the buses for a quick break at the outer terminus of Routes 9A/9B.

METRO and all other area transit providers provide real-time arrival information via agency websites, the Southern Maine Transit Tracker site, and/or smartphone apps such as Google Maps, Transit and Moovit. The bus shelters on Washington Avenue Extension will be hardwired for power, to allow METRO to potentially provide real-time arrival information at each stop. In the meantime, Lambert Woods plans to offer a live transit update screen in their lobby space near the 9A/9B stops. All local and express buses are equipped with bicycle racks with space for 2-3 bikes. In addition, METRO buses offer Wi-Fi access and some provide in-seat USB ports.

Shared Mobility Access

With the end of UhaulCarshare service in Portland in February 2020, Lambert Woods and other developers have been exploring new carshare possibilities for diverse sites across the city. A newly promising opportunity may be with Mobility Development, a nonprofit that helps set up equity-focused, all-electric carsharing programs. For example, they have a new program in Boston called Good2Go. The

organization has recently entered into a contract with the U.S. Department of Energy to start more partnerships with affordable housing providers, and it seems to think that Portland could be a promising market. If a local organization such as the Portland Housing Authority could feasibly partner with other entities like Lambert Woods to set up a carshare at various locations, the Co-op will provide up to four parking spaces on-site and offer a discount for resident carshare vehicle use for the first year of residency.

For the past decade, the City of Portland has persisted in exploring various bikeshare possibilities. The city has just launched a pilot bikeshare program in August 2022 via an agreement with Tandem Mobility, a bikeshare company with national experience. The systems of bikes will be located primarily on and just off the Peninsula (e.g., at University of Southern Maine). PHA will explore with the municipality whether bikeshare might eventually be an option for Riverton Park residents, if and when the system is expanded further. This would include encouragement for the city to consider cargo bikeshare options for area families.

The use of transportation network companies (TNCs) such as Uber and Lyft has grown substantially in recent years – although there have been setbacks to sharing rides and also driver availability during the pandemic. A TNC trip does not reduce traffic congestion, unless users are carpooling; however, it does reduce parking demand.

B. Lambert Woods TDM Coordination

Maine Cooperative Development Partners and the Portland Housing Authority are committed to reducing drive-alone resident automobile trips, improving multimodal safety, easing area traffic congestion and lowering parking demand at Lambert Woods through their TDM efforts. They see this site's TDM program as part of their larger affordable housing, sustainability, and quality-of-life missions.

Highly successful TDM programs share three vital characteristics –

1. Dynamic - piloting strategies, assessing impacts, and modifying tactics as needed;
2. Rigorously supported and monitored by local governing bodies, in this case, the City of Portland;
3. Managed by committed and enthusiastic staff who are responsible

Both the MCDP and PHA teams have a history of in-fill and workforce housing development projects. They have encouraged residents' mobility and financial wellness through initiatives such as offering rent reductions for tenants who are car-free and separating housing leases and sales from parking space rental or purchase, providing bus pass subsidies, and constructing on-site

bicycle/stroller/handcart rooms. Both groups have experience with TDM plan development and/or implementation at other locations in Portland.

Brian Eng will serve as the interim TDM Coordinator until Certificate of Occupancy, when the eventual property manager for the Co-op will be made the long-term TDM Coordinator. His contact information is: Brian Eng, Maine Cooperative Development Partners, bri.d.eng@gmail.com, (413) 262-2610

The Lambert Woods TDM Coordinator is responsible for:

- Ensuring strategic parking management and monitoring parking usage
- Coordinating tenant TDM policies and incentives
- Connecting tenants with nearby transportation resources
- Encouraging greater use of preferred modes – walking, bicycling, carpooling, taking bus or rail transit, and telecommuting- through transportation kiosk and site-wide promotion
- Overseeing/conducting surveying of tenants
- Filing annual reports and updating the plan with the City
- Exploration of additional TDM strategies, as needed

Acknowledging that roles and responsibilitie s change over time in any position, the two organizations and their future site property manager will use the first year of TDM implementation to enumerate the TDM Coordinator's responsibilities in detail for any future staff to uphold the responsibility of the position. The Co-op will notify the city within 60 days whenever there is a change in the TDM Coordinator.

In addition, the Co-op will have a Resident Engagement Committee that supports this work with an annual $4,000 discretionary budget for incentives. Day-to-day operations and monitoring of the TDM plan will be conducted in-house by the TDM Coordinator and the committee longer-term. The TDM Plan and contact information for the TDM Coordinator and City transportation program will be posted at the TDM Kiosk in the community building for resident education and access. Lambert Woods will retain the services of a TDM consultant to review initiatives, problem-solve and develop new strategies if and when necessary.

C. Site Transportation Projections & TDM Targets

Maine Cooperative Development Partners has hired Cushman Transportation Consulting, LLC (CTC) to assist with its transportation demand management process. CTC specializes in TDM efforts locally and connects with TDM research and programs across North America – including aspects of setting and managing TDM targets.

Target Setting Context

The Lambert Woods TDM Plan is one of the first to be created under the city's progressive *ReCode* provision mentioned previously, in Land Use Code Article 19, Table 19-B: Categorical Exceptions to Off-Street Parking Minimums:

> *No off-street parking shall be required within ¼ mile of fixed route transit service. New uses or changes of use of more than 10,000 SF taking advantage of this exception shall be required to provide a Transportation Demand Management Plan if they use this provision in lieu of parking requirements.*

TDM Targets

The TDM Plan sets the following targets:

- ***Multimodal target:*** 25% of all resident trips will be via transit, carpooling, by bicycle, on foot or telecommuting within 3 years after full occupancy
- ***Parking ratio target:*** a maintain a progressive site parking ratio of up to .45 spaces per unit
- Will reassess targets after the first full year of occupancy

Because of this exception - and given the strong strategies of limiting on-site parking, charging for parking for households at 80-100% of AMI, the implementation of other TDM strategies in Section D that follows, the likely off-peak travel demographics of tenants, and the generally lower vehicle ownership rate of households with more limited financial resources - this plan proposes a Multimodal Target as the most tangible gauge of program success, in contrast with the vehicle trip and parking reduction goals traditionally utilized under the city's original TDM ordinance. For example:

- With the range of potential tenants and tenant activities, as well as likely non-9am-5pm work shifts, a multimodal target assesses the broader drive alone rate for the site, including those trips that occur outside of the morning and evening peak periods;
- With a desirable parking ratio of .41 spaces per unit built into the site plan, it would be difficult to reduce parking demand below that level.

Nevertheless, the development team has also contracted with Barton & Laguidice, to produce the required TDM-related trip generation and parking demand projections for the site for the original June 2022 site plan application submission of 165 units (September 2022 update: now 162 units). The firm utilized the latest data from the Institute for Transportation Engineers (ITE) *Trip Generation Manual (*11th Edition) and the ITE *Parking Generation Manual* (5th Edition). While both manuals do not currently have data that well represents cooperative housing, the traffic and parking assessments do each include distinctions for the income-restricted context of the site.

According to the traffic assessment, full occupancy of 165 units at Lambert Woods would expect to generate 60 vehicle trips in the weekday morning peak hour, 83 vehicle trips during the weekday evening peak hour, and 83 trips during the Saturday peak hour. Per the parking demand projection assessment for the same number of units, the average peak demand for parking at the site would be 164 spaces on weekdays, 131 on Saturdays, and 159 on Sundays.

Multimodal Target

To best measure residents' varied transportation behavior, Lambert Woods is setting an initial target of 25% of resident trips to and from the site being multimodal, by 3 years after full occupancy of the Co-op. This pertains to *all* trips; that is, to access work, school, services, recreational activities, and run errands, etc. In this context, the term multimodal indicates using transit, carpooling or vanpooling, bicycling, walking, and telecommuting or using teleservices - or some combination of these.

This target balances the site's:

- reduced parking, TDM infrastructure improvements and programming
- with its suburban context, the current rate of alternate transportation use for commuting by those living in the area (12%), and the mixed transportation demographics of expected tenants (e.g., if working multiple jobs, shifts starting or ending outside transit service hours, or at employers without transit access).

Per most recent city TDM practices, the multimodal rate will be measured via the annual resident survey. In addition, the Co-op plans to closely monitor existing trends to attain a reasonable mode-shift goal over time.

It is most useful for the site's TDM efforts to address the specific needs of transit users, carpoolers, bicyclists, walkers and telecommuters and set an overarching multimodal trip target – versus targets for each mode. From other TDM experiments across the U.S., it is clear that individuals' use of various alternate modes changes over time, as different residents come and go and/or their needs change. For example, a tenant who uses transit might move to another location or an employee who walks might switch primarily to bicycling. In another instance, a tenant who was able to drive may lose the ability to do so and switch to using transit or carpooling for errands.

Parking Ratio Target

Per the tremendous impact of reduced parking discussed in Section A, page 6, Lambert Woods will maintain a progressive site parking ratio of up to .45 spaces per unit. Property management records of tenant parking space usage and the annual resident survey (more in Section E, page 25) will provide this data moving forward.

D. Trip and Parking Reduction Strategies

In the table on the following page, Lambert Woods proposes a number of best-practice and sensible parking and trip reduction strategies for the site's TDM Plan. These are based on the development team's understanding of the transportation context, likely residents, and the usefulness of various TDM efforts. For example – as mentioned above in Section A: Parking - limited, unbundled and unsubsidized parking will produce the strongest results for decreasing drive alone trips to and from the site.

In addition, the team acknowledges the various needs of different multimodal commuters. For instance, tenants who use transit, walk or bicycle are more able to do so if they have on-site, secure storage for larger commuting gear like strollers, car seats, bicycle trailers and cargo bikes. Moreover, even if a number of current drive-alone residents have to pay for parking, likely this will need to be combined with TDM promotion and setting of social norms. These are vital to encourage people to experiment with other ways of getting around.

Another critical component for the success of the Lambert Woods TDM program is a carefully thought-out marketing effort that engages tenants from when they first move in regarding preferred modes of transportation, and provides easily accessible information and any subsidies. As shared by Portland, Oregon's SmartTrips Welcome program and other research, a residential move is a unique and powerful opportunity for mode experimentation and change. This also builds the site's TDM culture. As Lambert Woods is developed and under construction, the team will design a promotion strategy to encourage walking, bicycling, telework and teleservices, carpooling and the use of public transit.

…When a person changes residence, everything changes: the way to the store, the way to work, even the steps to the fridge.

This time of change offers a unique opportunity to create new neural pathways or reinforce old ones that haven't been used for a while and make these stronger than habitual pathways.

Andrew Pelsma, SmartTrips Program Specialist, Portland, Oregon

…To us, this represents a significant number of people with an immediate gap in knowledge about their local travel options.

Linda Ginenthal, SmartTrips Program Manager

Finally, the region recently reexamined the need for a Transportation Management Association (TMA) to benefit employers and residential sites like Lambert Woods - and this is now a recommendation in the Portland Area Comprehensive Transportation System's *Transit Tomorrow Plan*. TMAs are public-private entities that assist sites with TDM implementation, outreach and monitoring; advocate for improved transit and act as brokers for various alternate transportation services. The Co-op plans to support the development of a local TMA and have Lambert Woods participate as a member.

Infrastructure	
Reduced Parking/Remote Parking	*Reduced parking:* Lambert Woods is limiting parking supply by providing fewer spaces than currently required under the City's land use ordinance and providing this TDM Plan as part of Article 19, Table 19-B: Categorical Exceptions to Off-Street Parking Minimums, "No off-street parking shall be required within ¼ mile of fixed route transit service. New uses or changes of use of more than 10,000 SF taking advantage of this exception shall be required to provide a Transportation Demand Management Plan if they use this provision in lieu of parking requirements." Instead of 1 space per unit, off-street parking for residents will be limited to a .41 to unit ratio.
	Remote parking: Parking for site residents will be available for lease in communal parking areas, with the vast majority of spaces located at a distance from the housing units on site. Parking that is not immediately adjacent to dwelling units makes car ownership less convenient and further encourages the use of alternate modes.
Income- Restricted Housing	All Lambert Woods dwelling units will be income and rent restricted. 25% of units will be for people with incomes of up to 80% of Area Median Income (AMI) and 75% for people with incomes of up to 100% of AMI. Income-restricted housing generates fewer vehicle trips and less parking demand than market-rate units.

Transit & Other TDM Access	Provide live feed time transit screen in community space. Also, provide transportation kiosk in community space with multimodal map of transit routes, bicycle routes and trails, and walk and bike distances/times; information on the Southern Maine Transit Tracker; listing of bicycle facilities and locations on site; carshare locations and membership information, if applicable; information on GO MAINE ride-matching, rewards and Emergency Ride Home benefit for all alternate modes of transportation; all TDM benefits available for residents; copy of the site TDM plan and contact information for TDM Coordinator.
	Relocation of METRO 9A & 9B bus stops immediately adjacent to the entrances to Lambert North and South.
	Bus shelters and seating to be installed at each stop
	Bathroom break space available for METRO driver use
Pedestrian & Bicycle Access	*Multi-use path and sidewalks:* Construction of multi-use and sidewalk paths and wayfinding, abutting the development on Washington Avenue Extension
	ADA-accessible pedestrian amenities: Barrier-free ramp improvements
	Crosswalks: Installation of crosswalks and signage across Washington Avenue Extension.
	Other pedestrian amenities: e.g., benches, weather awning protection on community buildings
	Outdoor, within-site bicycle parking: 1 lollipop style bicycle rack (2 bike parking spaces) per every 10 units, located near the main entrance of each of the buildings
	Bicycle sheds and/or under-cover bicycle/stroller/handcart parking: for 66 bicycles, electric bikes, cargo bikes or trailers, handcarts and strollers.
	On-street bicycle parking (e.g., adjacent to sidewalks/paths and bus shelters): 1 lollipop style bicycle rack (2 bike parking spaces) in front of each of the seven buildings along Washington Avenue Extension
	Electric bicycle charging: Provide charging outlets for resident electric bikes in storage areas
	Bicycle repair station: Provide one bike repair stand convenient to bicycle parking
Shared Mobility	*Flexible passenger loading curb space(s)* for resident and visitor pick-up, drop-off and carpooling
	Carshare possibilities: With the end of UhaulCarshare service in Portland in February 2020, site owners will continue exploring other possibilities for Lambert Woods. Commit to providing two spots per side of Washington Avenue if/when a carshare program is established.
	Handcarts: To assist with loading/unloading vehicles that are parked remotely - and cargo carried on bicycles - two garden carts will be located at Lambert North and two at Lambert South for resident use
On-Site Amenities	*Co-working/community space:* Seating areas in the lobby of each and site conference room will be available for residents' use, to encourage community-building and telecommuting
	Broadband access: Hardwired infrastructure for broadband and WiFi - and free basic internet access will be available in all units and community areas
	Recreation areas: The site will include an indoor child playroom and outdoor play areas, which help reduce vehicle trips for these activities
	Fitness room: Provide on-site fitness room to reduce vehicle trips and improve resident physical fitness for active transportation

Delivery Supportive Amenities	Provide a temporary storage area on the Washington Avenue Extension frontage for daily package deliveries by FedEx and UPS, etc., laundry deliveries, and other deliveries. On-site deliveries to dwelling units will be confined to specialty deliveries such as for appliances and furniture, etc.
General Contribution to Area Transportation Improvements	Per Chapter 14 of the City of Portland Code, the property is contributing to transportation impact fees that will improve traffic operations and transportation in and around downtown Portland.
Incentives	
Parking Pricing/Incentives	*Unbundled and paid-for parking:* All residential leases at Lambert Woods will be exclusive of parking. Units designated for residents with incomes at 100% and 80% AMI levels will be charged $125 per month per parking space. Residents with incomes under 60% AMI will get parking first-come first serve and not be charged, per affordable housing financing regulations.
Transit Pass Assistance	*Transit pass purchase assistance:* Co-op Residential Services Coordinator will be able to work with residents to apply for and receive reduced-fare passes.
Targeted Promotions	*1st year Prize Drawings starting at 85%+ occupancy:* Recommend Co-op committee overseeing TDM program conduct monthly prize drawing for multi-modal residents - with benefits such as movie tickets, gift cards, etc.
	Discounts and coupons to nearby businesses - ongoing: Recommend Co-op committee work with local businesses to offer residents discounts and coupons to North Deering and West Falmouth establishments within walk/bicycling distance
TDM Coordinator	Property Manager for Lambert Woods will be TDM Coordinator for the site. The Coordinator will work with Co-op Resident Engagement Committee responsible for the site's TDM program implementation.
Information	
Education for Travel Choice	*Webpage:* Maintain active transportation-related page on property management website for residents. Page to include same info as orientation packet below.
	TDM orientation packets: new residents and sublettors will be provided with an orientation packet regarding the site's TDM program and access by various travel modes. Includes: (1) Map of area, showing the destination, major streets, nearby landmarks and time to walk/bike to them, closest bus stops and walking times, recommended bike and walk routes, any carshare locations, etc. (2) Info about transit service frequency, fares, first and last runs, and schedules if possible; plus phone numbers and web addresses for transit providers and taxi companies. (3) How to reach the site from major transportation terminals (bus/train stations, airport, ferry terminal, etc.) (4) Access arrangements for people with disabilities; (5) Availability of bicycle facilities, including secure bike parking and bikeshare, if applicable; (6) Encouragment to become members of GO MAINE and access rewards system, carpool matching and Emergency Ride Home Benefit; (7) Any carshare information and private vehicle parking availability and price; (8) Information regarding the site's TDM Plan and contacting the TDM Coordinator.
	New Resident & Employee TDM Engagement & Acknowledgement: The TDM Coordinator will engage with each new resident to share about the TDM program as part of the site's sustainability initiatives. All new residents will be provided with the site's TDM program overview goals. They will be asked to sign an acknowledgement of the goals of the project and a commitment to participate in the annual resident transportation surveys. Language will be included in the

Education for Travel Choice (cont'd)	Lambert Woods Covenant agreement regarding the City-required TDM plan, the resident TDM acknowledgement form and cooperation with annual surveying.
	Ongoing TDM program education: 1 or more times per year, TDM Coordinator or Co-op committee will email all residents (new and existing, including subletters) the same information as is in the TDM orientation packets.
	Recommend Co-op committee walking tour of multi-modal options: offer a hands-on walking tour of all the transportation options near the property. For example, a short experiential ride on the Route 9 to and from West Falmouth Crossing, including a demonstration of how to put a bicycle on the bus.
	Recommend Co-op committee offer on-site bicycle safety class: as residents show interest, host a bike safety/information class or bike repair event on-site. Recommend engage Bicycle Coalition of Maine and/or Portland Gear Hub.
	Recommend Co-op committee encourage residents with private vehicles to experiment with rental hosting of their vehicles on Turo, to expand local vehicle rental offerings and reduce the vehicle ownership needs of others
	TDM surveying: Required resident transportation surveys will also serve as an education tool
Promotion of Alternate Modes	*Outreach to employers on the Route 9A/9B:* Maine Cooperative Development Partners will develop a list of major employers within a 1/4 mile of bus stops on the 9A/9B to conduct outreach to those employers regarding housing availability at Lambert Woods, to encourage employers to offer transit passes to their employees, and for sharing with residents seeking employment
	Storytelling, social proof and resident recognition: Recommend Co-op committee build social proof of residents doing the desired TDM actions. Examples include: interviewing a multimodal resident for the Co-op newsletter, encouraging residents to post a photo of taking the bus to work, or the morning carpool, or walking or biking to the store on social media and tagging Lambert Woods, etc. 1-2 times per year, recognize individual residents who reduce the traffic impact of the site utilizing property management social media, community center door posters, newsletter, email or other announcements.

E. Plan for Monitoring, Data Collection and Reporting

Recognizing that the implementation of a TDM Plan is a dynamic process, the Lambert Woods TDM Coordinator and Co-op Resident Engagement Committee will work with the city to monitor the effectiveness of the site's TDM Plan components - and to assess whether the site is achieving the multimodal and parking ratio targets listed above. The coordinator and committee will work with residents to evaluate on-site parking use, drive alone rates, use of alternate modes of transportation, and the flexibility (and ability) of tenants to walk, bicycle, carpool, telecommute and take transit. They will also do an informal weekday overnight parking count of the on-street parking on Washington Avenue Extension. The team will utilize this information to plan for subsequent TDM efforts and improvements.

Tenant Surveys

The TDM Coordinator will conduct an annual resident survey, with at least 50% participation, that provides quantitative data (e.g., multimodal use and frequency, vehicle ownership, and parking) and qualitative data (e.g., perception of alternate transportation, area parking and the site's TDM programming). The survey will be developed in consultation with the city's TDM program manager and conform to overall city TDM modeling and planning.

Survey questions will include:

- Number of people in household
- Resident mode of travel for trips to and from the site – plus frequency of use of those modes
- Number of vehicles owned, if any
- If parking personal vehicle(s), where parked – including any assigned on-site parking spots
- Any driving during morning or afternoon peak periods
- Use of/participation in:
    - On-site multimodal support facilities (e.g., bike parking and repair stations, bus shelters, trail connections, future carshare or bikeshare, etc.)
    - Any use of site TDM infrastructure, benefits or programming
    - GO MAINE membership and participation
- Preferences/barriers/concerns with modes of travel and likelihood of behavior change with specific incentives
- Rating knowledge of walking, bicycling and using bus
- Space to add suggestions and comments

Note: the use of these survey tools will also assist Lambert Woods with its TDM education efforts. That is, the questions themselves help people think differently about their transportation behavior. The surveys will also provide a reminder of the TDM online/on-site information center and the TDM Coordinator for more information about options.

Annual Report

The TDM Coordinator will then produce an annual TDM Report to meet the city's monitoring requirements. This will be due every year on May 15, beginning within the first year after Certificate of Occupancy. The city has created a reporting template for consistency of site reports and the Co-op will utilize the most recent version of this template when beginning its reporting process. For now, it is recommended that the report include:

a. the above survey data, percent of units occupied, site parking usage, and data from informal weekday overnight on-street parking count;
b. how the data directly relates to the plan's TDM targets;
c. overview of that year's TDM operations – including management, strategies, marketing, number of contact points with residents, and any new infrastructure development;
d. lessons learned and any changes in the TDM plan during the year;
e. plans for the following year.

ACORN ENGINEERING, INC.

Planning Division
City of Portland, Maine
Attn: Sean King
389 Congress Street, 4th Floor
Portland, ME 04101

July 27, 2022

Subject: 165 Lambert Street Co-Op – Notice of Public Meeting Certification

I, Sam Lebel, hereby certify that (3) notice of neighborhood meeting signs were posted on July 26, 2022, prior to the August 9, 2022 Planning Board Meeting for the proposed project PL-002078-2022 located in the vicinity of 165 Lambert Street and 622 Auburn Street. Photo documentation of sign in-situ:

Sign Location Along Washington Avenue

Sign Location Near Auburn Street

Sign Location Near Lambert Street

Note that it is the applicant's responsibility to remove the notice of public meeting sign within three days following the date of the meeting.

Sincerely,

Samuel J. Lebel, P.E.
Project Manager
Acorn Engineering, Inc.

ADDRESS: IN THE VICINITY OF: 165 LAMBERT STREET

MEETING DATE:
AUGUST 9, 2022

APPLICATION ID: PL-002078-2022

NOTICE OF PUBLIC MEETING

CITY OF PORTLAND PLANNING BOARD

Find agenda at: www.portlandmaine.gov/agendas

For more information, call (207) 874-8719

ADDRESS: IN THE VICINITY OF: 622 AUBURN STREET

MEETING DATE:
AUGUST 9, 2022

APPLICATION ID: PL-002078-2022

NOTICE OF PUBLIC MEETING

CITY OF PORTLAND PLANNING BOARD

Find agenda at: www.portlandmaine.gov/agendas

For more information, call (207) 874-8719

ACORN ENGINEERING, INC.

Sean King, PLA
Urban Designer
389 Congress Street
Portland, ME 04101

August 2, 2022

Subject: Comment Response Letter
165 Lambert Street – Portland, Maine

On behalf of Winchester Woods LLC and the rest of the project team, we are pleased to respond to the final round of comments received.

To facilitate the review, comments are provided below in italics followed by the project team's response.

Acorn Engineering (Sam Lebel, PE) Civil Engineer
Aceto Landscape Architecture (Nick Aceto, RLA)
Kaplan Thompson Architects (Adam Wallace, RA)
Maine Cooperative Development Partners (Matt Peters and Liz Trice)

City Planning Staff Comments

Comment – *Document the existing conditions by boundary and ownership of the 0 Gray Street property in Falmouth, ME. Indicate the property and acreage for conservation use on a surveyed plan.*

Response – This is currently in progress

Comment – *Advance design of proposed facilities for the Community Pavilion, and include the intent for use. With the majority of household services (ie. grocery, playground, community and social such as child care services) are beyond the 1-mile radius, consider community pavilion as building for access to essential goods and services within the development.*

Response – The design team is actively working with the client to solidify program and design of the community pavilions.

Comment – *Maine Cooperative Development Partners plans to provide a list of major employers within a 1/4 mile of bus stops on the 9A/9B, for sharing with residents and to conduct outreach to those employers regarding housing availability at Lambert Woods.*

Response – Noted.

Comment – *Provide rationale for the proposed surface material selection, consider the addition of more concrete pavers (potentially permeable) for the mews to connect building entries and assist to delineate vehicular and pedestrian use. Maintain parking and driveways as asphalt.*

Response – The design team is working to clarify the materials plan to better reflect the intended treatment—generally, the design intent is to utilize bituminous paving for all dedicated vehicular and general pedestrian circulation areas(sidewalks). Unit pavers will be utilized at dedicated pedestrian spaces, such as adjacent to building entries, landings, and terraces, as well as at community gathering areas. Grass-pave materials are intended to be utilized where emergency vehicles may require secondary access or additional maneuvering space.

Comment – *Clarify the interior circulation pathway materials, it appears asphalt is proposed at the north and concrete pavers proposed at the south. Consider a unified surface material of concrete for the interior pathways and building entries with concrete pavers.*

Response – The plan will be revised to reflect intended unified surface treatment design.

Comment – *Provide site lighting locations and photometrics. Provide street lighting locations and photometrics along Washington Ave Extension.*

Response – A photometric plan and specifications will be included.

Comment – *Indicate where storage is provided for each dwelling unit per building type.*

Response – Storage is provided within the individual units; the design team is working to develop an open-air pavilion that will include storage space for the tenants.

Comment – *Building design; Confirm Guest suite as Studio apartments in Community Flats.*

Response – There are two different ground floor plans of the Community Flats building. The first has a Studio apartment with a smaller community room space, and the second has a Guest Suite for visitors who are staying with tenants and do not require a kitchen. This allows for larger community space on the ground floor.

Comment – *Building design; Provide variation in façade character along building facades that face Common (Building B.5, B.4, B.2 & B.1) as a more activated elevation. Consider delineation of first floor (ie. window awning, secondary entry or variation in façade material) that breaks horizontal scale of buildings longer than 40 feet.*

Response – Our team is working to address the facade treatment with a variety of cladding that will help reduce the length of the visual appearance. We are also planning to utilize the undulating roof forms above the entrances to act as a horizontal break between the first and second floors.

Comment – *Outline the organization structure of the Co-op development to acknowledge common area maintenance vs. tenant responsibilities. Applicant to describe or direct planner to documents submitted.*

Response – The tenants will be responsible for housekeeping in their unit, and the Cooperative will cover all other maintenance and property management, similar to a typical apartment complex.

Transportation & Traffic Comments

Comment – *The Traffic Assessment did not identify any High Crash Locations. Although the Washington Avenue/Lambert Street intersection is not a High Crash Location (Historically it has been a High Crash Location), I would like to understand the contributing factors for crashes. The applicant shall provide the requested information.*

Response – This request has been forwarded to the project's transportation engineer. A formal response and analysis is forthcoming.

Comment – *Given the level of traffic generation by the project, the applicant shall conduct a traffic analysis at the Auburn Street/Washington Avenue Extension and Lambert Street/Washington Avenue Extension intersections. This shall include conducting existing traffic counts. The counts and analysis shall be performed for the weekday AM and PM peak hours.*

Response – A traffic count will be performed and added to the traffic analysis report, this revised report will be provided at a later date.

Comment – *Three driveways are proposed to the development. The applicant shall provide information in support of a waiver from the City's Technical Standards. I would note that Washington Avenue Extension is classified as a Major Collector and thus minimizing access points is preferred.*

Response – Given the project is divided by Washington Ave into two distinct sites (not contiguous because of a public right-of-way), we believe that the City's Technical Standards 1.7.2.8 has been met, as no more than two driveways are proposed for each site. Additionally, both sites have been designed so that the eastern two driveways align along Washington Ave, with the western most curb cut being located as far as possible from the eastern driveways. We believe this approach to be ideal from a safety standpoint and align with the City's expectations. Although the road is a major collector, it's posted at 25mph and will be enhanced by a number of traffic calming measures.

Comment – *The plans depict a shared use path from the site to Auburn Street. The minimum width for a shared use path without constraints is 10 feet, although existing constraints by drainage system shall be considered. Applicant shall provide the design intent of the proposed multi-use path on the north side of Washington Avenue Extension. Confirm if share use path provides linkage of the Portland Trails Sebago to the Sea trail head and the Presumpscot Falls portion of the trail.*

Response – More information on the shared use path will be provided at a later date. We are studying on how to increase the width to 9' or 10'.

Comment – *The use of on-street parking spaces to meet parking demand requirements for a project has not been permitted during project reviews, zoning requires parking demand to be accommodated on site. Applicant to provide rationale behind the proposal to include the amount of on-street parking along with further justification for the amount of total parking provided for the development with the exemption for 1/4 mile from a fixed transit route.*

Response – The parking requirement is being met on site through the ¼ mile transit provision in tandem with a TDM plan. The on-street parking is generally meant for guests, traffic calming, and to ensure the project parking impacts do not encroach into the surrounding neighborhood.

Comment – *Suggest on-road bike facilities in this section of Washington Avenue Extension with the following options;*

- *Eliminate the proposed curb extensions and on-street parking to provide a dedicated 8' wide bike facility (6' width bike lane, 2' width buffer) on each side of the street.*
- *Create a shared lane bike facility as they are proposing with additional traffic calming measures such as reducing the travel lane width's down to 10.5' to provide more space between the on-street parking stalls and the travel lane by striping an outer fog lane line.*

Response – The project team is evaluating this comment.

Comment – *The waiver for aisle width (24'to 22') is being justified on reducing impervious surface. Any project can make this case – reducing pavement. The development is proposing to create 2.69 acres of impervious area. The threshold of a Maine DEP SLODA permit is the creation of 3 acres of impervious area. So that could be the angle here.*

Response – In a residential development where the vehicular users would be both familiar with the site, and experience low turnover, we believe a 22' wide drive aisle is appropriate to reduce impervious area while still providing a functional driving experience. Site constraints include grading concerns, abutter buffers, and natural resource protection given the wetlands and streams.

Public Works & Engineering

Note: Additional comments from DPW have been received as of 7/27/2022, responses to the comments are forthcoming.

Comment – *Recommend to eliminate the easterly and westerly crossing and have one dedicated crossing at the middle location with an RRFB, it seems like westerly and easterly crossing locations are in very close proximity to driveways being proposed.*

Response – More information on this comment will be provided at a later date.

Comment – *DPW will not be supportive of slip form curbing to be installed on a major collector such as Washington Avenue Extension.*

Response – The project will revise the curb type to granite.

Comment – *Current configuration of Washington Ave Ext. not sufficient. Cross section needs revisions by the applicant to consider curb bump out to account for a reduced bike lane width, striping travel lane and reduce to 10', elevated crosswalks for traffic calming. On-street parking should accommodate the development and not create overflow into the adjacent neighborhood.*

Response – More information on this comment will be provided at a later date.

Stormwater

Note: Additional comments from DPW have been received as of 7/27/2022, responses to the comments are forthcoming.

Comment – *Recommends a realistic limit of work to include staging, equipment and earthwork anticipated adjacent to wetlands to accurately depict disturbance area. Riprap is not recommended as a permanent solution and promotes a robust vegetated solution and erosion matting solution at steep grades adjacent to wetland. Consider appropriate vegetated buffers at wetland edges.*

Response – More information on this comment will be provided at a later date after further evaluation of grading constraints and the desire to minimize wetlands impacts.

Open Space & Trails

Comment – *Advocate for trails in passive wooden areas, applicant to clarify how open space requirement is being met. Coordinate with Falmouth Land Trust & Portland Trails for potential opportunities for trail connections and future recreation use.*

Response – More information on this comment will be provided at a later date. Portland Trails is currently working on a trail location through the sites.

Comment – ***TREE SAVE / Limit of Work -*** *The final plan should include a 'Tree Save' / Limit of Work designation and plan to be used prior to clearing and during construction. This would include a written plan, signage and construction fencing to prevent off site storage or materials and equipment. "Tree Save' trees should be protected with signage and fencing around the drip line. To date the plan does not show either a tree save or limit of work. The proposed project clears an extensive amount of existing forest without any tree saves or forest management suggestions? The site workclearing should include nearby forest thinning improvements for sustainable landscape and safety.*

Response – More information on this comment will be provided at a later date. A forester has been engaged and will consult with the project team on tree saves.

Comment – ***Invasive plant management -*** *The northern side of the project especially contains extensive Common Buckthorn shrubs, the project should identify, plan and remove all invasive plants as part of their clearing portion of site work. This has been a standard on other project sites where high numbers of invasive plants are located.*

Response – More information on this comment will be provided at a later date.

Comment – ***Tree & Landscape treatment -*** *We encourage high percentage use of native plants on wood sites like the proposed 165 Lambert Street project. Stevens Commons for example next to Baxter Woods successfully modified their landscape plan to a higher percentage of native species. This should be a condition of approval. The site is surrounded by natural appearing woodlands, the project should appear part of the surrounding landscape vs 'suburban'. The 'Woods at Canco' development is another successful landscape example. Thus we would ask the project not to use plants like 'Feather Reed Grass' and 'Maiden Grass' for example, and increase the native grasses like 'Little Bluestem', 'Prairie Dropseed' and other plants compatible to the New England region. The proposed tree pallet should also diversify, currently over 100 trees using only four species, recommend reducing numbers on the 'Armstrong' Red Maples from 40 to perhaps half of that and consider other tree types like the 'Beacon' and 'Regal Prince' Oak, though they are cultivars it would be nice to have a greater mix of tree types. Tree types missing: Red Oak, Swamp White Oak (use instead of the hard to establish White Oak), Tupelo, Shagbark Hickory, River Birch, Yellow Birch, White Spruce, Larch, 'Bowall', 'Red Pointe', 'Karpick' Red Maples offer a variety of other maple types depending on the desired planting space size.*

Response – A revised planting plan will be included indicating a broader variety of trees and mix of native shrubs and grasses. The design team looks forward to working with the city on more detailed design of any Public ROW improvements.

Comment – ***Tree planting spacing and sizes -*** *While regular spaced trees all in certain order adds a degree of structure to the landscape, this site might be better served by including groves of trees in a more natural arrangement. This might include a mix of plant heights like 5-6' conifers and 2" caliper trees with the larger sizes proposed. Knowing the more orderly plantings might be closer to the buildings and the natural groves of trees near the edges.*

Response – A revised planting plan will include a greater variety of native material, as well as revised layout indicating more naturalistic transitional plantings along site limits.

Comment – ***Street trees -*** *We would like to work closer with the project team to review the public 'Street tree' portion of the project. This would include species types, spacing. Applicant to include total tree count proposed.*

Response – ALA looks forward to working with the City on more detailed design and tree selection for public ROW improvements.

Comment – ***Buffering -*** *The proposed site contains existing residential boundaries with Auburn Street, and Falmouth properties on the North side and Auburn Street and Lambert Street residents on the South side, the landscape plan should address adequate buffer planting and treatment.*

Response – A revised planting plan will be provided to include considerations for buffering adjacent sites.

Comment – ***Wetlands / drainage treatment*** **-** *the use of restored wetlands, intermittent streams, raingardens was not noticed during my review and wanted to check to see if the project is favoring natural drainage features?*

Response – A formal stormwater drainage system has been designed for this project, the stormwater water will be detained, treated, and cooled through the use of underground chambers and utilization of porous pavement. The stormwater will be released back into the surrounding environment at a controlled rate to ensure the post development peak flow rates do not exceed the pre development rates. The development has been designed to be tight and compact, consolidating the infrastructure such that the overall development footprint remains minimized. As a result, intermittent rain gardens and natural drainage features are difficult to incorporate into the core site design given the competing list of site elements.

Comment – ***Recreational / Open Space*** **-** *It is essential to include a variety of onsite recreational and trail amenities for this project. The geographic location is out of walking distance to existing playgrounds and trails. (The future Haverty Field may in time offer somewhat close trails). Recreation features for youngsters could include playground structure, adventure play items, benches. Walking trails on or around the existing site should be a requirement and could match up with Fire Safety access.*

Response – The design team is actively working with the client to solidify program and design of the community spaces. The site design goals include creation of community amenities which provide benefits and may be accessible both for residents of this project as well as adjacent neighbors insofar as budget, spatial constraints, and project sequence allows.

Fire & Life Safety

Comment – *Fire truck access shall be well marked and visible from public street.*

Response – Noted, appropriate signage will be added to the plans and updated at a later date.

Comment – *Indicate appropriate snow storage and maintenance agreement to ensure fire access is clear at all times.*

Response – Noted, proposed snow storage has been depicted on the plans and is not proposed within the fire access lane. A maintenance agreement shall be prepared at a later date.

Comment – *Consider loop connection at the south development lot to gain access behind back of buildings to eliminate backing out onto Washington Ave Extension.*

Response – More information on this comment will be provided at a later date.

Comment – *Prefer alignment of fire truck access lanes where grasscrete is proposed, applicant to justify design intent.*

Response – More information on this comment will be provided at a later date.

Zoning

Comment – *Applicant to quantify and show on plans the net land area. The report from Jones Associates states that there is approximately 236,727.92 sf (5.43 acres) of delineated wetlands on the two properties. That is part of what needs to be subtracted from the net land area, but we still need to know the square footage of the watercourse (stream) and the slopes of 25% or greater. The overall site plan (sheet C-09) under Net Land Area states that 244,738 sf has been deducted from the property area to reach the net land area of 537,251 sf.*

Response – This will be clarified in the forthcoming set of plans.

Comment – *Applicant to confirm density bonus under section 18.2.4.B for PRUDs. Applicant to outline minimum lot area per dwelling unit in table.*

Response – This will be clarified in the forthcoming set of plans.

Comment – *Applicant to confirm if seeking minimum recreation open space reduction to 200/square feet of common area.*

Response – This will be clarified in the forthcoming set of plans.

Comment – *Proposed 122 parking (67 off street, 55 on street). The proposed 55 on-street parking stalls would not be counted towards required parking. R3 requires 1 parking stall per unit. Planning Board may establish a parking requirement less than 1 per unit based on affordable housing development. Applicant has provided TDM to pursue Land Use Code, Article 19, Table 19-B: Categorical Exceptions to Off-Street Parking Minimums, "No off-street parking shall be required within ¼ mile of fixed route transit service. New uses or changes of use of more than 10,000 SF taking advantage of this exception shall be required to provide a Transportation Demand Management Plan if they use this provision in lieu of parking requirements."*

Response – We agree the project is within a ¼ mile of a transit facility (and features 2 new bus shelters at the middle of the site along Washington Ave) and also provides a TDM plan, therefore there is no parking requirement.

Comment – *Confirm the minimum building setbacks being observed for the development, zoning requirement for PRUD is 16-foot separation between buildings. Affordable housing of more than 50% can be reduced to 10 feet.*

Response – Based on previous correspondence it is our understanding that this requirement was not eligible to be reduced from 16', but if our interpretation of previous correspondence was incorrect then it is desired the building separation is reduced to 10 feet.

Inclusionary Housing

Comment – *165 Lambert Street would meet the IZ requirement of 25% of the units being workforce housing at 80% AMI and over 50% low-income housing at 100% AMI for the density allowed under section 18.2.4.B. There will be 12 two-story townhouses, 48 three-story rowhomes, and 105 three-story flats - consisting of a total of 5 studios, 64 one-bedroom, 50 two-bedroom, and 46 three-bedroom units.*

Observations

Transportation & Traffic

Comment – *The applicant has conducted a Trip Generation analysis and assuming an Affordable Housing development 83 peak hour trips will be generated by the project during the worst-case peak hour. I find the methods used to estimate trip generation to be reasonable. I would further note that this level of trip generation does not require a Traffic Movement Permit.*

Response – Noted, thank you for the review.

Comment – *As noted in the report acceptable sight distance will be provided from the proposed driveways assuming vehicle speeds of 25MPH. I find conditions to be acceptable.*

Response – Noted, thank you for the review.

Comment – *In terms of cross-section – they are proposing 11-foot lanes and 8-foot parking lanes. The exception is at the bus stop where it will be 10.5' lanes and 10-foot shoulders. This seems okay to me.*

Response – Noted, thank you for the review.

Transportation & Traffic

Comment – *The improvements at Auburn Street need a detailed review and approval. ADA ramps need to be revised.*

Response – A detailed design of the Auburn Street intersection improvements will be revised and submitted at a later date.

Comment – *The improvements at Lambert Street need a detailed review and approval. DPW observes that the curbing alignment at this intersection might have an adverse impact on plowing operations.*

Response – A detailed design of the Lambert Street intersection improvements will be revised and submitted at a later date.

Please let us know if you have any additional questions or comments.

Sincerely,

Samuel J. Lebel, P.E.

Nathan PP Holt, E.I.

Project Manager
Acorn Engineering, Inc.

Project Engineer
Acorn Engineering, Inc.

ACORN ENGINEERING, INC.

Sean King, PLA
Urban Designer
389 Congress Street
Portland, ME 04101

September 26, 2022

Subject: Comment Response Letter
165 Lambert Street – Portland, Maine

On behalf of Winchester Woods LLC and the rest of the project team, we are pleased to respond to the final round of comments received.

To facilitate the review, comments are provided below in italics followed by the project team's response.

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Aceto Landscape Architecture (Nick Aceto, RLA) Landscape Architect
Kaplan Thompson Architects (Adam Wallace, RA) Architect
Maine Cooperative Development Partners (Matt Peters & Liz Trice) Developer

City Planning Staff Comments

Comment – *Document the existing conditions by boundary and ownership of the 0 Gray Street property in Falmouth, ME. Indicate the property and acreage for conservation use on a surveyed plan.*

Response – Please refer to revised Survey prepared by Owen Haskell, Inc. The property acreage in Falmouth consists of 14.74 acres. The areas slated for conservation will be determined at a later date.

Comment – *Advance design of proposed facilities for the Community Pavilion, and include the intent for use. With the majority of* household *services (ie. grocery, playground, community and social such as child care services) are beyond the 1-mile radius, consider community pavilion as building for access to essential goods and services within the development.*

Response – The community pavilion will provide outdoor, covered gathering space with integrated seating along with space for enclosed storage and bicycle parking. The pavilions will anchor the community commons and provide a transitional edge between parking and community space.

Comment – *Provide rationale for the proposed surface material selection, consider the addition of more concrete pavers (potentially permeable) for the mews to connect building entries and assist to delineate vehicular and pedestrian use. Maintain parking and driveways as asphalt.*

Response – The design intent is to utilize bituminous paving for all dedicated vehicular and general pedestrian circulation areas (sidewalks). Unit pavers will be utilized at dedicated pedestrian spaces, such as adjacent to building entries, landings, and terraces, as well as at community gathering areas. Grass-pave materials are intended to be utilized where emergency vehicles may require secondary access or additional maneuvering space.

Comment – *Clarify the interior circulation pathway materials, it appears asphalt is proposed at the north and concrete pavers proposed at the south. Consider a unified surface material of concrete for the interior pathways and building entries with concrete pavers.*

Response – The plan will be revised to reflect intended unified surface treatment design.

Comment – *Provide site lighting locations and photometrics. Provide street lighting locations and photometrics along Washington Ave Extension.*

Response – A photometric plan and specifications will be included.

Comment – *Indicate where storage is provided for each dwelling unit per building type.*

Response – Storage is provided within the individual units; the design team is working to develop an open-air pavilion that will include storage space for the tenants.

Comment – *Building design; Confirm Guest suite as Studio apartments in Community Flats.*

Response – There are two different ground floor plans of the Community Flats building. The first has a Studio apartment with a smaller community room space, and the second has a Guest Suite for visitors who are staying with tenants and do not require a kitchen. This allows for larger community space on the ground floor.

Comment – *Building design; Provide variation in façade character along building facades that face Common (Building B.5, B.4, B.2 & B.1) as a more activated elevation. Consider delineation of first floor (ie. window awning, secondary entry or variation in façade material) that breaks horizontal scale of buildings longer than 40 feet.*

Response – Our team is working to address the facade treatment with a variety of cladding that will help reduce the length of the visual appearance. We are also planning to utilize the undulating roof forms above the entrances to act as a horizontal break between the first and second floors.

A response letter has been prepared by the architect and has been included as an attachment to this response letter.

Comment – *Outline the organization structure of the Co-op development to acknowledge common area maintenance vs. tenant responsibilities. Applicant to describe or direct planner to documents submitted.*

Response – The tenants will be responsible for housekeeping in their unit, and the Cooperative will cover all other maintenance and property management, similar to a typical apartment complex.

Transportation & Traffic Comments

Comment – *The Traffic Assessment did not identify any High Crash Locations. Although the Washington Avenue/Lambert Street intersection is not a High Crash Location (Historically it has been a High Crash Location), I would like to understand the contributing factors for crashes. The applicant shall provide the requested information.*

Response – This information has been included within the revised Traffic Analysis Report.

Comment – *Given the level of traffic generation by the project, the applicant shall conduct a traffic analysis at the Auburn Street/Washington Avenue Extension and Lambert Street/Washington Avenue Extension intersections. This shall include conducting existing traffic counts. The counts and analysis shall be performed for the weekday AM and PM peak hours.*

Response – Please refer to the revised Traffic Analysis report for this information.

Comment – *Three driveways are proposed to the development. The applicant shall provide information in support of a waiver from the City's Technical Standards. I would note that Washington Avenue Extension is classified as a Major Collector and thus minimizing access points is preferred.*

Response – Given the project is divided by Washington Ave into two distinct sites (not contiguous because of a public right-of-way), we believe that the City's Technical Standards 1.7.2.8 has been met, as no more than two driveways are proposed for each site. Additionally, both sites have been designed so that the eastern two driveways align along Washington Ave, with the western most curb cut being located as far as possible from the eastern driveways. Although the road is a major collector, it's posted at 25mph and will be enhanced by a number of traffic calming measures.

In the event the City's interpretation of this ordinance is not in agreement with the Development team's interpretation, we would request a waiver given the need for access from several parties including the Portland Fire Department, residents, the solid waste contractor, and mail services. Given the project contains nearly 3,000 feet of legal street frontage, three curb cuts represents a modest approach in order to provide the necessary access to both sides of Washington Ave Extension while complying with the various other Site Plan and NFPA standards.

Comment – *The plans depict a shared use path from the site to Auburn Street. The minimum width for a shared use path without constraints is 10 feet, although existing constraints by drainage system shall be considered. Applicant shall provide the design intent of the proposed multi-use path on the north side of Washington Avenue Extension. Confirm if share use path provides linkage of the Portland Trails Sebago to the Sea trail head and the Presumpscot Falls portion of the trail.*

Response – After multiple conversations with DPW and the City's traffic peer reviewer, the design team is proposing two 8' wide multi-use pathways along a segment of the project's frontage on Washington Ave. Though not 10' in width due to constraints presented by adjacent wetlands and

drainage ditches, by providing two separate pathways this will help alleviate any congestion on the multi-use paths. The paths will connect to the existing sidewalk along Auburn Street which provides linkage to the Portland Trails Sebago to the Sea trail head as well as the Presumpscot Falls trail. This link will also allow children destined for the various schools an ability to safely cross in the tandem with the relocated crosswalk on the south side of the Auburn/Washington Ave intersection. This crosswalk has been designed with a curb extension and Rapid Flashing Beacon (RFB) and is outlined further in the Traffic Analysis Report and civil plans.

Comment – *The use of on-street parking spaces to meet parking demand requirements for a project has not been permitted during project reviews, zoning requires parking demand to be accommodated on site. Applicant to provide rationale behind the proposal to include the amount of on-street parking along with further justification for the amount of total parking provided for the development with the exemption for 1/4 mile from a fixed transit route.*

Response – The parking requirement is being met on site through the ¼ mile transit provision in tandem with a TDM plan. The on-street parking is generally meant for guests, traffic calming, and to ensure the project parking impacts do not encroach into the surrounding neighborhood should the parking demand be greater than the on-site supply. Overall, this project intends to follow both "smart growth" and "complete streets" principles which entails a compact site design that preserves wetlands while transforming the roadway into more of an urban condition that features multimodal transportation opportunities instead of prioritizing automobiles and tractor trailers.

Comment – *Suggest on-road bike facilities in this section of Washington Avenue Extension with the following options;*

- *Eliminate the proposed curb extensions and on-street parking to provide a dedicated 8' wide bike facility (6' width bike lane, 2' width buffer) on each side of the street.*
- *Create a shared lane bike facility as they are proposing with additional traffic calming measures such as reducing the travel lane width's down to 10.5' to provide more space between the on-street parking stalls and the travel lane by striping an outer fog lane line.*

Response – The second recommendation has been pursued by the design team, as the design now proposes a travel lane width at 10.5' with an outer fog lane line. We believe this approach to be optimal as it allows for on street parking and reduced traffic speeds while minimizing the impact on the surrounding neighborhood. Additionally, two multi-use paths will allow bicyclists the opportunity to cycle out of the main travel way if they are not comfortable sharing the roadway with vehicles. Additionally, an Alternatives Analysis for the streetscape has been prepared by the project team. Please refer to W. Alternative Street Design Analysis for more information.

Comment – *The waiver for aisle width (24'to 22') is being justified on reducing impervious surface. Any project can make this case – reducing pavement. The development is proposing to create 2.69 acres of impervious area. The threshold of a Maine DEP SLODA permit is the creation of 3 acres of impervious area. So that could be the angle here.*

Response – In a residential development where the vehicular users would be both familiar with the site, and experience low turnover, we believe a 22' wide drive aisle is appropriate to reduce impervious area while still providing a functional driving experience. Site constraints include grading concerns, abutter buffers, and natural resource protection given the wetlands and streams. By reducing the drive aisle to 22', it gives extra room to provide the desired site program while also allowing adequate buffers between natural resources and neighbors.

Public Works & Engineering

Comment – *Recommend to eliminate the easterly and westerly crossing and have one dedicated crossing at the middle location with an RRFB, it seems like westerly and easterly crossing locations are in very close proximity to driveways being proposed.*

Response – The three initially proposed crosswalks have been replaced with two raised crosswalks. The raised crosswalk is intended to reduce motorists' speeds as they enter the center of the development adjacent to the proposed bus stops. The distance between the crosswalks have been increased and are located at eastern and western edge of the center of the project where there is anticipated to be the most pedestrian activity. The crosswalk locations should help frame the portion of Washington Ave with the highest pedestrian density and serve as an additional traffic calming measure.

Comment – *DPW will not be supportive of slip form curbing to be installed on a major collector such as Washington Avenue Extension.*

Response – The project has revised the curb type to granite.

Comment – *Accommodations for on-road bike facilities in this section of Washington Avenue Extension shall be implemented as part of the design. There appear to be two outcomes to provide consistent bike facilities through this corridor:*

- *Eliminate the proposed curb extensions and on-street parking to provide an 8' wide dedicated bike lane on each side of the street.*
- *Create shared bike/motor vehicle travel lanes as currently being proposed with additional traffic calming measures such as reducing the travel lane widths down to 10'-10.5' in an effort to provide more space between on-street parking stalls and the travel lane. This could be accomplished by striping an outer fog lane line to the desired width.*
- *DPW would like further rationale for the development's proposed parking strategy before providing formal comments/acceptance of the proposed Washington Avenue Extension layout.*

Response – The second recommendation has been pursued by the design team, as the travel lane width has been reduced to 10.5' with an outer fog lane line. We believe this approach to be best as it allows for on street parking, will help slow traffic, and have the least impact on the surrounding neighborhood. With regards to the development's parking strategy, the off-street parking demand is met through the internal parking spaces proposed, a TDM has been prepared which outlines the parking rationale. The on-street parking is generally meant for guests, traffic calming, and to ensure the project parking impacts do not encroach into the surrounding neighborhood should the project's demand exceed the on-site parking supply. During City snow bans, the Co-Op will be responsible for signing the site and notifying residents the rules and regulations relating to plowing. The Developer has been in communication with Harrison Lyseth elementary school to provide a location for temporary snow ban parking and have been actively engaging other surrounding businesses and organizations. Additionally, an Alternatives Analysis for the streetscape has been prepared by the project team. Please refer to W. Alternative Street Design Analysis for more information.

Comment – *The applicant should revise the width of the proposed curb extensions to 6'-7' to provide more lane width for cyclists using the proposed shared travel lane on Washington Avenue Extension. The applicant should provide a minimum transition length of 20' at the start/end of each curb extension.*

Response – The curb extensions have been reduced to 6' per request with a minimum 20' transition length.

Comment – *DPW suggests eliminating the easterly and westerly mid block Washington Avenue Extension crossings and consider creating one raised crosswalk at the crossing location near station 6+80 to provide enhanced pedestrian visibility and further traffic calming in this corridor.*

Response – The three initially proposed crosswalks have been replaced with two raised crosswalks.

Comment – *DPW will not be supportive of the applicant's waiver request to utilize slip form concrete curbing on Washington Avenue Extension in lieu of granite curbing. The applicant should also note that the full radius of each driveway entrance shall be constructed of granite curbing per tech manual standard 1.7.2.5.*

Response – The project has revised the proposal to include granite curb.

Comment - *DPW is requesting that the applicant install a RRFB unit at the proposed Auburn Street at Garsoe Drive crosswalk location.*

Response – Based on discussions with DPW, the crosswalk location has been relocated to the south on Auburn Street. This design modification was made in attempt to provide a safer crossing for children walking to the Lyman Moore school to the south of the project. An RFB has been added to this crossing in tandem with a curb extension.

Comment - *DPW is requesting to meet with the applicant's engineer to better understand the proposed horizontal alignment and curbing changes being proposed at the Washington Avenue intersections with Lambert Street and Auburn Street*

Response – This meeting has occurred, and we believe both the design team and DPW are in agreement with the expectations for the intersection designs.

Comment - *Changes to the design of the Washington Avenue ADA ramps at Lambert Street should be considered to better align the ramp with the direction of egress across the proposed crosswalk.*

Response – Please refer to the revised ADA ramps at the Lambert/Washington intersection to better direct pedestrian egress across the crosswalk.

Comment - *DPW is requesting further information to better understand the design intent of the multi-use path being proposed on the northside of Washington Avenue Extension. If implemented, the path would ideally be a minimum of 10' wide and extend the entire length of Washington Avenue from Lambert Street to Auburn Street to help provide further connectivity for the Portland Trail network.*

Response – Given the constraints involving wetlands and the existing drainage ditch, we feel it most appropriate to provide two 8' wide multi-use paths along a portion of Washington Ave, as discussed in our meetings. Based on the wetland geometry this approach will result in less overall wetland fill while also helping to relieve congestion on the multi-use path by providing multiple routes of travel in tandem with a shared-use travel lane with bicycle sharrows and buffer area between the travel lane and on-street parking.

Comment - *The applicant should consider ways to provide a 3' minimum esplanade for the proposed sidewalks and pathways being proposed on Washington Avenue extension.*

Response – Given the site constraints regarding the existing ditch line and/or wetlands adjacent to the right-of-way, as well as request to provide alternative bicycle transportation routes through two multi-use pathways, there is limited opportunity to provide esplanades. Where feasible, we have implemented this technique such as the Auburn Street crosswalk which features an esplanade between the bike lane and travel way. We have also implemented esplanades between the transitions at the truck aprons and on-street parking/curb extensions.

Comment - *The applicant should provide further information on how proposed tree placement within the Washington Avenue Extension right of way could affect site line visibility of pedestrians at proposed crosswalk ramp locations.*

Response – Street trees proposed within the right of way are generally located outside critical sight triangles at driveway intersections. All trees proposed within the ROW and near driveway intersections will be deciduous species with crown heights above 5-6' minimum.

Comment - *The site plan refers to a driveway detail which could not be located in the plan set. The applicant should provide this driveway detail and provide information how the proposed driveway designs will meet sidewalk ADA requirements.*

Response – Please refer to Sheet C-40 which has the driveway detail meeting ADA requirements.

Comment -

- *It appears that a fire truck will have trouble circulating through the site without driving over proposed curbing based on a review*
- *DPW suggests moving the development's proposed internal sanitary sewer outside of the footprint of the proposed porous pavement system.*
- *The applicant should consider signage to discourage on-site drivers from driving down and parking along the proposed emergency access roads corridor.*

Response –

- Flush curbing is proposed on the internal curves within the mews and will not impact circulation of a fire truck.
- The internal sanitary sewer has been relocated outside of the porous pavement.
- Please refer to the revised site plan which prohibits parking along the emergency access route.

Comment – *Current configuration of Washington Ave Ext. not sufficient. Cross section needs revisions by the applicant to consider curb bump out to account for a reduced bike lane width, striping travel lane and reduce to 10', elevated crosswalks for traffic calming. On-street parking should accommodate the development and not create overflow into the adjacent neighborhood.*

Response – In coordination with DPW, please refer to the revised plans which provide multi-use pathways as an additional bicycle transportation route, reduced curb bump out widths, and a 10.5' striped travel lane.

Comment – *DPW is requesting that the applicant team look at alternative traffic calming measures at the Lambert/Washington and Auburn/Washington intersections. We are not in favor of the utilizing sloped granite truck aprons at these locations. We suggest referencing Maine DOT's guidance for the use of traffic calming devices. We also expect the previously requested traffic analysis at each intersection will further inform our opinion regarding the proposed changes to the intersections including but not limited to the turning radii at each location and the eastbound lane reduction at Auburn Street.*

Response – The project is now proposing flush reinforced concrete truck ramps at the intersection of Lambert/Washington as well as Auburn Washington. The truck ramps will be sloped up from the edge of pavement to the sidewalk ranging from 1.5% to 4" depending on distance from pavement to curbing along the sidewalk. The sidewalk is currently proposed with a 4" reveal as the concrete ramp rises 3" from pavement to curbline.

Comment – *Any curb extensions utilized should extend out a maximum of 6' from the proposed gutterline/edge of pavement.*

Response – The curb extensions have been revised to a 6' width.

Comment – *DPW is requesting that the applicant find a way to install 10' wide multi use paths on both sides of Washington Avenue extension if separated on-road bike facilities can't be provided as a result of the on-street parking being proposed. The applicant agreed to complete an alternatives analysis to see what can be fit in. 10' multi-use paths are typically required and preferred. It is possible that site constraints might warrant a reduction to 8' per DOT guidance.*

Response – Please refer to Section W Alternatives Analysis. The project team is proposing an 8' wide multi-use path on both sides of the street in conjunction with sharrows and buffer area in the roadway for bicyclists.

Comment – *DPW would be willing to support the proposed on street parking layout if the applicant can address two main concerns: 1.) Providing a safer biking alternative through the use of multi-use paths. 2.) Addressing snow ban/plowing operational concerns. The fundamental questions is: If residents are utilizing the on-street parking, where will cars be moved during a city wide snow parking ban to ensure the City can properly plow the parking stalls.*

Response – As discussed in the Alternatives Analysis, the revised treatment of Washington Ave provides a safer biking alternative through the use of multi-use paths. The owners have been in communication with Harrison Lyseth elementary school to provide a location for temporary snow ban parking and have been actively engaging other surrounding businesses and organizations.

Comment – *DPW is requesting that the applicant team look into reducing the number of mid block crossings from 3 to 2 as discussed in the meeting. DPW would support the idea of a raised speed table in this midblock zone to enhance pedestrian visibility and overall safety.*

Response – The midblock crossings have been revised from 3 to 2 along Washington Ave. These crossings will be raised to help further calm traffic and improve pedestrian safety. After consideration of the midblock speed table, it is not being pursued at this time as funding for public improvements is being prioritized towards the Auburn crosswalk and the truck aprons.

Comment – *It's DPW's position that the applicant will need to request a waiver and further justification for proposing three driveway locations. Based on the amount of traffic on this major collector road, DPW maintains that driveway locations should be minimized. It's acknowledged that the applicant team is trying to make the case that this development site should be treated differently since the site is bisected by the City's Washington Avenue Extension right of way.*

Response – Given the project is divided by Washington Ave into two distinct sites (not contiguous because of a public right-of-way), we believe that the City's Technical Standards 1.7.2.8 has been met, as no more than two driveways are proposed for each site. Additionally, both sites have been designed so that the eastern two driveways align along Washington Ave, with the western most curb cut being located as far as possible from the eastern driveways. Although the road is a major collector, it's posted at 25mph and will be enhanced by a number of traffic calming measures.

In the event the City's interpretation of this ordinance is not in agreement with the Development team's interpretation, we would request a waiver given the need for access from several parties including the Portland Fire Department, residents, the solid waste contractor, and mail services. Given the project contains nearly 3,000 feet of legal street frontage, three curb cuts represents a modest approach in order to provide the necessary access to both sides of Washington Ave Extension while complying with the various other Site Plan and NFPA standards.

Please refer to the "F. Waivers" document for the team's waiver request and justification regarding the three driveway locations.

Comment – *DPW is requesting that the applicant consider installing a crosswalk to the south of the Washington Avenue/Auburn intersection with an RRFB to provide a safer school crossing route for kids walking from the development site towards Lyseth-Lyman Moore. There was agreement in the meeting that this crossing would most likely provide more public benefit than the proposed crosswalk location at the Auburn/Garsoe intersection.*

Response – Please refer to Sheet C-35 for the proposed crosswalk design and relocation. We believe the proposed design provides the appropriate balance between plowing concerns, pedestrian safety, and bicyclist safety. To summarize, a curb extension with an RFB has been provided on Auburn Street to reduce the pedestrian crossing distance from approximately 44' to 26' of clear width pavement. The bicycle lanes have been rerouted around the crossing with a paved bike ramp. This design continues to be finessed as we reach out to various stakeholders including DPW and the Bicycle Coalition of Maine.

Comment – *DPW is willing to reconsider the bio retention cells being proposed in Washington Avenue Extension depending on the outcome of the cross section alternatives analysis we have requested.*

Response – Noted, the bioretention cells have not been affected from the alternatives analysis and will help treat stormwater runoff created by the existing roadway. These biocells are not being proposed to meet treatment requirements on site.

Comment – *DPW is requesting that the applicant conduct an evaluation of the pavement structure condition, particularly in the existing shoulder areas, to ensure adequacy for future loadings (shoulder pavement design can be different from travel lanes) as part of the project's geotechnical analysis. The scope and methodology of the test pits/borings shall be coordinated with DPW.*

Response – The future geotechnical investigations will feature test pits/borings of the existing road shoulder; the results will be forwarded to DPW. Should the shoulders lack sufficient subbase material, they will be box cut and replaced with adequate materials and depth, or an alternative method such as geogrid reinforcement may be proposed subject to review and approval by DPW.

DPW Water Resources Comments:

Comment – *DPW is seeking further clarification and rationale for the number of stormwater outfalls and the corresponding pipe sizes being proposed to tie into the City's existing ditch lines on Washington Avenue Extension. It appears that the applicant is anticipating greater stormwater flows leaving the development site than what is indicated in the stormwater management report post development POI # 1 flow rate. The existing closed storm drain system at the SW corner of Lambert and Washington is a 15" circular pipe. DPW is concerned that any additional flows may cause downstream flooding issues, especially during large events.*

Response – The stormwater report accurately depicts the anticipated peak stormwater flows based on the hydrologic analysis for not only the private development, but also considers the right of way improvements. The north side of the project features three (3) outlets into the City's existing ditch line along Washington. The eastern most outlet pipe is an 8" pipe that outlets proposed Rain Garden #1. Moving to the west, the next outlet pipe is an 18" storm drain that outlets the proposed underdrain subsurface sand filter proposed to treat and detain runoff from the northern site. The pipe diameter of this outlet pipe exceeds the diameter of the downstream 15" outlet at the Lambert/Washington intersection; however, the governing variable while sizing the pipe wasn't from a hydraulic capacity perspective, but rather to ensure minimum velocities and slopes are met. However, we have downsized the 18" pipes to 15" pipes which are more than adequate for the proposed outflow. The western most outlet is an 8" pipe that connects into the underdrain for Rain Garden #2. In summary, only one pipe conveying private runoff is proposed to daylight into the northern ditch, and it is not anticipated to create downstream flooding due to large subsurface detention facilities proposed on site.

We have removed two outlets on the southern side of the site. The only private outlet is now a 15" pipe which was sized to minimize the pipe run and slope, and is oversized from a hydraulic capacity standpoint.

Comment – *The applicant shall provide further information regarding flows anticipated within the ditch lines and shall complete an analysis to determine if further improvements to the existing ditch lines are necessary to accommodate the additional stormwater flow and to protect against potential scouring of the ditch channel and embankments.*

Response – The HydroCAD modeling features the northern and southern ditch lines as reaches to analyze the impact of the project. In accordance with Maine DOT standards, grassed ditches shall be designed with longitudinal grades between 0-6%, to withstand flow from a 10-year storm with velocities not to exceed 5 ft/sec, and the road subgrade to maintain 0.5' of freeboard above the water level within the ditch. As such, the project meets all three of the above criteria assuming a 25" road profile depth on Washington Ave. Please refer to the Stormwater Management Report for more information.

Furthermore, the project demonstrates maintenance, or reduction, of peak flows to this ditch line when compared to the existing condition. All pipe outfalls will be armored with riprap which will act as a plunge pool, dissipating energy before the water enters the grassed portion of the ditch.

Comment – *The storm water pipe discharge angles of SD 1.1, 6.1 and 8.1 into the Washington Avenue Extension ditch lines should be revised such that flow is discharged more in line with the main flow line of the ditch.*

Response – Please see the revised plans which the angle of the outlet pipe daylighting closer to the angle of the main flow line of the ditch.

Comment – *DPW has concerns that the proposed south side level spreader # 2 discharge will flow towards private property.*

Response – Please see the revised plans where the level lip spreader has been shifted to the east so that the sheet flow coming out of the level lip spreader is directed towards the stream rather than private property.

Comment – *The applicant shall provide further detail about the proposed catch basin inlet improvements at the end of the southerly and northerly Washington Ave extension ditch lines. The applicant should specify a beehive grate with proper inlet capacity to drain the proposed ditch line flows. These proposed inlets should be surrounded with a 5' riprap/geotextile fabric perimeter at least 12"-18" thick below the proposed inlet rim elevations. The applicant should provide a detail in the plan set for the proposed improvements to this inlet.*

Response – Please refer to the revised plans and detail for the catch basin located at the terminal end of the northern ditch. Additionally, a culvert with a riprap apron has been added to the end of the southern ditch such that the existing structure location can be maintained given the existing cross culverts.

Comment – *The applicant shall submit further information and design detail for the rip-rap energy dissipation pads at locations where the development's proposed storm drain systems daylight into the existing Washington Avenue ditch line.*

Response – Please refer to the revised plans which includes specifications for the plunge pools.

Comment – *The applicant should specify on the plans how the southerly and northerly ditch lines will be permanently stabilized.*

Response – Although only small portions of the ditchline are proposed to be disturbed, based on recommendations per the DEP's Erosion and Sediment Control Field Guide, it is proposed to install temporary check dams within the northern and southern ditch lines to help reduce velocity to mitigate against erosion and promote the settling of fine particles from flows. The check dams will be removed once the ditch has achieved 95% vegetive cover. The channel will be permanently stabilized with seed and an erosion control blanket.

Comment – *The applicant should update the project erosion control and construction management plans to include work in the right of way and specify measures to prevent erosion of the City's ditchline and sediment transport into the City's separated storm drain system.*

Response – Please see revised erosion control and construction management plans.

Comment – *DPW Water Resources is not supportive of the proposed rain gardens located within the Washington Avenue Extension right of way. If further treatment/flow attenuation is needed to meet regulatory requirements, it shall be provided on the development site.*

Response – Based on our correspondence with DPW, we are under the impression the rain gardens may be considered further. The treatment and flow attenuation requirements from the City and DEP are met with the BMPs proposed on private property. The proposed rain gardens in the public ROW are meant to treat existing runoff from the roadway, particularly for the "first flush", or 0.5" which features the highest concentration of pollutants. The Developer intends to fund and construct the rain gardens as a public improvement in tandem with the traffic calming implementations.

Comment – *DPW is requesting that the applicant grants the City of Portland permanent drainage easements for any proposed stormwater inlet or discharge points on private property providing drainage for the Washington Avenue Extension Street right of way. These drainage easements shall be a minimum of 30' long by 30' wide.*

Response – Noted, drainage easements will be prepared at a later date as requested.

Stormwater

Comment – *The project is required to comply with MaineDEP Chapter 500 and City of Portland Section 5 standards for stormwater management.*

- *Basic Standards – The project is providing for erosion and sedimentation controls on the site, and has provided two plans one each for the areas north and south of Washington Avenue. On Plan C-04, some of the work area extends off of the page and there is also an area where site drainage could exit the site that does not have perimeter erosion control – these areas should be updated. Work is also proposed for areas along Washington Avenue, and similar erosion control measures should be identified for those impact areas as well.*

- *General Standards – Stormwater treatment is being provided on the site using underdrained subsurface sand filters and porous pavement.*

    - *The Applicant should address the depth of groundwater. The subsurface sand filter and soil filter details include an impermeable liner, but the porous pavement detail does not.*
    - *The report does not address the design of the proposed soil filters along Washington Avenue. The City has expressed some concern with utilizing these underdrained soil filters, so further coordination will be required.*

Response –

- Please refer to the revised construction management and erosion control plan which now includes the right-of-way work as well proposed work within private property. The perimeter controls on the south site have been revised to enclose the proposed disturbed area.
- A geotechnical investigation is scheduled and the groundwater depths will be provided at a later date. A plethora of underdrains are proposed as part of this project which is anticipated to dewater any seasonal groundwater that may impede on subsurface infrastructure.
- We have been in coordination with DPW, our understanding is that they will reconsider accepting the proposed BMPs in the right-of-way as they are not used to satisfy the quantity or quality requirements for the project.

- *Flooding Standards – The Applicant has noted that the Flooding Standard has been met, primarily maintaining flows at the pre-development condition. I have reviewed the HydroCAD model and have the following comments.*
    - *The Applicant is utilizing a method of evaluating flow through porous pavement with a large time of concentration that I am not familiar with, but I am continuing to review. I am specifically interested in understanding more about how the use of the large time of concentration works with also separately modeling the porous pavement's storage and flow-through. I will continue to review and will provide additional comment as required.*
    - *The Applicant should review the time of concentration calculations for areas that are remaining as undeveloped. In some cases it appears that surface types may have been modified from the pre-development to post-development models resulting in larger TC values in the post-development condition.*
    - *The North and South grading and drainage plans both include drainage structures and stormdrain pipes. The numbering of these structures and pipes includes the same numbers on both the north and south project areas. It is suggested that the Applicant consider some kind of naming distinction as there could be some confusion when distinguishing the different project areas.*
    - *The Applicant should review the drainage structure rims with the proposed site grading that is shown on the plans – in some areas of the site the grades seem to be different than the structure rims. For example, CB6 on the southern project area appears higher than site grades; similarly CB2 on the northern project area is also slightly higher. The catch basins will provide the overflow backup for the permeable pavement, so they should be set at low points to be able to collect stormwater in higher intensity storm events or in the event that areas of the permeable pavement becomes clogged.*

Response –

- The time of concentration method used for the porous pavement is in accordance with research provided by the University of New Hampshire's Stormwater Center. Source: Ballestero, Thomas, UNHSC. "Real Time Hydrology of Permeable Pavements" Philadelphia Low Impact Development Symposium, 2011. Part of the rationale is that the Curve Number (CN) input for porous pavement is 98 which is what traditional impervious pavement is rated at. If an alternative method of analyzing the attenuation provided from the robust porous pavement profile were determined or utilized with a lower Tc method, the CN would drop dramatically. Currently, the approach presented in the Stormwater Management Report and HydroCAD modeling is the industry standard based upon our research, experience, and past submissions, both at the local and State levels.
- The time of concentrations have been reconciled in the pre and post development condition.
- A naming convention for the north and south drainage networks has been incorporated to help avoid confusion.
- The structure rims have been revised.

Comment – *The utility plan shows the proposed locations of an electric utility pole and guywire east of the driveway and north of Washington Avenue. Please clarify what work may be necessary to install this utility infrastructure, and if this is part of the identified wetland impacts.*

Response – This is a potential utility pole location, ultimately the final location will be per CMP. Any work that is required within the wetland will be included within the Tier 1 NRPA permit.

Comment – *The potential snow storage locations that have been identified on the plans should be reviewed with proposed landscaping for conflicts. It appears that some areas may overlap with proposed trees.*

Response – Snow storage and planting areas have been coordinated to eliminate or reduce conflicts.

Comment – *The proposed landscape plans for the Washington Avenue work should be coordinated with the site plans. The landscape plans do not appear to show the entire area, they do not account for proposed stormwater features, and it appears that trees are proposed within stormwater swales, and in some cases on slopes that are identified on the site plans as rip rap. Any proposed on-street vegetation should also be coordinated with utilities.*

Response – Planting plans have been updated to reflect site plans.

Comment – *City of Portland Department of Public Works has provided a number of comments about the proposed stormwater management system, in particular for the work proposed within the Washington Avenue Right of Way. I would echo their comments, and would note that one area that needs some further clarification is the section from stations 9+00 to 13+50. Based on the grading plan, it is not completely clear where drainage will be directed, and what impacts drainage may have on off-site areas.*

Response – It is proposed to collect the runoff from Washington Ave with catch basins located along the gutter line. Near Sta 9+50, there are two catch basins proposed on opposite sides of the road. The northern structure will outlet into a riprapped plunge pool/spreader in a similar manner to the

existing condition. The southern catch basin will discharge to a 12" level lip spreader and then flow towards the wooded buffer in a similar manner to the existing condition.

Comment – *Recommends a realistic limit of work to include staging, equipment and earthwork anticipated adjacent to wetlands to accurately depict disturbance area. Riprap is not recommended as a permanent solution and promotes a robust vegetated solution and erosion matting solution at steep grades adjacent to wetland. Consider appropriate vegetated buffers at wetland edges.*

Response – Please see revised sheet C-03 that depicts erosion control measures adjacent to the wetland edge as well as revised sheet C-33 that now depicts an option for an engineered geotextile fabric proposed on a 1.5:1 slope near Sta. 9+00-13+00. Depending on the geotechnical evaluation of the project, a "green" alternative may be implemented in lieu of riprap, but both options are currently being left open. An advantage of riprap is it allows for steeper slopes which decreases the encroachment into the wetlands. The proposed riprap areas are also adjacent to the roadway which is a standard location for implementation of riprap.

Open Space & Trails

Comment – *Advocate for trails in passive wooden areas, applicant to clarify how open space requirement is being met. Coordinate with Falmouth Land Trust & Portland Trails for potential opportunities for trail connections and future recreation use.*

Response – We have been in coordination with Portland Trails; there is not a final trail design yet but a note has been added to the plans that states the future trails are to be coordinated with Portland Trails.

Comment – ***TREE SAVE / Limit of Work -*** *The final plan should include a 'Tree Save' / Limit of Work designation and plan to be used prior to clearing and during construction. This would include a written plan, signage and construction fencing to prevent off site storage or materials and equipment. "Tree Save' trees should be protected with signage and fencing around the drip line. To date the plan does not show either a tree save or limit of work. The proposed project clears an extensive amount of existing forest without any tree saves or forest management suggestions? The site workclearing should include nearby forest thinning improvements for sustainable landscape and safety.*

Response – A forester has been contacted for this project and has visited the site to mark out potential tree saves. The proposed tree saves have been included on the latest set of plans. A narrative will be prepared at a later date.

Comment – ***Invasive plant management -*** *The northern side of the project especially contains extensive Common Buckthorn shrubs, the project should identify, plan and remove all invasive plants as part of their clearing portion of site work. This has been a standard on other project sites where high numbers of invasive plants are located.*

Response – Please see the revised document titled "Q. Construction Management Plan" which includes information regarding the management of the Common Buckthorn shrub during clearing.

Comment – ***Tree & Landscape treatment -*** *We encourage high percentage use of native plants on wood sites like the proposed 165 Lambert Street project. Stevens Commons for example next to Baxter*

Woods successfully modified their landscape plan to a higher percentage of native species. This should be a condition of approval. The site is surrounded by natural appearing woodlands, the project should appear part of the surrounding landscape vs 'suburban'. The 'Woods at Canco' development is another successful landscape example. Thus we would ask the project not to use plants like 'Feather Reed Grass' and 'Maiden Grass' for example, and increase the native grasses like 'Little Bluestem', 'Prairie Dropseed' and other plants compatible to the New England region. The proposed tree pallet should also diversify, currently over 100 trees using only four species, recommend reducing numbers on the 'Armstrong' Red Maples from 40 to perhaps half of that and consider other tree types like the 'Beacon' and 'Regal Prince' Oak, though they are cultivars it would be nice to have a greater mix of tree types. Tree types missing: Red Oak, Swamp White Oak (use instead of the hard to establish White Oak), Tupelo, Shagbark Hickory, River Birch, Yellow Birch, White Spruce, Larch, 'Bowall', 'Red Pointe', 'Karpick' Red Maples offer a variety of other maple types depending on the desired planting space size.

Response – A revised planting plan been included indicating a broader variety of trees and mix of native shrubs and grasses. The design team has held a meeting with the city to review trees and plantings.

Comment – ***Tree planting spacing and sizes -*** *While regular spaced trees all in certain order adds a degree of structure to the landscape, this site might be better served by including groves of trees in a more natural arrangement. This might include a mix of plant heights like 5-6' conifers and 2" caliper trees with the larger sizes proposed. Knowing the more orderly plantings might be closer to the buildings and the natural groves of trees near the edges.*

Response – A revised planting plan has been included to incorporate a greater variety of native material, as well as revised layout indicating more naturalistic transitional plantings along site edges.

Comment – ***Street trees -*** *We would like to work closer with the project team to review the public 'Street tree' portion of the project. This would include species types, spacing. Applicant to include total tree count proposed.*

Response – ALA looks forward to working with the City on more detailed design and tree selection for public ROW improvements.

Comment – ***Buffering -*** *The proposed site contains existing residential boundaries with Auburn Street, and Falmouth properties on the North side and Auburn Street and Lambert Street residents on the South side, the landscape plan should address adequate buffer planting and treatment.*

Response – A revised planting plan will be provided to include considerations for buffering adjacent sites. The planting plan now includes a more robust mix of evergreen plantings to buffer adjacent properties as well as fencing in key locations.

Comment – ***Wetlands / drainage treatment -*** *the use of restored wetlands, intermittent streams, raingardens was not noticed during my review and wanted to check to see if the project is favoring natural drainage features?*

Response – A formal stormwater drainage system has been designed for this project, the stormwater water will be detained, treated, and cooled through the use of underground chambers and utilization of porous pavement. The stormwater will be released back into the surrounding environment at a controlled rate to ensure the post development peak flow rates do not exceed the predevelopment rates. The development has been designed to be tight and compact, consolidating the infrastructure such that the overall development footprint remains minimized. As a result, intermittent rain gardens and natural drainage features are difficult to incorporate into the core site design given the competing list of site elements.

However, as a way to treat the "first flush" of runoff from the road, and to provide an educational component to the project, two rain gardens have been proposed within the public right-of-way between the roadway and the development.

Comment – ***Recreational / Open Space -*** *It is essential to include a variety of onsite recreational and trail amenities for this project. The geographic location is out of walking distance to existing playgrounds and trails. (The future Haverty Field may in time offer somewhat close trails). Recreation features for youngsters could include playground structure, adventure play items, benches. Walking trails on or around the existing site should be a requirement and could match up with Fire Safety access.*

Response – The design team is actively working with the client to solidify program and design of the community spaces. The site design goals include creation of community amenities which provide benefits and may be accessible both for residents of this project as well as adjacent neighbors insofar as budget, spatial constraints, and project sequence allows.

Fire & Life Safety

Comment – *Fire truck access shall be well marked and visible from public street.*

Response – Please refer to sheet C-09 for the proposed signage. The fire truck access lane has been signed.

Comment – *Indicate appropriate snow storage and maintenance agreement to ensure fire access is clear at all times.*

Response – Noted, proposed snow storage has been depicted on the plans and is not proposed within the fire access lane. A maintenance agreement shall be prepared at a later date.

Comment – *Consider loop connection at the south development lot to gain access behind back of buildings to eliminate backing out onto Washington Ave Extension.*

Response – A loop connection has been considered but is not feasible given the current site design with the various grading challenges and desired programming. The site has been designed with fire access in mind by providing a loop connection through the reinforced grassed access aisle; there would also be access to the front of buildings S.3 and S.4 through the bus loading zone and paved driveway, therefore providing access to 2 sides of all buildings in tandem with 50' or less to the main door.

Comment – *Prefer alignment of fire truck access lanes where grasscrete is proposed, applicant to justify design intent.*

Response – The alignment of the fire access lanes was considered, but given the existing site constraints consisting of the southwestern property line and setback on the south parcel, the eastern wetlands on the northern parcel, and the minimum 16' building separation requirement within the R-3 PRUD standard, there is not an ideal adjustment to the site plan that would result in alignment of the fire access lanes without resulting in more wetland fill or violation of the City's zoning standards. Turning templates have been prepared which demonstrate the City's fire apparatus successfully maneuvering through the site and utilizing the access aisles based on their current alignment.

Comment – *Some of the lines in the turning templates seem to go outside of the drive isles. I want to confirm that these lines are the overhang of the truck and not the tire paths.*

Response – That is correct; the lighter lines represent the overhang and the bolder lines represent the wheel path.

Comment – *The grasscrete fire lane areas will need some definition through landscaping signage or some other means so fire apparatus operators can easily tell where the sides of the fire lane is. It will also need to be maintained as a fire lane year round so they should have a plan to plow or somehow clear the snow in those fire lane areas.*

Response – An operations and maintenance plan will be prepared for this area in tandem with additional signage proposed within the plans.

Comment – *Is the curb in the fire lane area a mountable curb?*

Response – This curb is flush and has been clarified as such on the plans.

Comment – *The project should have 2 street addresses (one for each side of Washington Ave Ext.) and the building should have separate letters (building A, building B etc.).*

Response – We will continue to coordinate addressing with Public Works and will incorporate this guidance.

Zoning

Comment – *Applicant to quantify and show on plans the net land area. The report from Jones Associates states that there is approximately 236,727.92 sf (5.43 acres) of delineated wetlands on the two properties. That is part of what needs to be subtracted from the net land area, but we still need to know the square footage of the watercourse (stream) and the slopes of 25% or greater. The overall site plan (sheet C-09) under Net Land Area states that 244,738 sf has been deducted from the property area to reach the net land area of 537,251 sf.*

Response – This has been clarified in the plan set.

Comment – *Applicant to confirm density bonus under section 18.2.4.B for PRUDs. Applicant to outline minimum lot area per dwelling unit in table.*

Response – This has been clarified in the plan set.

Comment – *Applicant to confirm if seeking minimum recreation open space reduction to 200/square feet of common area.*

Response – Yes, that is the intent although the ratio will likely be much larger. This has been clarified in the plan set.

Comment – *Proposed 122 parking (67 off street, 55 on street). The proposed 55 on-street parking stalls would not be counted towards required parking. R3 requires 1 parking stall per unit. Planning Board may establish a parking requirement less than 1 per unit based on affordable housing development. Applicant has provided TDM to pursue Land Use Code, Article 19, Table 19-B: Categorical Exceptions to Off-Street Parking Minimums, "No off-street parking shall be required within ¼ mile of fixed route transit service. New uses or changes of use of more than 10,000 SF taking advantage of this exception shall be required to provide a Transportation Demand Management Plan if they use this provision in lieu of parking requirements."*

Response – We agree the project is within a ¼ mile of a transit facility (and features 2 new bus shelters at the middle of the site along Washington Ave) and also provides a TDM plan, therefore there is no parking requirement; however, some on-site parking is being provided in response the realistic expectation that many residents may still wish to utilize a vehicle.

Comment – *Confirm the minimum building setbacks being observed for the development, zoning requirement for PRUD is 16-foot separation between buildings. Affordable housing of more than 50% can be reduced to 10 feet.*

Response – Based on previous correspondence, it is our understanding that this requirement was not eligible to be reduced from 16', but if our interpretation of previous correspondence was incorrect then it is desired the building separation is reduced to 10 feet. We look forward to this clarification.

Inclusionary Housing

Comment – *165 Lambert Street would meet the IZ requirement of 25% of the units being workforce housing at 80% AMI and over 50% low-income housing at 100% AMI for the density allowed under section 18.2.4.B. There will be 12 two-story townhouses, 48 three-story rowhomes, and 105 three-story flats - consisting of a total of 5 studios, 64 one-bedroom, 50 two-bedroom, and 46 three-bedroom units.*

Observations

Transportation & Traffic

Comment – *The applicant has conducted a Trip Generation analysis and assuming an Affordable Housing development 83 peak hour trips will be generated by the project during the worst-case peak hour. I find the methods used to estimate trip generation to be reasonable. I would further note that this level of trip generation does not require a Traffic Movement Permit.*

Response – Noted, thank you for the review.

Comment – *As noted in the report acceptable sight distance will be provided from the proposed driveways assuming vehicle speeds of 25MPH. I find conditions to be acceptable.*

Response – Noted, thank you for the review.

Comment – *In terms of cross-section – they are proposing 11-foot lanes and 8-foot parking lanes. The exception is at the bus stop where it will be 10.5' lanes and 10-foot shoulders. This seems okay to me.*

Response – Noted, thank you for the review.

Transportation & Traffic

Comment – *The improvements at Auburn Street need a detailed review and approval. ADA ramps need to be revised. The improvements at Lambert Street need a detailed review and approval. DPW observes that the curbing alignment at this intersection might have an adverse impact on plowing operations.*

Response – We have revised the design concept for review. Once the approach to the street treatment and improvements is agreed upon, the next iteration of plans will feature detailed spot grades and construction details/sections. As proposed, the intent is to meet ADA regulations while also being responsive to DPW concerns.

Please let us know if you have any additional questions or comments.

Sincerely,

Samuel J. Lebel, P.E.
Project Manager
Acorn Engineering, Inc.

Nathan PP Holt, E.I.
Project Engineer
Acorn Engineering, Inc.

102 Exchange Street Portland, ME 04101 | (207) 842-2888 | kaplanthompson.com

September 16, 2022

LAMBERT WOODS
Response to design review comments from Planning Board workshop #1

Additional building façade articulation shall be explored at the rear of the Rowhomes buildings that front the common open space through either additional fenestration at the ground floor, façade delineation of floors, expression of base foundation and/or similar elements appropriate to the style of the building.

Because the building contains more than 2 units with building lengths greater than forty (40) feet, the Rowhome buildings shall provide additional variation through either roof configuration at midpoint or end and/or projecting or recessed building elements to assist with dividing to a greater degree the horizontal scale.

Our approach to the architectural design of the rear facade of the Rowhouse is to utilize overlapping hierarchical patterning that communicates at varied scales, to add depth and visual interest. The smallest of the patterning is the individual unit, clearly delineated by a contrasting siding color to its neighbor. We have offset the fenestration along one edge of each unit to avoid an evenly spaced patterning across the entire face of the building within this first layer of patterning. The next layer is delineated by the vertical downspouts that separate a pair of units by providing a vertical element held off the face of the building. Within the pair of units, the rhythm of the offset fenestration becomes more evident. The third layer is integrating landscape. Taller trees are placed between pairs of units offset from the downspout delineation by one unit. This establishes a new pattern across the face of the building, and a series of shorter plantings between the taller trees provide shading and a buffer from the ground floor units to the common open space.

The building is divided horizontally by a subtle change in siding exposure on each of the three levels. The exposure at the ground floor is 4" and will have a dense concentration of shadow lines that will produce a darker appearance. The exposure increases from 6" to 8" on the upper two levels. This effect will reduce the density of the shadows, thus lightening the facade as the building climbs upward. The larger reveal on the upper level will also help reduce the foreshortening effect and make the third floor appear closer than it actually is.
Along the primary façade of the Rowhouses, we used a similar approach to dividing the building vertically with an additional element at the ground floor extending over the entry doors. There are a series of angular awnings that meander up and down and in and out across the face of the building. They are bisected by tall trees in front of the living room windows, which provide relief to the continuous ribbon of the awnings. Where the awnings meet at valley conditions, the valley is pulled apart to form a gap to provide water and sunlight to the planning bed below and a minor pause in the eave line when looking down the mews.

Phil Kaplan
Maine Licensed Architect, AIA
Kaplan Thompson Architects

Kaplan Thompson Architects

PASSIVE OPEN SPACE (WOODS)

BENCH SEATING NEAR GARDENS AND TRAILHEAD

PASSIVE REC SPACE (LAWN)

MEWS

GARDENS

SHARED REC TERRACE FOR COMMUNITY PROGRAMMING, GAMES (HOPESCOTCH, FOURSQUARE, BASKETBALL), SEATING, YOGA, GATHERING

RE: LA PLANS FOR MORE DETAIL

PASSIVE OPEN SPACE (LAWN) FOR RECREATION, GAMES, AND COMMUNITY GATHERING

COMMUNITY TERRACE WITH COMMUNITY ART WALL, PICNIC TABLES, OUTDOOR SEATING, GATHERING AND DINING

RE: LA PLANS FOR MORE DETAIL

RE: LA PLANS FOR PLAYSCAPE AREA

MEWS

PASSIVE OPEN SPACE (WOODS)

PASSIVE REC SPACE (LAWN)

PASSIVE REC SPACE (LAWN) FOR SMALL GATHERINGS, PASSIVE REC, AND GAMES

RE: LA PLANS FOR MORE DETAIL

SHARED REC TERRACE WITH HARD SURFACE AND ADAPTABLE PLAY ZONE

PASSIVE OPEN SPACE (WOODS)

OUTH

ORTLAND

WASHINGTON AVE

OPEN SPACE EXHIBIT

LANDSCAPE		11,200 SF
PEDESTRIAN ZONES		5,400 SF
TOTAL		16,600 SF
REQUIRED		14,400 SF

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SITE/SUB	SJL	6/17/22
COMMENT RESPONSE	SJL	9/26/22
COMMENT RESPONSE II	SJL	12/23/22

DRAWING NAME: **OPEN SPACE AREA EXHIBIT – NORTH SITE**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC
70 MILK STREET, PORTLAND, MAINE 04101
PO BOX 3137 (207) 775-2655

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN ATHORIZATION OF ACORN ENGINEERING, INC. ANY ALTERATIONS MADE TO THIS PLAN WITHOUT WRITTEN AUTHORIZATION OF ACORN ENGINEERING, INC. OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

DRAWING NO.

EX

FALMOUTH

PORTLAND

WASHINGTON AVE

N

PASSIVE
REC (LAWN)

PASSIVE
REC (LAWN)

SHARED REC TERRACE
FOR SMALL GATHERINGS,
PASSIVE REC, AND GAMES

RE: LA PLANS FOR MORE DETAIL

PASSIVE REC (LAWN) FOR
RECREATION, GAMES,
COMMUNITY GATHERING

RE: LA PLANS FOR MORE DETAIL

COMMUNITY TERRACE WITH
COMMUNITY ART WALL,
PICNIC TABLES,
OUTDOOR SEATING,
GATHERING AND DINING

PASSIVE
REC (LAWN)

PASSIVE OPEN
SPACE (WOODS)

MEWS

SHARED REC
TERRACE WITH
HARD SURFACE
AND ADAPTABLE
PLAY ZONE

GARDENS

RE: LA PLANS FOR MORE DETAIL

OPEN SPACE EXHIBIT

LANDSCAPE		15,800 SF
HARDSCAPE		4,300 SF
TOTAL		20,100 SF
REQUIRED		18,000 SF

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22

DRAWING NAME: **OPEN SPACE AREA EXHIBIT**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2655

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FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

DRAWING NO.

EX

ACORN ENGINEERING, INC.

Alternative Street Design Analysis

In collaboration with Sarah Cushman, the project's transportation consultant, the following analysis has been prepared for the 162-unit proposed residential development located at 165 Lambert Street and 622 Auburn Street in the North Deering neighborhood in Portland, Maine. The existing traffic conditions along the project's frontage on Washington Avenue Extension, as well as the intersections at Auburn and Lambert Streets will be improved through a combination of transportation strategies, including narrowing the lane widths along Washington Ave, reducing the paved turning radius at both intersections, and providing a concrete apron to facilitate larger truck traffic. The purpose of this alternatives analysis is to examine different treatments of the project's frontage, focusing on slowing traffic, and providing a safe transportation route for bicyclists and pedestrians. As requested by the City's transportation peer reviewer, we have examined several cross sections of Washington Ave. which weigh the pros and cons of the multimodal facilities, the utility and traffic calming of on-street parking, and the environmental impacts of infrastructure on the adjacent wetlands and open ditch drainage systems.

The following alternatives focus on the street section at Station 10+00, where the existing drainage sheet flows off the roadway into the surrounding wetlands. To provide a consistent comparison, this section will remain the same throughout this analysis; however, it should be noted Stations 1+00 thru 4+00 generally have existing drainage ditches that represent a fixed parameter when looking at available width. Please refer to the design plans for more information in these areas. Given the majority of the transportation will occur between Stations 4+50 and 13+00 as residents move between the Site and the State highway (Auburn Street / Rt. 26 / Rt. 100) which provides access to goods and services in Portland and Falmouth, the focus of this analysis is based upon this stretch of roadway.

Other existing conditions to note along Washington Avenue Extension:

- Posted at 25mph
- Road profile iteratively steps in grade from 5% to 2%, moving from Auburn Street to Lambert Street, respectively.
- 12' travel lanes with 8' shoulders yield 40' of existing pavement, with additional gravel shoulders off the edge of pavement before the transition to a grassed ditch line occurs
- No bicycle or pedestrian infrastructure exists along this corridor

Also of note, in addition this analysis: other site elements that will improve the human scale of the pedestrian and bicycling environment significantly along both the north and

south frontages of Washington Avenue Extension (and will consistently remain part of the design in all Alternatives include):

- Raised pedestrian crossings and signage
- Bus shelters with seating on both sides of the street at the core of the development, linked to a proposed public sidewalk network
- Additional walking and bicycling access to the site via emergency vehicle access points that feature structurally stable and uniform grass pavers
- Active building facades, lighting, street trees, and other landscaping
- Trail connections

Option 1

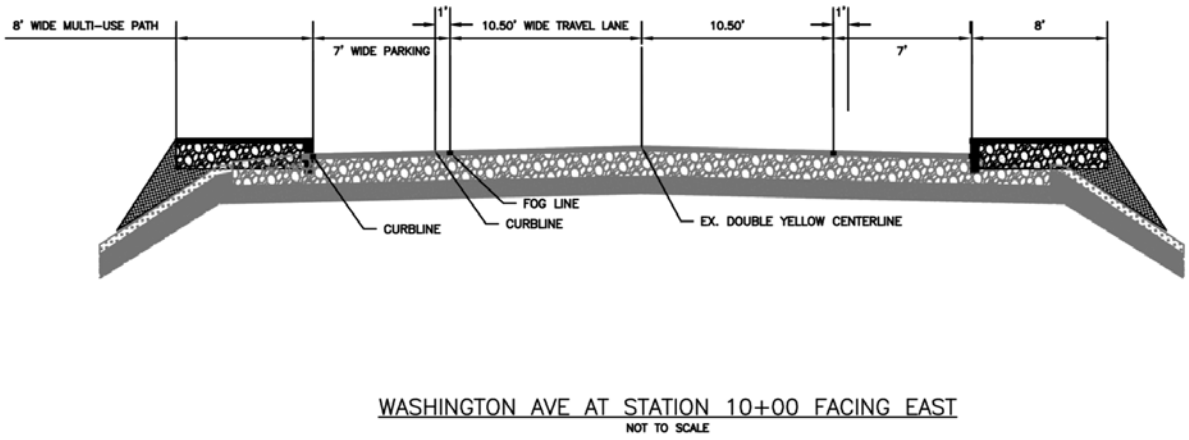

Figure 1 – Washington Ave Section Facing East (Option 1)

Option 1 features 10.5' wide travel lanes striped with a fog line, 7' wide on-street parking (6' wide curb extensions), and 8' wide multi-use pathways on both sides of the road. In addition to the 8' multi-use pathways, shared lane markings (sharrows) are proposed to be striped in the center of the roadway.

As designed, this option features three different routes of transportation for bicyclists to travel with the multi-use pathways on both sides of the street and on-street riding facilitated by sharrow markings.

It should be noted that the 8' multi-use pathways are proposed as a result of grading constraints adjacent to existing wetlands and environmental concerns. Providing 10' multi-use paths would result in additional wetland fill and environmental impacts to accommodate the design.

Option 2

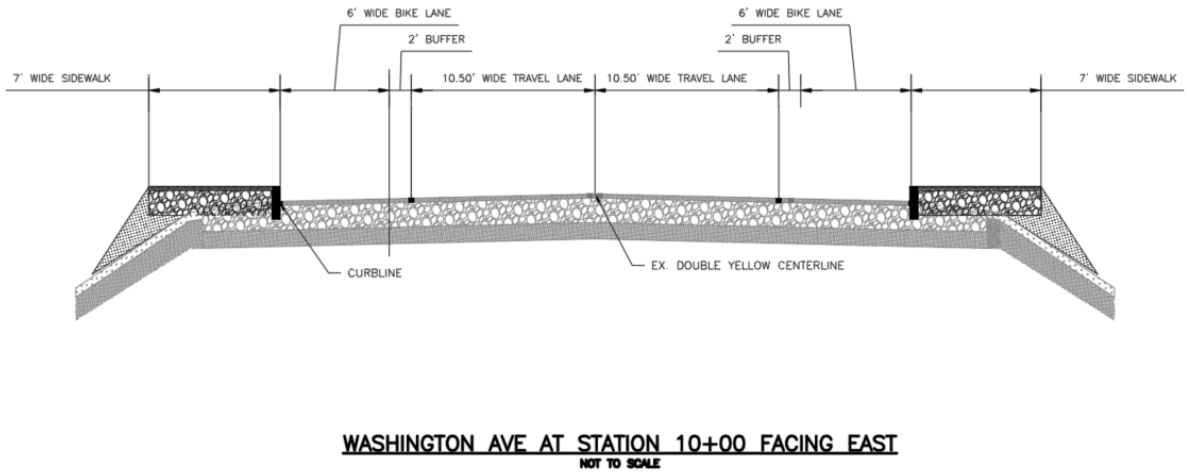

Figure 2 – Washington Ave Section Facing East (Option 2)

Option 2 features 10.5' wide travel lanes striped with a fog line, 2' wide striped buffer between the travel lane and bicycle lane, a designated 6' wide bike lane, and a 7' wide sidewalk on both sides of the road. In this scenario, no on-street parking is proposed. Bicyclists would have their own travel lane, along with a striped buffer to help designate a clear difference between bicycle and motorist travel ways

Option 3

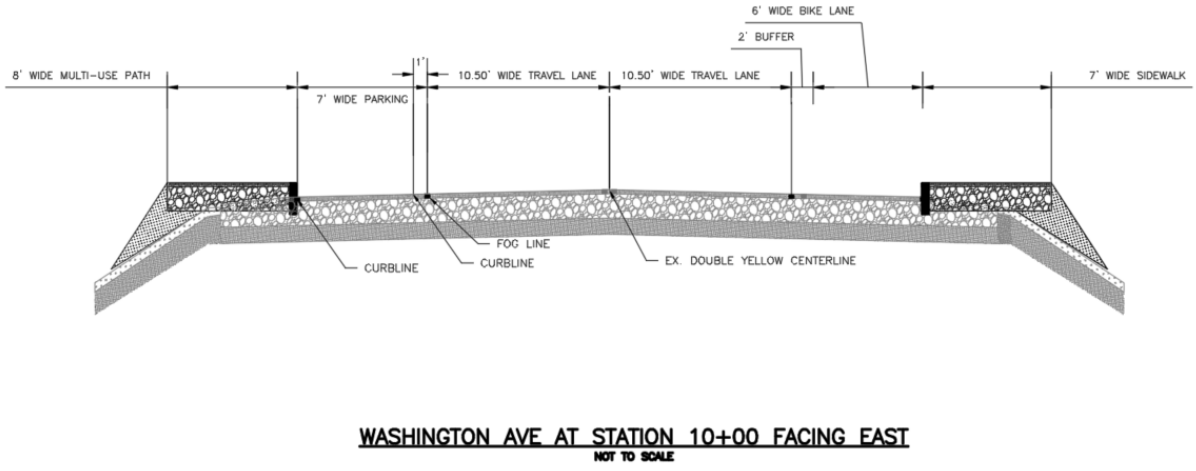

Figure 3 – Washington Ave Section Facing East (Option 3)

Option 3 consists of certain elements from each of the the first two options. The northern side will feature 10.5' wide travel lane with sharrow striping, 7' wide parking (with 6' wide curb extensions), and an 8' wide multi-use path. The southern side features a 10.5' travel lane, 2' bike lane buffer, a 6' bike lane, and a 7' wide sidewalk. The northern side of the road is

proposed to feature the shared lane methodology consistent with NACTO recommendations which states that sharrow markings are best suited for downhill situations where bicyclists are able to move faster and better match the flow of vehicular traffic. The southern side features a designated bike lane or "climbing lane" as riders move uphill, resulting in slower cyclist speeds.

Conclusion

Given the relatively short distance that would be traveled by bicyclists, and accounting for previous concerns from the neighborhood, in our professional opinion Option 1 provides the best balance when comparing the three outlined options. This includes consideration of traffic calming measures, separation of routes of travel for bicyclists, and maximization of the number and use of on-street parking spaces. The other design options laid out contain some portion of reduced on street parking, which takes away from the overarching transportation design intent of the project which is to provide a more welcoming place for residents and visitors, by calming the speed of motor vehicles on this existing "rural highway" and providing a buffer from street traffic for people on the multi-use paths.

Key points are listed below that support this conclusion:

- On-street parking increases positive "friction" along a street and can narrow the effective crossing width for pedestrians, both of which encourage slower speeds (FHWA). With curb extensions interaction with on-street parking, the condition becomes more of an urban feel with the intent to engage drivers' awareness as well as slow their speed based upon the perception of available travel width and human activity.

- Generally, one concern regarding the traffic calming efficacy of on-street parking is when it is not utilized enough. In the case of Lambert Woods, however, the reduced on-site parking encourages use of on-street parking for some residents as well as their guests, increasing the likelihood of a strong utilization rate of these spaces, and thereby more calmed traffic. This proposal is in tandem with various curb extensions that help hold the curbline and travel lane widths regardless of the on-street parking rates.

- A separate multi-use path is the most desired option to support pedestrians and bicyclists of all comfort levels, ages, and abilities (NACTO). More experienced or comfortable bicyclists will be able to utilize the travel lane with sharrows if they do not wish to use the multi-use paths.

- The multi-use paths are not anticipated to be heavily traveled such as Portland's Back Cove, or South Portland's Greenbelt. Therefore, for the bicyclists who are not comfortable sharing the travel lane with motorists, it's not anticipated there will be heavy usage or conflicts with pedestrians and other bicyclists, such as a more central, public space such as the Back Cove trail. Thus, the 8' width is anticipated to be appropriate.

  Washington Avenue Extension has been proposed to contain minimum treatment as a future "on road bikeway" on the City of Portland's Bikeway & Pedestrian Network

Map. Option 1 goes the furthest to support pedestrians and cyclists by creating separated bicycle and pedestrian accommodations and facilities on both sides of the roadway.

- Option 1 is the most effective option at reducing the effective pavement width and crossing distance. Options 2 and 3 would have larger effective pavement widths and are not anticipated to have as effective traffic calming effects because of this.

- Option 1 maximizes the total number of on street parking spaces and traffic calming potential of this strategy. It would also minimize any on-street parking impacts on the surrounding neighborhood. The concern of overflow parking spilling into the surrounding neighborhood has been expressed as a concern from residents relating to the project and Option 1 is the most effective at addressing this issue.

Lastly, our team has summarized several supporting conclusions pertaining to on-street bicycle riding and the shared lane markings/ sharrows proposed in Option 1:

- Shared lane markings are helpful to alert road users to the presence of bicyclists who want to use the street and who have the right to do so. For example, motor vehicle drivers are sometimes confused by the existence of an adjacent off-road multi-use path and believe bicyclists are only permitted to use the path.
- Shared lane markings also have been shown to encourage cyclists to position themselves safely in the travel lane (NACTO *Urban Bikeway Design Guide*) (Anderson & Bernbaum, Smart Design, 2020). For example, cyclists who ride too far to the right unintentionally encourage motor vehicles to pass too close within a travel lane that cannot accommodate both road users side by side. That is, a travel lane must be at least 13 feet wide to accommodate a 6 foot-wide vehicle, the 3 feet of passing distance required by state law, and at least 4 feet of operating space needed by a bicyclist. In addition, research has also demonstrated that well-placed sharrows nudge bicyclists away from the door zone of parked vehicles, reducing the risk of bike crashes precipitated by motorists opening their doors into the travel lane.
- NACTO states a desirable shared lane marking application existing where the speed differential between bicyclists and motorist travel speed is low. (NACTO *Urban Bikeway Design Guide*)

Based upon the above analysis, it is our professional opinion that Option 1 results in the most balanced street cross section when evaluated from a multimodal transportation perspective.

Fwd: Development and parking signs on Auburn Street

Ed Eggleston <eeggleston@gmail.com> Tue, Jul 26, 2022 at 4:48 PM
To: Sean King <sking@portlandmaine.gov>, planningboard@portlanmaine.gov, Jeremiah Bartlett <jbartlett@portlandmaine.gov>

PC1

Sean,

Reference: PL-002078-2022

This is an email listing neighborhood concerns about spillover parking on Auburn from the project.

Our request, is to include as an item in the approval, is to mark the block of Auburn starting at Washington Ave Ext to the Falmouth city line as no parking. The rest of
Auburn is already signed for no parking.

Thank you

Edward Eggleston
660

---------- Forwarded message ---------
From: **Ed Eggleston** <eeggleston@gmail.com>
Date: Wed, May 4, 2022 at 10:47 AM
Subject: Development and parking signs on Auburn Street
To: Jeremiah Bartlett <jbartlett@portlandmaine.gov>

Good morning,

The email below is from awhile ago but the developer is having a zoom this week and the phrase below was in their email.'

Thursday, May 5, 6:30pm Neighborhood and Future Residents Meeting via Zoom and phone to review draft site plan updates. This is an official meeting noticed to abutters.

Since the Oct 18 email, they have added some additional parking but (in my opinion)., 80 or so spaces for 148 units seems on the smaller size.

If the above indicates that the developers are getting close to going before the planning board, is there anything I should / can do in the area of requesting no parking on my part of Auburn Street?

I have attached the most current plan view of the project.

And... as an "abutter", should I expect to be notified of planning board actions / meetings?

Thank you,

Ed Eggleston
660 Auburn St, Portland, ME 04103

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---------- Forwarded message ---------
From: **Jeremiah Bartlett** <jbartlett@portlandmaine.gov>
Date: Mon, Oct 18, 2021 at 9:29 AM
Subject: Re: Request for “No parking on this side” signs on Auburn Ave between Washington Ave Ext and Falmouth Town limit.
To: Ed Eggleston <eeggleston@gmail.com>

Hi Ed,

I can say that similar questions are coming up in Planning and at DPW. I am going to share this with Planning staff, as I would like to make this signage a condition of their approval. Thanks for flagging it.

Jeremiah J. Bartlett, PE, PTOE
Transportation Systems Engineer
Department of Public Works
212 Canco Road, Suite B
Portland, Maine 04103
jbartlett@portlandmaine.gov
(207) 874-8891

On Mon, Oct 18, 2021 at 9:27 AM Ed Eggleston <eeggleston@gmail.com> wrote:

> Good afternoon,
>
> While most of Auburn Ave has “No parking on this side” signs, the piece between Washington Ave Ext and the Falmouth town limit does not seem to be posted.

The road is marked for bike lanes but the bike lanes are not wide enough for parking.

There are seven houses on the west side of the road and two houses on the east side of the road.

Background:

There is a project to add “affordable” housing on the North and South sides of Washington Ext. As of the zoom meeting with the developer on Oct 13, there are 96 units planned for the south side, 48 units planned for the north side and 53 parking spots. The projects are named in the city records as 622 Auburn and 165 Lambert. Note: The land for the project is currently empty and is all forest.

(NOTE: The developer plan (attached) also shows on-street parking on Washington Ave Ext but I do not think that the developer has discussed this with Public Works yet. Some of the neighbors also feel with the truck traffic on Washington that on-street parking is not a good idea)

The north development will be directly behind my house (660 Auburn) and my neighbors house (640 Auburn)

While, according to the developer on the zoom meetings, there will be few cars and most of the residents will take the #9 bus, many of us in the general neighborhood do not agree.

We also “suspect?” that a number of the future residents will have more than one vehicle.

Request:

Our concern is that some of the development residents will come around the corner of Washington and start parking on Auburn.

As you are most likely aware, Auburn Ave (which is Gray Road n Falmouth) is a major arterial from i-95 and tends to be heavily used a good portion of the day. A fair portion of the Auburn traffic turns onto Washington and heads toward the Riverside Industrial Park and other locations.

My neighbors and I feel that having people start parking in this block of Auburn is not a good idea and especially with heavy traffic, may well be a safely concern.

We would appreciate it if you would look into the addition of “no parking” signs for us.

I am attaching a plan view from the last developer zoom meeting. Auburn Ave shows on the lower right corner, so having residents walk around the corner to park seems like a definite possible item.

Thank you,

Ed Eggleston

660 Auburn Ave

274-9156

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Ed Eggleston

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

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Ed Eggleston

Ed Eggleston

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Ed Eggleston

Development site view.JPG
186K

Comments on PL-002078-2022

PC2

1 message

Ed Eggleston <eeggleston@gmail.com> Thu, Jul 28, 2022 at 9:51 AM
To: Sean King <sking@portlandmaine.gov>, planningboard@portlanmaine.gov, planning@portlandmaine.gov

Sean,

I just received the postcard about the project going before the planning board and my neighbor (at 640 Auburn) and I (at 660 Auburn) have some concerns.

We are both directly on one side of the north development and within 500 feet.

After reading the document listed below, there are several items that we are concerned about.

Reference: "Lambert Woods Cooperative Housing Transportation Demand Management Plan June 15, 2022"

While the discussion of parking in the document is accurate, there is mention of "Eddies", Hannafords and Shaws being "close".

Eddies - It is fairly close, but if you want something other than wine / beer / pizza, your choices will be very limited.

Shaws - This is a "reasonable" store but is about 2 miles down the road. For grocery shopping, walking and biking will be a challenge in any type of weather or in the winter.

Hannafords - This is a nice store and is about 1/2 mile away. However Auburn (which gets renamed as Grey in Falmouth), is very busy and there are no sidewalks. And again, walking and biking may not be a viable choice in weather or winter. NOTE: There are NO sidewalks between the development and store.

There is also a mention of two child care centers. These are not close but for both of them, there are NO sidewalks.

Reference: Traffic Study

We have also read the traffic study but feel that putting 60(?) or so parking spaces on the road is a concern. The concern is parallel parking and people walking across the street in traffic. There is a "Traffic Report" on the web site that discusses sight lines. However, if there are cars parked on the sides of Washington Ave Ext, the results of the report for sight lines will not be valid.

The report seems to say that most of the future residents will take the bus but during one of the developers zoom meetings, they said that only 5% of Portland people can / will take the bus to work.

Reference: Cover Letter

In one of the documents, (Cover Letter) there is a comment about narrowing the traffic lanes on Washington Ave Ext. It is my understanding that this road was installed to provide a path for truck traffic to / from the Riverside industrial area to the Maine turnpike. Based on homeowner observations of the truck traffic, this would seem to be the case.

The idea of making this busy road narrower does not seem like a good idea as there does not seem to be any other convenient ways to get to / from the Riverside area to / from the Maine turnpike. In fact one of my neighbors said that the extension was added specifically to remove truck traffic from going through the neighborhoods.

Reference: "Lambert Woods Cooperative Housing Transportation Demand Management Plan June 15, 2022"

In the document ("Lambert Woods Cooperative Housing Transportation Demand Management Plan June 15, 2022") there is a note about making the drive within the development 22 feet wide versus 24 feet wide. While this might seem like a nice concept, is the developer sure that none of the residents will have large pickup trucks or mid-sized work vans.

In the document ("Lambert Woods Cooperative Housing Transportation Demand Management Plan June 15, 2022") there is a mention of an 8-foot multi-use path. As documented in a previously posted Wetlands survey, there are wetlands on both sites of Washington Ave Ext on the Auburn end. To avoid damage to the wetlands (and possible neighborhood basement flooding), this should be discussed further.

In the document ("Lambert Woods Cooperative Housing Transportation Demand Management Plan June 15, 2022") there is a mention of "pathways and trail connections". Previous zoom and personal discussions with Portland Trails covered two items. The first was that a trailhead starting on Auburn Street was not viable due to a lack of parking. At that time, there was some discussion with the developer about having a trailhead on Washington Ave Ext with parking being provided by the developer. There is no mention of this in the documents that I have searched.

Reference: Site Plan _ North

Document "Site Plan - North" appears to show setback lines. During all of the developer zoom meetings and in discussions with city staff, it was our understanding that there would be a 25 foot setback. In addition, the developer stated that there would be a 75 foot setback from the creek that runs on the north end of the property. This is not shown on the site plan.

The site plan drawing of setback lines looks more like a 10 foot setback versus 25 feet. The property was surveyed a few months ago and the lines marked with plastic tape.

Furthermore, if the requirement is for a 25 foot setback from the homeowners, it would appear that the "solid waste location" and "snow storage" are shown as being within a 25 foot setback.

In addition, from a "good neighbor point of view", it would be nice to have the "solid waste" and "snow storage" locations switched so that the "solid waste" would be further from the neighbors back yard.

Reference: Site Plan _ North

At a recent developer zoom meeting, the site plan had been updated to move the parking to the east side of the site. My neighbor (at 640 Auburn) and I (at 660 Auburn) became concerned about headlights shining into our back windows. We both contacted Liz Trice (developer) to state our concern. LIz said she understood the concern and would update the site plans to include a 5-6 foot wall along the back of the parking lot to block headlight issues. There is no indication of such a headlight blocking wall shown on this site plan.

Ed Eggleston
660 Auburn St.

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Ed Eggleston

PC3

Lauren Manera <laurenmanera54@gmail.com> Jul 27, 2022, 12:06:49 PM (5 days ago)
to planning@portlandmaine.gov

Dear Sir/Madam:

While I agree the City of Portland needs housing, I disagree it needs such a large development on the far side of the City.

The neighborhood ALREADY needs pedestrian improvements. Currently, it is not walkable from this site to a grocery, pharmacy or bank -- unless you consider walking 1.2+ miles reasonable. This would be especially true for older persons, disabled persons, children or anyone in bad weather.

Bus service would need to be improved, and bus shelters would need to be installed.

There are few connected sidewalks in this area, and people are forced to walk or run primarily in the road, or traipse over lawns. This is just not safe.

Speeding goes unenforced, and this creates a dangerous situation for pedestrians and bikers. The speed limit should also be reduced in this area by 5 mph.

A study needs to be done determining the amount of traffic in this area. The 4-way stop sign and blinking red light at the corner of Lambert will probably need to be converted to a stop light. There should be a stop sign at Lambert and Summit (by the church).

There is also a sign indicating "no trucks" entering Lambert Street from Auburn. Is this a suggestion or something that might actually be enforced some day?

Please feel free to contact me via email or by phone (207-279-9017) should you have any questions or need clarification on the above.

Lauren Manera
77 Lambert St., Unit A2
Portland 04103

PC4

Ed Eggleston <eeggleston@gmail.com> Jul 28, 2022, 9:53:25 AM (4 days ago)
to planningboard@portlandmaine.gov

---------- Forwarded message ---------
From: **Ed Eggleston** <eeggleston@gmail.com>
Date: Thu, Jul 28, 2022 at 9:51 AM
Subject: Comments on PL-002078-2022
To: Sean King <sking@portlandmaine.gov>, <planningboard@portlanmaine.gov>, <planning@portlandmaine.gov>

Sean,

I just received the postcard about the project going before the planning board and my neighbor (at 640 Auburn) and I (at 660 Auburn) have some concerns.

We are both directly on one side of the north development and within 500 feet.

After reading the document listed below, there are several items that we are concerned about.

Reference: "Lambert Woods Cooperative Housing Transportation Demand Management Plan June 15, 2022"

While the discussion of parking in the document is accurate, there is mention of "Eddies", Hannafords and Shaws being "close".

Eddies - It is fairly close, but if you want something other than wine / beer / pizza, your choices will be very limited.

Shaws - This is a "reasonable" store but is about 2 miles down the road. For grocery shopping, walking and biking will be a challenge in any type of weather or in the winter.

Hannafords - This is a nice store and is about 1/2 mile away. However Auburn (which gets renamed as Grey in Falmouth), is very busy and there are no sidewalks. And again, walking and biking may not be a viable choice in weather or winter. NOTE: There are NO sidewalks between the development and store.

There is also a mention of two child care centers. These are not close but for both of them, there are NO sidewalks.

Reference: Traffic Study

We have also read the traffic study but feel that putting 60(?) or so parking spaces on the road is a concern. The concern is parallel parking and people walking across the street in traffic. There is a "Traffic Report" on the web site that discusses sight lines. However, if there are cars parked on the sides of Washington Ave Ext, the results of the report for sight lines will not be valid.

The report seems to say that most of the future residents will take the bus but during one of the

developers zoom meetings, they said that only 5% of Portland people can / will take the bus to work.

Reference: Cover Letter

In one of the documents, (Cover Letter) there is a comment about narrowing the traffic lanes on Washington Ave Ext. It is my understanding that this road was installed to provide a path for truck traffic to / from the Riverside industrial area to the Maine turnpike. Based on homeowner observations of the truck traffic, this would seem to be the case.

The idea of making this busy road narrower does not seem like a good idea as there does not seem to be any other convenient ways to get to / from the Riverside area to / from the Maine turnpike. In fact one of my neighbors said that the extension was added specifically to remove truck traffic from going through the neighborhoods.

Reference: "Lambert Woods Cooperative Housing Transportation Demand Management Plan June 15, 2022"

In the document ("Lambert Woods Cooperative Housing Transportation Demand Management Plan June 15, 2022") there is a note about making the drive within the development 22 feet wide versus 24 feet wide. While this might seem like a nice concept, is the developer sure that none of the residents will have large pickup trucks or mid-sized work vans.

In the document ("Lambert Woods Cooperative Housing Transportation Demand Management Plan June 15, 2022") there is a mention of an 8-foot multi-use path. As documented in a previously posted Wetlands survey, there are wetlands on both sites of Washington Ave Ext on the Auburn end. To avoid damage to the wetlands (and possible neighborhood basement flooding), this should be discussed further.

In the document ("Lambert Woods Cooperative Housing Transportation Demand Management Plan June 15, 2022") there is a mention of "pathways and trail connections". Previous zoom and personal discussions with Portland Trails covered two items. The first was that a trailhead starting on Auburn Street was not viable due to a lack of parking. At that time, there was some discussion with the developer about having a trailhead on Washington Ave Ext with parking being provided by the developer. There is no mention of this in the documents that I have searched.

Reference: Site Plan _ North

Document "Site Plan - North" appears to show setback lines. During all of the developer zoom meetings and in discussions with city staff, it was our understanding that there would be a 25 foot setback. In addition, the developer stated that there would be a 75 foot setback from the creek that runs on the north end of the property. This is not shown on the site plan.

The site plan drawing of setback lines looks more like a 10 foot setback versus 25 feet. The property was surveyed a few months ago and the lines marked with plastic tape.

Furthermore, if the requirement is for a 25 foot setback from the homeowners, it would appear that the "solid waste location" and "snow storage" are shown as being within a 25 foot setback.

In addition, from a "good neighbor point of view", it would be nice to have the "solid waste" and "snow storage" locations switched so that the "solid waste" would be further from the neighbors back yard.

Reference: Site Plan _ North

At a recent developer zoom meeting, the site plan had been updated to move the parking to the east side of the site. My neighbor (at 640 Auburn) and I (at 660 Auburn) became concerned about headlights shining into our back windows. We both contacted Liz Trice (developer) to state our concern. LIz said she understood the concern and would update the site plans to include a 5-6 foot wall along the back of the parking lot to block headlight issues. There is no indication of such a headlight blocking wall shown on this site plan.

Ed Eggleston
660 Auburn St.

--

Ed Eggleston

jt2 portland me <joantwin2jean@gmail.com> 10:19 AM (1 hour ago)

to planning@portlandmaine.gov

Disgusted with this Lambert st project! You will kill the last of beautiful tree lined streets in my neighborhood! Yes I know we need housing but I am crying over the lost "forest" deer go there, all sorts of animals. I am so so sad! Why why why? You have sold out to development! Stop this!!!

PC6

Ed Eggleston <eeggleston@gmail.com> Aug 4, 2022, 10:53:44 AM (22 hours ago)

to Planning, Sean King

With limited onsite parking for the planned 165 units, is there going to be an issue if the development people try to park on Lambert.

One of the proposed site plans includes a path along the creek between the development and Lambert street.

Lambert is a fairly busy street and is not very wide. Based on personal observations when I am walking, I don't remember seeing many or any cars parked on the street.

Ed Eggleston
660

Good afternoon PC7

I would like to keep this observation of the proposed residential project named above simple and to the point. After discussion with my neighbors, we have compiled the following list of our concerns and questions.

1) Effect on traffic in the following areas: Auburn St., Washington Avenue extension, Lambert Street, Riverside Street and Summit Street. These are currently heavily traveled roads, especially during the morning and evening commutes. The large addition of vehicles from this proposed development trying to access these roadways will potentially cause back ups and traffic jams.

2) Effect on public schools. The elementary, middle and high schools which serve the families in this area are already filled to capacity. Does the developer have a plan to expand the existing buildings, build new buildings or hope that the possibility of adding perhaps 100 to 200 new students will fit into the "as is"school buildings? Also, a number of new buses will have to be put into service to meet the transportation of new neighborhood children. What is the city's plan to cover these needs.

3) City services such as police, fire departments and road maintenance, etc. will realize an increase in need. This could create a problem as most services are already understaffed and strained. What is the city's plan to cover these needs?

4) Will property taxes increase to cover the added services that will be needed to service this new development?

5) The DEP will have to take a very active position to identify and protect wetlands, vernal pools, wildlife and setbacks on this site.

As we see it this property is much too large to comfortably fit into the projected areas without affecting all of our above mentioned concerns.

Best regards,

Phil Requia
110 Lester Dr.
Portland, Maine 04103
207-807-2586

PL002078-2022 0 views

Subscribe

Ruth Bettinger <bettinger.ruth@gmail.com> Aug 6, 2022, 12:06:19 PM (yesterday)
to planningboard@portlandmaine.gov

Please find attached comments for the public hearing relating to 165 Lambert and 655 Auburn development plan - PL-002078-2022. Comments are directed toward traffic and safety. At a recent neighborhood meeting with Maine Cooperative Development Partners, I would personally add concern and question relating to the proposed changes at the Washington Ave Ext and Auburn intersection. My hope is that you will review this carefully and ensure that traffic will safely move through this intersection. I support the narrowing of the road, but am concerned about movement at the intersection especially without a light.

There are many more concerns and productive ideas than one letter can express. Our neighborhood looks forward to the opportunity to engage in a conversation that results in some positive changes for this neighborhood and Portland.

Thank you for your time,
Ruth Bettinger
501 Summit St, Portland, ME 04103

Marpheen Chann
Brandon Mazer
David Silk
Austin Smith
Justin Baker
Maggie Stanley
Sean Murphy

August 1, 2022

Dear Planning Board members,

This letter is written to express the neighborhood concern regarding the expected increase in traffic due to the Lambert Woods housing proposal submitted by Maine Cooperative Development Partners and located at 165 Lambert and 622 Auburn. With the proposed 165 housing units, the number of vehicles added on the neighborhood roads could increase by two hundred or more vehicles. While we are not in opposition of the development, we are extremely concerned about the increased traffic and the hazards this will bring to our neighborhood.

We ask that there be immediate consideration to the intersection of Lambert and Summit. It is our request that there be a four-way stop at this intersection, traffic calming measures, a cross walk and narrowing of the road to prevent cars from passing turning traffic. This intersection is awkward, wide and with blind spots, especially with a rising or setting sun. The church parking lot adds two additional traffic entrances into the four-way intersection adding additional hazards to bicyclists, pedestrians, and vehicles. The four-way stop would slow traffic on Lambert, which currently has no stop signs. Slowing traffic will make safer passage as well as lower traffic noise in the neighborhood. Traffic on Lambert St is often exceeding the speed limit, which increases the vehicle noise to the surrounding homes.

When there are conversations with Maine DOT, we would support an effort to add a traffic light at the intersection of Washington Ave Extension and Auburn St.

The neighborhood asks that as infrastructure conversations happen during city meetings, the conversations include this North Deering neighborhood. With the new and existing neighbors, it will be extremely important to improve or add sidewalks, bicycle lanes, crosswalks, and increased schedules for public transit. With more traffic and residents coming to this neighborhood, it will be imperative to offer safe pedestrian passage as well as improve the traffic pattern for the safety of our neighbors.

As you consider approving the plans for Lambert Woods, please consider the necessary safety measures of the Summit and Lambert neighborhood as well as the surrounding neighborhoods that will also be affected by the increase in traffic.

We would be happy to meet with city officials to discuss our concerns further.

Sincerely,

Ruth Bettinger	Ruth M Bettinger	501 Summit St
Lara Austill	Lara Austill	450 Summit st
Anthony Gabovey	Anthony Gabovey	450 Summit St.
Marilyn Kirby	Marilyn A Kirby	517 Summit St.
Jason Barnes		125 Lambert
Mary Cafazzo	Mary Cafazzo	544 Summit St.
John Spizzirco	John Spizzirco	552 Summit st
Michelle Clavitt	Michelle Clavitt	2005 Washington Ave
Brina Kelly	Brina Kelly	539 Summit St.
John Walsh	John Walsh	525 Summit St
Brittney Walsh	Brittney Walsh	525 summit st.
Matthew Lucey	Matthew Lucey	520 Summit St
Victoria Ludey	Victoria Ludey	520 Summit St
Ann M Courtney	Ann M Courtney	517 Summit St
Merrie V. Allen	Merrie V. Allen	517 Summit St.
Jess Cassese	Jess Cassese	7 Morningstar Ln.
Sabato Cassese	Sabato Cassese	7. Morningstar Ln
Denise Tadded	Denise Taddeo	34 Morningstar Ln
Dianne Watters	Dianne Watters	15 Morningstar Ln.
Matt Watters	Matt Watters	15 Morningstar Lane
Byron Reburn	Byron Reburn	513 Summit Street
Colleen Shula	Colleen Shula	513 Summit St
Ed Eggleston	Ed Eggleston	660 Auburn St
Mark Moran	Mark Moran	56 Morningstar Ln
Janet Christopher	Janet S. Christopher	7 Stonecrest Dr.
Jeff Smaha	Jeff Smaha	33 Morningstar Ln
Joan Smaha	Joan Smaha	33 Morningstar Ln
Peter Christopher	Peter Christopher	7 Stonecrest Dr
James Ciampi	James Ciampi	195 Lambert St.

Madeleine Bates	Madeleine J. Bates	157 Lambert St.
Jamie Stone	Jamie Stone	70 Stonecrest Drive

PC9

Fwd: 165 Lambert Street Development

Subscribe

0 views

Lauren Manera <laurenmanera54@gmail.com> 9:54 AM (1 hour ago)

to planningboard@portlandmaine.gov

I am forwarding a message which I mis-addressed. Thank you.

---------- Forwarded message ---------
From: **Lauren Manera** <laurenmanera54@gmail.com>
Date: Mon, Aug 8, 2022 at 9:52 AM
Subject: 165 Lambert Street Development
To: <planningboard@portmainemaine.gov>

I attended the meeting on 8/4/2022 of Maine Cooperative Development Partners.

1. While I agree more is housing is needed in Cumberland County, this project is too large for this densely populated area on the Portland/Falmouth line. It has little public transportation and a very low "walk score." It has virtually NO sidewalks, and any sidewalks that do exist are not continuous. There are currently NO crosswalks on any street that would allow residents to SAFELY cross Washington Avenue Extension, Lambert Street or Auburn Street. The speed limit from Auburn to Washington Avenue Extension via Lambert Street is 30 mph, and needs to be reduced to 25 mph. Also, MCDP does not seem to have considered the following issues:

2. Street ban parking during snow event -- where will residents park during a snow emergency? There is LIMITED parking at this development, and from what I understand it will now be PAID parking. Are future residents aware of that fact?

MCDP suggests "perhaps they could park at neighboring businesses." I pointed out that the only "neighboring business" is a dental office at the intersection of Lambert and Washington Avenue Extension. They responded by saying "perhaps" the Baptist Church on Lambert could be used.

Wouldn't that church (which isn't a business) need to have their own parking lot plowed out and not be an overflow parking lot for residents at this cooperative?

3. There will be two buildings situated across from one another. MDCP is now suggesting that one building 's units will be sold to those who qualify for a different level of financing. The north building for those who are eligible to finance 60% and the south building for those who will finance 60-100%. Isn't this a form of SEGREGATION and DISCRIMINATION which will also make financial information public knowledge?

4. Pedestrian improvements and traffic on Washington Avenue Extension -- Requesting that bollards be added is perhaps a good start. One of the MCDP reps (Mr. Eng) suggested that all truck drivers attempting to turn onto Washington Avenue Extension from Auburn Street are "professional" drivers and would have "no problem" making that turn without damaging sidewalks, parked cars or bollards. I disagree. Several articles I have read recently have been about the lack of proper training for professional drivers. This also doesn't take into account folks renting large trucks for moves and the like who have never driven a truck before.

5. Scale of project -- If this project were scaled back as originally planned before the 2nd parcel became available to the City (as mentioned at the 8/4/2022 meeting), this would perhaps be a better fit for the area.

Please feel free to contact me about any of the above comments. Thank you.

Lauren Manera

77 Lambert St., Unit A 2
207-279-9017

PL-002078-2022 - walking / biking

0 views

Subscribe

Ed Eggleston <eeggleston@gmail.com> 5:58 AM (6 hours ago)
to planning@portlandmaine.gov, Sean King

Background:

The developer has talked about being able to walk / bike to various places in the existing neighborhood in various documents.

The section of Washington Ave Ext between Lambert St and Auburn St currently:

Has walking / bike lanes on both sides

Has NO sidewalks

Has drainage culverts on both sides

Has wetlands on both sides between the development sites and Auburn St.

Concern:

With the proposed parking of 60{?) cars in the existing bike lanes, and no sidewalks, it seems that it would be unsafe to try to walk or bike in or out of the development.

There has been problems with basement water in the neighborhood in the past and building a sidewalk across the wetlands OR filling in the drainage culverts seems like a very bad idea.

Ed Eggleston
660 Auburn St

--

Ed Eggleston

Lambert st Portland

jt2 portland me <joantwin2jean@gmail.com> Mon, Aug 8, 2022 at 3:07 PM
To: "sking@portlandmaine.gov" <sking@portlandmaine.gov>

Tortilla flats on outer forest Ave just closed, why not build high rise square box "affordable" housing there. Or the empty walgreens on Allen ave across from the empty mobile gas station.? Stop the destruction of urban forest! This are is still green and beautiful! People have ruined the world and this little email won't matter one way or the other. Too many people, traffic, housing for what? More and more urban density and no birds, deer (yes many live there) racoons, hawks, fox and on and on. Murderers, that all this is.

PC12

Public Comment on 165 Lambert St.

0 views

Subscribe

Don Miller <ggdemiller2@gmail.com> Aug 12, 2022, 11:44:55 AM (2 days ago)
to planningboard@portlandmaine.gov

Public comment by Don Miller, 45 Garsoe Dr., Portland

My concern is for adequate parking to be planned for the 165 Lambert St. development. As I understand, at present space is planned for ~0.5 cars per unit. This includes the 55 on-street parking spaces requested on Washington Ave. Ext. Considering the location of the development at the edge of Portland, a mile from schools and grocery stores, and who knows what distance to a resident's place of work when not bus accessible, many new residents will have cars. A few residents will have no car and some people more than one; hence, planning should at least provide for 165 parking spaces, on-site or off-site.

Inadequate parking at 165 Lambert will result in residents parking on adjacent streets; e. g. Lambert and Garsoe. Their parking on Garsoe is problematic. This street is of reduced width. (Is the width 29 feet?; a design for traffic calming. In winter, the Garsoe width is reduced an additional 2 to 3 feet further due to snow and ice accumulating on each side of the street.) If there is overnight or weekend parking on Garsoe to the extent that there is a string of 10, 20, or 30 cars parked at the curb, that section of Garsoe becomes a one-way street. When no cars are parked at the curb, it is easy for cars and/or commercial traffic entering and exiting to pass a vehicle traveling the opposite direction to pass on Garsoe. But if a car is parked at the chub, the street is simply too narrow for two cars to pass safely; one vehicle in the travel lane must wait for the other to pass. This is not a big deal when just one car is parked at the curb; but if there are a string of cars many so parked. Garsoe carries appreciable traffic now. It has become the major route to and from Auburn for many of the streets below, from Alice and on to those adjacent streets. (Buildout of the 15 lots on Brandy Ln. will add 30 more cars to those presently using Garsoe daily.)

I ask the Planning Board to visit the question of parking at 165 Lambert, and hopefully require a more realistic number of parking spaces, on-site or off-site. We are an automobile-dependent people and by simply trimming parking at this development will not make the problem go way. I encourage the City Planning Board not to gloss over the problem like the developer has to date.

Thank you.

Please acknowledge receipt.

Don C. Miller, 45 Garsoe Dr., Portland

Marpheen Chann
Brandon Mazer
David Silk
Austin Smith
Justin Baker
Maggie Stanley
Sean Murphy

August 1, 2022

Dear Planning Board members,

This letter is written to express the neighborhood concern regarding the expected increase in traffic due to the Lambert Woods housing proposal submitted by Maine Cooperative Development Partners and located at 165 Lambert and 622 Auburn. With the proposed 165 housing units, the number of vehicles added on the neighborhood roads could increase by two hundred or more vehicles. While we are not in opposition of the development, we are extremely concerned about the increased traffic and the hazards this will bring to our neighborhood.

We ask that there be immediate consideration to the intersection of Lambert and Summit. It is our request that there be a four-way stop at this intersection, traffic calming measures, a cross walk and narrowing of the road to prevent cars from passing turning traffic. This intersection is awkward, wide and with blind spots, especially with a rising or setting sun. The church parking lot adds two additional traffic entrances into the four-way intersection adding additional hazards to bicyclists, pedestrians, and vehicles. The four-way stop would slow traffic on Lambert, which currently has no stop signs. Slowing traffic will make safer passage as well as lower traffic noise in the neighborhood. Traffic on Lambert St is often exceeding the speed limit, which increases the vehicle noise to the surrounding homes.

When there are conversations with Maine DOT, we would support an effort to add a traffic light at the intersection of Washington Ave Extension and Auburn St.

The neighborhood asks that as infrastructure conversations happen during city meetings, the conversations include this North Deering neighborhood. With the new and existing neighbors, it will be extremely important to improve or add sidewalks, bicycle lanes, crosswalks, and increased schedules for public transit. With more traffic and residents coming to this neighborhood, it will be imperative to offer safe pedestrian passage as well as improve the traffic pattern for the safety of our neighbors.

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We would be happy to meet with city officials to discuss our concerns further.

Sincerely,

Ruth Bettinger	Ruth M Bettinger	501 Summit St
Lara Austill	Lara Austill	450 Summit st
Anthony Gabovey	Anthony Gabovey	450 Summit St.
Marilyn Kirby	Marilyn A Kirby	517 Summit St.
Jason Barnes		125 Lambert
Mary Cafazzo	Mary Cafazzo	544 Summit St.
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Michelle Clavitt	Michelle Clavitt	2005 Washington Ave
Brina Kelly	Brina Kelly	539 Summit St.
John Walsh	John Walsh	525 Summit St
Brittney Walsh	Brittney Walsh	525 summit st.
Matthew Lucey	Matthew Lucey	520 Summit St
Victoria Ludey	Victoria Ludey	520 Summit St
Ann M Courtney	Ann M Courtney	517 Summit St
Merrie V. Allen	MERRIE V. Allen	517 Summit St.
Jess Cassese	Jess Cassese	7 Morningstar Ln.
SABATO CASSESE		7. Morningstar Ln
DENISE TADDEO	Denise Taddeo	34 Morningstar Ln
Dianne Watters	Dianne Watters	15 MORNINGSTAR Ln.
Matt Watters		15 Morningstar Lane
BYRON REBURN		513 SUMMIT STREET
Colleen Shula	Colleen Shula	513 Summit St
ED EGGLESTON	Ed Eggleston	660 AUBORN ST
MARK MORAN		56 MORNINGSTAR LN
JANet Christopher	David S. Christopher Jr	7 Stonecrest Dr.
JEFF SMATHA	Jeff Smatha	33 MORNINGSTAR Ln
Joan Smaha	Joan Smaha	33 Morningstar Ln
Peter Christopher	Peter Christopher	7 Stonecrest Dr
James Cimpi	James Cimpi	198 Lambert St.

Madeleine Bates	Madeleine J. Bates	157 Lambert St.
Jamie Stone	Jamie Stone	70 Stonecrest Drive

Sean King <sking@portlandmaine.gov>

165 Lambert Street Development Plans

Christian Misener <christianmisener@gmail.com> Fri, Aug 5, 2022 at 2:05 PM
To: "sking@portlandmaine.gov" <sking@portlandmaine.gov>

Hi Scott,

Thank you and the Planning Board for all of the communications regarding this project. I am a nearby neighbor, on Longview Drive, near Auburn Street.

I appreciate that Portland is working to provide affordable housing on the bus line, and providing residents easy access to the City and groceries and pharmacies.

Here are my concerns with the development:

1. That there will be enough parking for residents and their visitors, without their needing to park on Washington Avenue Extended, Auburn Street, or Lambert Street.
2. That a lot of the trees within this development can be preserved if possible.

I realize that these two concerns can be at odds with one another.

Thank you again,

Chris Misener

Ed Eggleston <eeggleston@gmail.com> Oct 11, 2022, 8:48:14 PM (14 hours ago)
to Sean King, Planning

Sean,

I have a question and a comment from the meeting.

Can you identify the wetlands that they were talking about? Possible circle the area(s) on one of the slides and send it.

I am at 660 Auburn St, Portland, ME 04103 and have some general concerns about wetland and basement water issues.

The other two items that I found concerning were:

There was an initial slide about sight lines coming out of the development. The issue is that with no parked cars, you have good sight lines but as soon as you start parking, the sight lines go way down.

The other issue is "who" uses the piece of Washington Ave. It is nice to talk about raised crosswalks etc for cars, but living around the corner it is obvious that there are a fair number of large and small trucks. The combination of semi's and speed bumps / raised crosswalks is interesting.

I personally have mixed feeling as I would not mind having no truck traffic BUT if you have to go to / from the Riverside industrial to I-95, you really don't have any other route

thanks

Ed

10-18-2022

City of Portland Planning Board

Re: Plan Number PL-002078-2022 (165 Lambert Street)

Planning Board,

My name is Dr. Kenneth Myers. I own a dental office and building located at 2 Blackstrap Road Falmouth, Maine. This property is located at the intersection of Blackstrap, Washington Ave ext. and Lambert Streets. I recently viewed online the Planning Board workshop dated October 11, 2022.

Obviously, I have several concerns about the location and plan for this project. My two major concerns at this point are about:

1. Parking: The number of parking lots per unit of .41 spaces per unit (65) and the 56 on street parking sites.

2. Safety: The volume of traffic on Washington Ave Extension, type of traffic, and the proposed cross-walk to be located on Auburn Street.

In my view, there is no logical or pragmatic reason that there is not at least one off-street parking space per unit. This project is located at the very edge of Portland City limits and not in the “inner city’. The explanation of how the residents can commute around the city has no logical basis. For at least 5 months of the year, the area is not walkable or bikeable due to the winter weather. This alone begs the question, where are the on-street vehicles going to park when there are parking restrictions caused by inclement weather? Due to the number of large trucks that pass through this street headed to the Turnpike exit from the Riverside Industrial area also makes parking on the street very unsafe. Car occupants opening car doors when parking or Children out playing running between parked cars is just asking for a tragic situation.

Every morning and evening at the time of the workday commute, there is a back up of traffic at both the Blackstrap and the Auburn Street intersections. The idea that a crosswalk can be safely placed on Auburn Street in also illogical and very dangerous. Traffic turning onto and off of Washington Avenue is heavy, and

persistent. The speeds of the traffic on Auburn are not conducive to a cross walk especially located so close to a major intersection.

If we are honest with the planning of this project, it has to be realized that this is not an inner-city project that would have the same commuting issues. This is an over-sized project that is the developers are trying to squeeze into rules and regulations that are not applicable in this situation. If the project is to proceed, it needs to be significantly scaled down to a manageable size for the neighborhood and location. It is not as if there are numerous job opportunities anywhere close to this project. It is only logical that the occupants will want their vehicles so that they can commute to work, school, shopping, etc. None of these necessities are even close to this proposed project.

Please take the time to consider these concerns and make the scale of the project safe and pragmatic at best. If there are wetland or nature issues that are restrictive, that is why specific guidelines are in place and should be adhered to while planning an appropriate limitation to the project. It is poor planning to believe that you can bend other important issues such as parking and safety to negate these preexisting rules.

Sincerely,

Kenneth E. Myers, D.D.S.

Sean King <sking@portlandmaine.gov>

Re: 57 Douglass St. (Maine Cooperative Housing Dev. Housing Partners)

Frank Sanfilippo <frank.sanfilippo@icloud.com> Tue, Feb 14, 2023 at 11:10 AM
To: planningboard@portlandmaine.gov
Cc: sking@portlandmaine.gov, libbytown@googlegroups.com

To Whom It May Concern:

The purpose of this letter is to express our displeasure of Libbytown Commons' (LC) desire to expand.

We are in favor of LC providing more outdoor space and a walking path, but we think expanding LC from 120 to 129 units puts us at risk in various ways, as it is certain to make our neighborhood more unsafe from the increased chance of vehicles accidentally running into people or other vehicles, while increasing air, noise and visual pollution.

Nine more units may not seem like a big deal, but it is already a big deal to have this project altering our streetscape and community in a major way.

Historically, the lack of parking has been a problem, especially when it is game season and when Thompson's Point holds concerts. The buildings that will be going up will be replacing approx. 20 spots that are well-used.

In addition, there are more parking spots being used by families that are visiting the new Adventure Playground, so we anticipate even less parking on our streets.

AND, I haven't even included the traffic and parking issues that will accumulate once the skateboard park is expanded.

Density as it relates to a lack of safety and aesthetics is a major concern; we haven't seen any information on how much the public infrastructure can hold; it needs to be clear that people are part of the infrastructure as opposed to being an after-thought.

Again, expanding the Commons will not only increase the traffic, making it unsafe for all of us, but it will also add air, noise, and visual pollution.

We are AT MAX right now. We hope you reconsider and think with your heart (not self-interest) about the overall health of those who live here and of those who visit to enjoy Portland's amenities.

Please do not allow any further expansion of Libbytown Commons.

Sincerely,
Susannah and Frank Sanfilippo
Douglass St.
Portland, ME

NOTICE FROM CITY OF PORTLAND PLANNING DIVISION

IN THE VICINITY OF 57 DOUGLASS ST

To residents and property owners: Maine Cooperative Housing Development Partners has submitted a Planning Board-level Major Site Plan Amendment application to amend PL-001888-2021, approved by the Planning Board on May 24, 2022, to revise the design of the two-story residential buildings, increase residential unit count from 120 units to 129 units, and create a new outdoor space and walking path. The subject property totals 3.35 acres, and is zoned R-5A Residential.

In accordance with the Portland Land Use Ordinance, notices of receipt of a Major Site Plan application must be sent to property owners within 500 ft. of the subject property (or 1,000 ft. if the project is a subdivision or map amendment for a site located within an Industrial Zone). You will be notified of future Planning Board meetings by receiving notices from the Planning Division prior to any workshops or public hearings.

A project and plan summary is available for viewing on the Citizen Self Service Portal (https://css.portlandmaine.gov/), by referencing Plan Number PL-002271-2022. Written comments should be submitted to planningboard@portlandmaine.gov. If you have any questions regarding the proposal, please contact Sean King, Urban Designer, by phone at 207-874-8901 or e-mail at sking@portlandmaine.gov.

JAN 17 2023

Traffic Calming Petition
Determination of Preliminary Eligibility

We, the undersigned, herby petition the city Traffic Engineer, pursuant to Section 28-252 of the Portland City Code, for a determination of preliminary eligibility for traffic calming for: Summit + Lambert St Intersection, Traffic calming on both Summit St + Lambert St

(Identify the specific street or portion of a street)

We further state that:

1. Each signer is at least eighteen (18) years old; and
2. A resident or business owner on the specified street; and
3. Ruth Bettinger (Name of contact), who has a mailing address at 501 Summit St, Portland and whose telephone number is 207-752-1071, is the individual to whom all notices or correspondence shall be sent.

	Resident or Business Owner (Signature)	Date	Resident or Business Address (Street and #)	Resident or Business Owner Name (Please Print)
1.	Lauren Chanera	11/5/22	77 Lambert St Unit A2 Portland ME 04103	LAUREN C MANERA
2.	Jessica Cassese	11/18/22	7 Morningstar Ln Portland, ME 04103	
3.	Ann M Courtney	11-18-22	517 Summit St. 04103	ANN M. COURTNEY
4.	Marilyn Kirby	11/18/22	525 Summit St	Marilyn A. Kirby
5.	Kathy Walsh	11/19/2022	513 SUMMIT STREET, PORTLAND, ME 04103	JOHN WALSH
6.	Colleen Shula	11/26/2022	450 SUMMIT ST PORTLAND	Colleen M. Shula
7.	Lara Austill	11/26/2022	456 Summit St	LARA AUSTILL
8.	Anthony Gabriel	11/26/22	117 Lambert St	Anthony Gabriel
9.	Kathy Kamin	11/27/22	520 Summit St	Kathy Kamin
10.	Matthew Lucey	11/27/22	520 Summit St.	MATTHEW LUCEY
11.	Victoria Lucey	12/11/22	544 Summit St.	Victoria Lucey
12.	Mary Catazzo	12/19/22	456 Summit St	Mary Catazzo
13.	Gene DiMillo	1/2/23	539 Summit St	GENE DiMILLO
14.	Raina Feigenbaum	1/12/23	539 summit st.	Raina Feigenbaum
15.	Max Feigenbaum	1/17/23	193 Lambert St	Max Feigenbaum
				Chris Nappi

A minimum of ten (10) signatures must be on the petition.

Municipal Use Only

Date Petition Received: 1/17/23 Total Valid Signatures: 17 Clerk Initials: PR

PC19

JAN 30 2023

Traffic Calming Petition
Determination of Preliminary Eligibility

We, the undersigned, herby petition the city Traffic Engineer, pursuant to Section 28-252 of the Portland City Code, for a determination of preliminary eligibility for traffic calming for: Summit + Lambert St Intersecti

Traffic calming on both Summit St + Lambert St
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3. Ruth Bettinger, who has a mailing address at 501 Summit ST,
(Name of contact)
and whose telephone number is 207-752-1071, is the individual to whom all notices or correspondence shall be sent.

	Resident or Business Owner (Signature)	Date	Resident or Business Address (Street and #)	Resident or Business Owner Name (Please Print)
1.		1/18/23	145 Lambert St	Diane McCurdy
2.	Curtis Chim	1/18/23	200 Lambert St	Curtis Chim
3.		1/18/23	179 Lambert St	Karen Johnson
4.		1/16/23	159 Lambert	Richard Kimball
5.		1/29/23	13 Lambert St.	Cynthia McDonough
6.	(Agent for Owner)	1/26/23	55 Lambert St. #1	[illegible] Smith
7.	Kalynda Bean	1/28/23	55 Lambert St #4	Kalynda Bean
8.	Alex Fiveci	1/28/23	55 LAMBERT ST #21	[illegible]
9.	Jessica Johnson	1/28/23	55 Lambert St #17	Jessica Johnson
10.	Matt Welch	1/28/23	77 Lambert St	[illegible]
11.		1/29/23	166 Lambert St.	Tracy Scala
12.				
13.				
14.				
15.				

A miuimum of ten (10) signatures must be on the petition.

Municipal Use Only

Date Petition Received: 1/30/23 Total Valid Signatures: 9 Clerk Initials: NR

165 LAMBERT CO-OP

MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

LEGEND

EXISTING

REFER TO THE EXISTING CONDITIONS PLAN FOR ADDITIONAL INFORMATION

PROPOSED

	UNDERDRAIN
	GREEN SPACE
	UTILITY PAVEMENT CUTS
	STRIPING
	SEDIMENTATION BARRIER
	EDGE OF EX. PAVEMENT
	CURB
	SIGN
	LAMP OR LIGHT POLE
	UTILITY POLE
	GUY WIRE
	WATER VALVE
	FIRE HYDRANT
	SEWER MANHOLE
	CATCH BASIN
	DRAIN MANHOLE
E — E	UNDERGROUND ELECTRIC LINE (UGE)
W — W	UNDERGROUND WATER LINE (1"W)
	MINOR CONTOURS (1 FT) (64)
	MAJOR CONTOURS (5 FT) (65)
G — G	GAS LINE
SD — SD	STORM DRAIN LINE
SS — SS	SEWER LINE (S)
	EXISTING/PROPOSED BUILDING
	OVERHEAD ELECTRICAL/TELEPHONE/CABLE (OHE/T/C)
	PROPERTY LINE
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UTILITIES

SEWER

DEPARTMENT OF PUBLIC WORKS (DPW)
250 CANCO ROAD
PORTLAND, MAINE 04101
CONTACT: KEITH GRAY, P.E.
(207) 874-8834

WATER

PORTLAND WATER DISTRICT
225 DOUGLASS STREET
PO BOX 3553
PORTLAND, MAINE 04104
ATTN: MEANS DIVISION
(207) 774-5961

ELECTRIC

CENTRAL MAINE POWER COMPANY (CMP)
162 CANCO ROAD
PORTLAND, MAINE 04103
(207) 828-2882

TELEPHONE

CONSOLIDATED COMMUNICATIONS
(FORMERLY FAIRPOINT)
45 FOREST AVENUE
PORTLAND, MAINE 04101
CONTACT: PAT MORRISON
(207) 745-9363

CABLE

SPECTRUM CABLE
118 JOHNSON ROAD
PORTLAND, MAINE, 04102
CONTACT: MARK PELLETIER
(877) 546-0962

PROJECT TEAM

DEVELOPER

MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE
CONTACT: MATTHEW PETERS
(207) 415-3870

ARCHITECT

KAPLAN THOMPSON ARCHITECTS
PORTLAND, MAINE
CONTACT: ADAM WALLACE, R.A.
(207) 210-8253

SURVEYOR

OWEN HASKELL, INC
FALMOUTH, MAINE
CONTACT: RANDY LOUBIER P.L.S.
(207) 774-0424

TRAFFIC ENGINEER

BARTON & LOGUIDICE
SCARBOROUGH, MAINE
CONTACT: JOHN Q. ADAMS P.T.O.E, P.E.
(207) 331-6694

GEOTECHNICAL ENGINEER

SUMMIT GEOENGINEERING SERVICES
LEWISTON, MAINE
CONTACT: BILL PETERLEIN, P.E.
(207) 318-7761

MEP

FUSS & O'NEIL
KENNEBUNK, MAINE
CONTACT: ANDREW WILKINSON, P.E.
(802) 318-3422

CIVIL ENGINEER:

ACORN ENGINEERING, INC.
PORTLAND, MAINE
CONTACT: SAM LEBEL, P.E.
(207) 775-2655

LANDSCAPE ARCHITECT

ACETO LANDSCAPE ARCHITECTURE
PORTLAND, MAINE
CONTACT: NICK ACETO, RLA
(207) 221-3390

TRANSPORTATION CONSULTANT

CUSHMAN TRANSPORTATION CONSULTING, LLC.
94 BECKETT STREET, 2ND FLOOR
PORTLAND, MAINE
CONTACT: SARAH CUSHMAN
(207) 200-1910

FORESTER

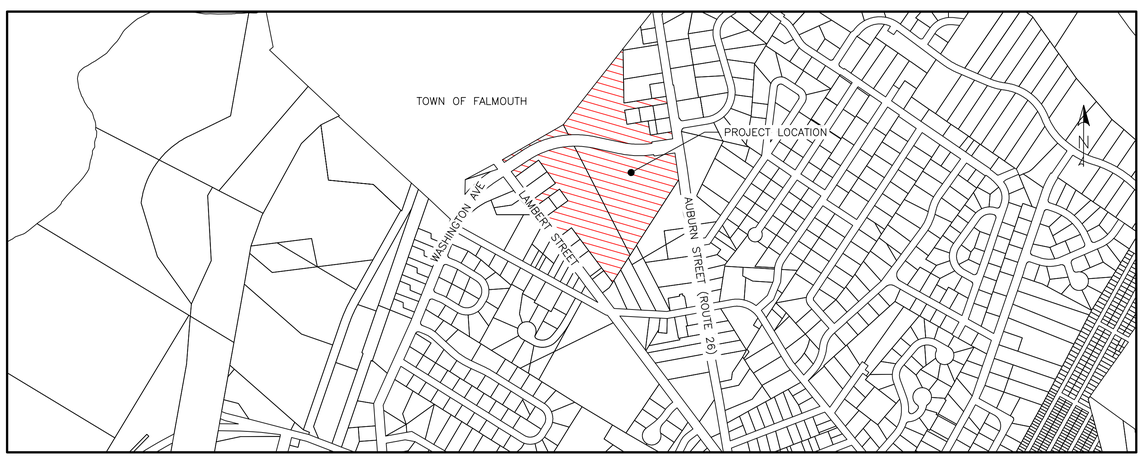
SOUTHERN MAINE FORESTRY SERVICES, INC.
PO BOX 910
WINDHAM, MAINE
CONTACT: RENE D. NOEL, JR. ACF
(207) 892-6562

WETLAND SCIENTIST:

JONES ASSOCIATES INC
AUBURN, MAINE
CONTACT: MARY ELLA JONES
(207) 241-0253

ELECTRICAL ENGINEER

MEGA ENGINEERING
PORTLAND, MAINE
CONTACT: MATTHEW LYLE, P.E.
(207) 749-4514



VICINITY MAP
SCALE: 1:500

ABBREVIATIONS

PARTIAL LIST OF ABBREVIATIONS AND THEIR CORRESPONDING MEANING. PLEASE CONTACT THE ENGINEER FOR ANY CLARIFICATION	
APPROX.	APPROXIMATE
BC	BOTTOM OF CURB
BMP	BEST MANAGEMENT PRACTICE
BOT.	BOTTOM
CB	CATCH BASIN
CF	CUBIC FOOT
CIP	CAST IN PLACE
CL	CENTERLINE
CM	CONSTRUCTION MANAGER
CMP	CENTRAL MAINE POWER
CONC.	CONCRETE
CPP	CORRUGATED PLASTIC PIPE
CY	CUBIC YARD
DI	DUCTILE IRON PIPE
DIA.	DIAMETER
DIM.	DIMENSION
EA.	EACH
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EQUIV.	EQUIVALENT
EST.	ESTIMATE
EX.	EXISTING
FI	FIELD INLET
FFE	FINISH FLOOR ELEVATION
FT.	FEET
HDPE	HIGH DENSITY POLY ETHYLENE
ID	INNER DIAMETER
IN.	INCH
INV.	INVERT
L	LENGTH
MAX.	MAXIMUM
MDEP	MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
MDOT	MAINE DEPARTMENT OF TRANSPORTATION
M.E.P	MECHANICAL, ELECTRICAL, PLUMBING DESIGNER
MFG.	MANUFACTURED
MH	MANHOLE
MIN.	MINIMUM
O.C.	ON CENTER
OD	OUTSIDE DIAMETER
OHE/T/C	OVERHEAD ELECTRIC/TELEPHONE/CABLE
PC	PRECAST
PE	PROFESSIONAL ENGINEER
PL	PROPERTY LINE
PLS	PROFESSIONAL LAND SURVEYOR
PROP.	PROPOSED
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PWD	PORTLAND WATER DISTRICT
R	RADIUS
RD	ROOF DRAIN
RET.	RETAINING
ROW	RIGHT OF WAY
S	SLOPE
SD	STORM DRAIN
SDR	STANDARD DIMENSION RATIO
SF	SQUARE FEET
SMH	SEWER MANHOLE
SPEC.	SPECIFICATION
TC	TOP OF CURB
TW	TOP OF WALL
TYP.	TYPICAL
UD	UNDERDRAIN
UGE	UNDERGROUND ELECTRIC
VIF	VERIFY IN FIELD

CALL BEFORE YOU DIG
1-888-DIG-SAFE
1-888-344-7233

STATE OF MAINE — WILLIAM H. SAVAGE — 11419 — 2/1/23 — LICENSED PROFESSIONAL ENGINEER

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
SITE/SUB	SJL 6/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: COVER SHEET & LEGEND
PROJECT NAME/ADDRESS: 165 LAMBERT ST CO-OP, PORTLAND, MAINE 04103
CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS, PORTLAND, MAINE

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION OF ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE TO THIS PLAN OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3357, PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE — SAMUEL J. LEBEL — 12505 — LICENSED PROFESSIONAL ENGINEER — 1/31/23

DRAWING NO.
C-01

GENERAL NOTES:

1. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE ANY POTENTIAL CONFLICTS WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.

2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL EROSION CONTROL MEASURES SHOWN ON THE PLAN. IF DEEMED NECESSARY BY THE OWNER OR OWNER'S REPRESENTATIVE (IF APPLICABLE), ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER.

3. THE CONTRACTOR SHALL PREPARE THEIR OWN MATERIAL SCHEDULE BASED ON THE PLANS AND FIELD VERIFICATION BY THE CONTRACTOR. ALL MATERIAL SCHEDULES SHOWN WITHIN THE PLAN SET ARE FOR GENERAL INFORMATION ONLY.

4. ALL CONSTRUCTION METHODS, TESTING AND MATERIALS SHALL CONFORM TO THE MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, THE CITY OF PORTLAND AND SERVICING UTILITY REQUIREMENTS, IF ANY. IN CASES WHERE THESE CONFLICT THE MOST STRINGENT SPECIFICATION SHALL APPLY AT NO ADDITIONAL COST TO THE OWNER.

5. THE SITE CONTRACTOR SHALL MAINTAIN A SET OF PAPER AND CAD DRAWINGS WHICH SHALL RECORD THE ACTUAL LOCATION, DIMENSIONS, ELEVATIONS, MATERIALS OF THEIR WORK, INDICATING THEREON ALL VARIATIONS FROM THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH ONE COMPLETE SET OF REPRODUCIBLE RECORD DRAWINGS, IN .DWG FORMAT AND PAPER, STAMPED ''AS-BUILT''. IF AUTOCAD CAPABILITY IS NOT AVAILABLE, EXCLUDE FROM BID IN WRITING.

6. THE CONTRACTOR WILL REMAIN SOLELY AND COMPLETELY RESPONSIBLE FOR ENFORCEMENT OF AND COMPLIANCE WITH 1) ALL CONTRACT PLANS AND SPECIFICATIONS, 2) APPLICABLE INTERNATIONAL BUILDING CODE REQUIREMENTS, AND 3) ALL SITE WORKING CONDITIONS AND SAFETY REQUIREMENTS, DAY AND NIGHT, FOR BOTH PERSONS AND PROPERTY, IN EACH CASE BOTH BY THE CONTRACTOR AND ITS SUBCONTRACTORS. THESE INCLUDE ALL OSHA, NIOSH, U.S. EPA AND ANY OTHER APPLICABLE GOVERNMENTAL REGULATIONS.

7. EXISTING CONDITIONS, BOUNDARY SURVEY, AND TOPOGRAPHY FROM THE PLAN TITLED BOUNDARY & TOPOGRAPHIC SURVEY BY OWEN HASKELL, INC FOR THE MAINE COOPERATIVE DEVELOPMENT PARTNERS, DATED 7/14/2022.

8. SUBSURFACE DATA HAVE BEEN OBTAINED BY SUMMIT ENGINEERING, INC. AND SHALL BE INCLUDED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL ALSO REVIEW THE REPORT PRIOR TO SUBMITTING A BID.

9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCESS TO THE SITE AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY MARKINGS, SIGNAGE AND INCIDENTALS TO MAINTAIN A SAFE VEHICLE AND PEDESTRIAN ACCESS THOUGH THE LIFE OF THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE PORTLAND PUBLIC SAFETY DIVISION ROUTINELY REGARDING TEMPORARY IMPACTS OR CHANGES TO SITE ACCESS CONDITIONS.

10. CONSTRUCTION MANAGEMENT PLAN NARRATIVE PREPARED BY ACORN ENGINEERING, INC. SHALL BE REFERRED TO FOR ANTICIPATED PROJECT SCHEDULE AND CLOSURES. TRAFFIC CONTROL SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

11. CONTRACTOR TO DETERMINE SOIL CLASSIFICATION INDEPENDENTLY FOR TRENCH, SHORING, AND OTHER SIMILAR CONSTRUCTION MEANS AND METHODS APPLICATIONS.

12. NO HOLES, TRENCHES, OR STRUCTURES SHALL BE LEFT OPEN OR UNATTENDED OVERNIGHT IN ANY AREA ACCESSIBLE TO THE PUBLIC OR WITHIN THE PUBLIC RIGHT-OF-WAY.

13. THE CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION SURVEY OF INTERIOR SUBGRADE AND ABOVE GRADE ACCESSIBLE WALLS, CEILINGS, FLOORS, ROOF AND VISIBLE EXTERIOR AS VIEWED FROM THE GRADE LEVEL. THIS SHALL BE COMPLETED AT A MINIMUM FOR STRUCTURES IMMEDIATELY ABUTTING THE SITE. A COPY OF THE SURVEY SHOULD BE PROVIDED TO THE OWNER. DOCUMENT WITH PICTURES AT A MINIMUM.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY TRENCH PAVEMENT THAT HAS EXPERIENCED EXCESSIVE SETTLEMENT, CRACKING, OR OPENING OF JOINTS. REPAIRS MAY INCLUDE OVERLAY. REMOVAL OF WORK MAY BE NECESSARY AFTER THE FINAL ACCEPTANCE OF WORK OR PRIOR TO THE END OF THE WARRANTY PERIOD. THIS WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

CIVIL SITE NOTES:

1. THE CONTRACTOR SHALL SUBMIT IN WRITING ANY REQUESTS TO ACORN TO MODIFY THE CONTRACT DOCUMENTS.

2. ALL SHOP, ERECTION, AND CONSTRUCTION DRAWINGS SHALL BE CHECKED AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMISSION FOR ACORN'S REVIEW. ANY UNCHECKED OR NON-STAMPED SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.

3. CONTRACTOR SHALL THOROUGHLY INSPECT AND SURVEY EXISTING STRUCTURES AND SITE TO VERIFY CONDITIONS THAT AFFECT THE WORK SHOWN ON THE DRAWINGS. CONTRACTOR TO NOTIFY ACORN OF ANY DISCREPANCIES PRIOR TO PROCEEDING.

4. DETAILS SHOWN APPLY TO ALL SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED.

5. ALTHOUGH ALL DUE DILIGENCE HAS BEEN APPLIED TO MAKE THE DRAWINGS AS COMPLETE AS POSSIBLE, NOT ALL DETAILS ARE ILLUSTRATED, NOR IS EVERY EXCEPTION CONDITION ADDRESSED WITHIN THE CONTRACT DOCUMENTS.

6. ALL PROPRIETARY CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

7. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL WORK, INCLUDING DIMENSION AND LAYOUT VERIFICATION, MATERIALS COORDINATION, SHOP DRAWING REVIEW, AND THE WORK OF ANY SUBCONTRACTORS.

8. UNLESS OTHERWISE SPECIFICALLY INDICATED, THE DRAWINGS DO NOT DESCRIBE OR DIRECT MEANS OR METHODS OF CONSTRUCTION.

9. THE CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PERFORM OR SUPERVISE ALL WORK NECESSARY TO ACHIEVE THE FINAL COMPLETED STRUCTURE, AND TO PROTECT THE STRUCTURE, WORKMEN, AND OTHERS DURING THE CONSTRUCTION. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR EXCAVATION, FORMWORK, SCAFFOLDING, SAFETY DEVICES AND PROGRAMS OF ALL KINDS, SUPPORT AND BRACING FOR CRANES AND OTHER ERECTION EQUIPMENT.

10. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL SUPPORTING SLABS AND FLOOR FRAMING ARE IN PLACE AND SECURELY ANCHORED, UNLESS ADEQUATE BRACING IS PROVIDED. PRIOR TO BACKFILL, PROVIDE CURING OF CONCRETE FOR 28 DAYS OR AS DIRECTED BY MATERIALS TESTING ENGINEER.

11. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL FLOORS, WALLS, ROOFS AND OTHER SUPPORTING ELEMENTS ARE IN PLACE, IF APPLICABLE.

12. ALL PAVEMENT JOINTS SHALL BE SAWCUT AND APPLIED WITH TACK COAT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.

13. ACORN BEARS NO RESPONSIBILITY FOR THE ABOVE ITEMS, AND SITE OBSERVATION VISITS DO NOT IN ANY WAY INCLUDE INSPECTION OF THEM.

14. EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SUBPART P OF 29 CRF PART 1926.650-.652 (CONSTRUCTION STANDARD FOR EXCAVATIONS).

15. ALL TRENCH PAVEMENT REPAIR SHALL BE COMPLETED WITH THE USE OF A STREET PAVER WITH A SCREED WIDTH CAPABLE OF SPANNING THE FULL WIDTH OF THE TRENCH UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

SPECIAL INSPECTION NOTES

1. ALL SITE SOILS-RELATED WORK AND FOOTING EXCAVATIONS PRIOR TO PLACING FORMS SHALL BE REVIEWED BY THE PROJECT GEOTECHNICAL ENGINEER.

2. ALL SITE DRAINAGE-RELATED WORK SHALL BE REVIEWED BY ACORN ENGINEERING.

3. NORMAL REVIEWS BY LOCAL BUILDING DEPARTMENT. NOTIFY 48 HOURS PRIOR TO REQUIRED REVIEW.

4. REQUIRED SPECIAL INSPECTIONS PER I.B.C. SECTION 1705.6 BY AN APPROVED SPECIAL INSPECTOR RETAINED BY OWNER. CONTRACTOR TO COORDINATE SPECIAL INSPECTIONS.

5. SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

5.1. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR SHALL BE TO OBSERVE AND/OR TEST THE WORK ASSIGNED AND OUTLINE ABOVE FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS, ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.

5.2. THE SPECIAL INSPECTOR SHALL FURNISH REGULAR REPORTS TO THE BUILDING OFFICIAL, THE ARCHITECT AND ENGINEER OF RECORD, AND OTHER DESIGNATED PERSONS. PROGRESS REPORTS FOR CONTINUOUS INSPECTION SHALL BE FURNISHED WEEKLY. INDIVIDUAL REPORTS OF PERIODIC INSPECTIONS SHALL BE FURNISHED WITHIN ONE WEEK OF INSPECTION DATES. THE REPORTS SHALL NOTE UNCORRECTED DEFICIENCIES, AND NET CHANGES TO THE APPROVED CONSTRUCTION DOCUMENTS AUTHORIZED BY THE ENGINEER OF RECORD.

5.3. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT WITHIN TEN DAYS OF THE FINAL INSPECTION STATING WHETHER THE WORK REQUIRING A SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE AND BELIEF, IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE INTERNATIONAL BUILDING CODE. WORK NOT IN COMPLIANCE SHALL BE NOTED IN THE REPORT.

5.4. SPECIAL INSPECTOR SHALL BE EMPLOYED BY THE OWNER AND COORDINATED BY THE CONTRACTOR.

LAYOUT NOTES:

1. MONUMENTS DELINEATING PROPERTY LINES OR RIGHT OF WAYS SHALL NOT BE DISTURBED DURING CONSTRUCTION OPERATIONS. IN THE CASE A MONUMENT IS DISTURBED, AT THE CONTRACTOR'S EXPENSE, THE MONUMENT SHALL BE RESET TO ITS ORIGINAL LOCATION AND ELEVATION BY A REGISTERED LAND SURVEYOR.

2. ALL DIMENSIONS ON THE FOLLOWING SHEETS TAKE PRECEDENT OVER SCALED DIMENSIONS. EACH DRAWING WITH A BAR SCALE MEANS THAT THE DRAWING/DETAIL HAS BEEN SCALED AS ACCURATELY AS POSSIBLE, AND THE BAR SCALE IS FOR GENERAL REFERENCE ONLY. IF NO BAR SCALE IS PRESENT, THEN THERE IS NO SCALE TO THAT DRAWING/DETAIL. AT NO TIME SHOULD DRAWINGS BE SCALED FROM. ANY DISCREPANCIES BETWEEN DRAWINGS, DETAILS, SPECIFICATIONS AND THE FIELD CONDITION SHALL BE IMMEDIATELY REPORTED TO ACORN FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.

3. SIGNAGE, STRIPING, AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

4. ALL TRAFFIC CONTROL SIGNS INDICATED ON THE SITE LAYOUT PLAN ARE TO MEET ALL REQUIREMENTS & CONDITIONS OF THE CITY OF PORTLAND, MAINE DEPARTMENT OF TRANSPORTATION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

5. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A LICENSED PROFESSIONAL LAND SURVEYOR TO PROVIDE A MINIMUM OF TWO TEMPORARY BENCHMARKS WITHIN THE SITE AND TO LOCATE PROPOSED STRUCTURE CORNERS.

6. CONTRACTOR TO ENSURE THAT ACCESS, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVEWAYS, AND MAILBOXES ADJACENT TO THE PROJECT REMAIN FUNCTIONAL AND AVAILABLE FOR USE AT ALL TIMES.

PERMITTING NOTES

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF MAJOR SITE PLAN, SUBDIVISION, CONDITIONAL USE FOR INCLUSIONARY ZONING FROM THE CITY OF PORTLAND AND MAINE DEP STORMWATER PERMIT UNDER DELEGATED REVIEW.

2. THE CONTRACTOR SHALL REVIEW THE ABOVE REFERENCED PERMITS PRIOR TO SUBMITTING A BID FOR THIS PROJECT, AND INCLUDE COSTS AS NECESSARY TO COMPLY WITH THE CONDITIONS OF THESE PERMITS.

3. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY REQUIRES A STREET OPENING PERMIT FROM THE CITY OF PORTLAND. ADDITIONALLY, COORDINATE WITH THE DEPARTMENT OF PUBLIC WORKS.

GRADING AND DRAINAGE NOTES:

1. TOPSOIL STRIPPED FROM THE SITE THAT IS SUITABLE FOR REUSE AS LOAM (MEETS THE REQUIREMENTS WITHIN SECTION 615 OF THE MDOT STANDARD SPECIFICATIONS, MOST RECENT VERSION AND IS FREE OF TRACEABLE AMOUNTS OF CONTAMINANTS) SHALL BE STOCKPILED WITHIN THE PROPOSED LIMIT OF WORK AREA. THE CONTRACTOR SHALL NOT ASSUME THAT ANY STRIPPED TOPSOIL WILL BE ACCEPTABLE FOR REUSE WITH THEIR ESTIMATE.

2. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY; NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING. DEWATERING SHALL INCLUDE TREATMENT OF SILT THROUGH THE USE OF A DIRTBAG BY ACF ENVIRONMENTAL OR APPROVED EQUIVALENT. FLOWS FROM DEWATERING ACTIVITIES SHALL NOT BE DISCHARGED INTO SANITARY SEWERS. SEE BORING LOGS FOR ADDITIONAL INFORMATION.

3. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ANY EASEMENT OR TEMPORARY CONSTRUCTION RIGHTS AS NECESSARY BY PRIVATE ADJACENT LAND OWNERS. THE CONTRACTOR SHALL NOT DISTURB ANY SOIL BEYOND THE PROPERTY LINE WITHOUT NOTIFYING AND OBTAINING SUCH EASEMENT OR TEMPORARY CONSTRUCTION RIGHT FROM THE ADJACENT LAND OWNERS. PRIOR TO THE CONTRACTOR PRICING THE WORK, THEY SHALL PROVIDE ACORN WITH PROOF OF SUCH EASEMENT OR TEMPORARY RIGHTS. SHOULD EASEMENTS OR TEMPORARY RIGHTS NOT BE AVAILABLE, THE CONTRACTOR SHALL INCLUDE COST FOR BRACING AND SHORING AS NECESSARY.

4. THE CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS. THE MINIMUM SLOPE SHALL MEET OR EXCEED 0.5% IN ALL CASES. ALL SLOPES SHALL BE AWAY FROM BUILDINGS AND TOP OF PAVEMENT SHALL BE AT OR BELOW EXISTING FINISH FLOOR ELEVATIONS.

5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST GEOTECHNICAL REPORT PREPARED BY THE PROJECT GEOTECHNICAL ENGINEER.

6. NO ADDITIONAL PAYMENT FOR UNSUITABLE MATERIALS.

7. ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF N=0.012 OR LESS.

8. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.

9. NATIVE SOILS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LIMIT THE DISTURBANCE TO SUBGRADE SOILS. SHOULD THE SUBGRADE BECOME YIELDING OR DIFFICULT TO WORK, CONTACT ACORN. THE DISTURBED AREAS SHALL BE EXCAVATED AND BACKFILLED WITH COMPACTED SELECT FILL OR CRUSHED STONE AT NO ADDITIONAL EXPENSE TO THE OWNER.

10. ALL SUBGRADE PREPARATION IS SUBJECT TO THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER.

EROSION CONTROL NOTES:

1. DISTURBED AREAS ARE DEFINED AS THOSE SURFACES WHERE EXISTING VEGETATION OR STRUCTURES HAVE BEEN REMOVED, EXPOSING NATIVE SOIL TO THE ELEMENTS.

2. ALL ROUTINE WORK ACTIVITIES SHALL BE CONDUCTED IN SUCH A WAY TO LIMIT THE AMOUNT OF DISTURBED AREA AT ONE TIME TO THE EXTENT PRACTICABLE.

3. PRIOR TO THE START OF ANY CLEARING/LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL APPLICABLE EROSION CONTROL DEVICES SUCH AS PERIMETER SILT FENCE, AND OTHER APPLICABLE MEASURES. IN THE EVENT THE CONTRACTOR IS NOT SURE A EROSION CONTROL MEASURE SHOULD BE IMPLEMENTED, THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD TO CONFIRM IMPLEMENTATION OF ANY EROSION CONTROL DEVICES.

4. ALL GROUND AREAS GRADED FOR CONSTRUCTION SHALL BE GRADED, LOAMED, SEEDED AND MULCH SHALL BE APPLIED AS SOON AS POSSIBLE WITHIN 7 DAYS FOLLOWING THE COMPLETION OF ANY SOIL DISTURBANCE, AND PRIOR TO ANY STORM EVENT.

5. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED TO THE SATISFACTION OF THE CITY. THE CONTRACTOR SHALL REFERENCE THE APPROVED EROSION AND SEDIMENTATION CONTROL REPORT FOR TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES IN ADDITION TO THE PLAN SET. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE D.E.P.'S CURRENT MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

6. PRIOR TO PAVING, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT FROM STORM DRAINS, CATCH BASINS, AND APPURTENANCES.

7. REFER TO THE EROSION CONTROL DETAILS & NOTES FOR ADDITIONAL INFORMATION.

UTILITY NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED UPON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TEST PIT TO DETERMINE THE EXACT LOCATION AND ELEVATION OF UTILITIES TO COORDINATE WITH THE PROPOSED CONNECTIONS OR CROSSING. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO ACORN FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.

2. CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, CONDUCT EXPLORATORY EXCAVATIONS AT LOCATIONS WHERE PROPOSED EXCAVATION WILL INTERSECT WITH EXISTING UTILITIES, PRIOR TO THE ORDERING OF STRUCTURES.

3. ALL NEW SANITARY MANHOLES SHALL BE VACUUM TESTED BEFORE BACKFILLING. TESTING SHALL BE COMPLETED IN ACCORDANCE WITH TECHNICAL REPORT #16 (TR-16): GUIDES FOR THE DESIGN OF WASTEWATER TREATMENT WORKS, PREPARED BY THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION.

4. SEWER MANHOLES SHALL BE 4' ID UNLESS OTHERWISE STATED ON THE PLANS.

5. CONTRACTOR TO PROVIDE 5' OF COVER FROM TOP OF PIPE TO FINISH GRADE FOR WATER MAINS.

6. THRUST BLOCKS SHALL BE USED FOR THRUST RESTRAIN ON WATER MAINS. DETAIL AND LIMITS FOR THRUST BLOCKS ARE SHOWN WITHIN THE PLAN SET.

7. WATER INFRASTRUCTURE SHALL BE TESTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT DOCUMENT ''WATER AND SEWER CONSTRUCTION SPECIFICATIONS AND PROCEDURE'', MOST RECENT REVISION.

8. ALL REQUIRED FITTINGS FOR THE WATER MAIN ARE NOT SHOWN ON DRAWINGS. CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY FITTINGS REQUIRED TO CONSTRUCT THE WATER MAIN IN ACCORDANCE WITH CITY OF PORTLAND, STATE OF MAINE, AND AMERICAN WATER WORKS ASSOCIATION STANDARDS AND REGULATIONS.

9. CONTRACTOR SHALL COORDINATE WORK REGARDING ANY WATER MAIN CONNECTION AND WATER MAIN SHUTDOWN WITH THE PORTLAND WATER DISTRICT AT LEAST SEVEN (7) DAYS PRIOR TO CONSTRUCTION.

10. ALL WATER PIPE INSTALLATION SHALL CONFORM WITH THE PORTLAND WATER DISTRICT SPECIFICATIONS AND PROCEDURES, MOST RECENT EDITION.

11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

12. SEWER, GAS, TELEPHONE, ELECTRICITY, CABLE, WATER AND ANY OTHER UTILITY CONNECTIONS SHALL BE REVIEWED BY PLUMBING, ELECTRICAL, AND MECHANICAL DESIGNER FOR CONSISTENCY WITH THEIR PLANS PRIOR TO CONSTRUCTION.

13. COORDINATE EXIT POINT FOR SECONDARY UTILITY SERVICES WITH THE ARCHITECT/ELECTRICAL ENGINEER. SECONDARY LINE LOCATIONS NOT PROVIDED BY ACORN WITHIN THE UTILITY PLAN.

14. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL THE NECESSARY PERMITS FOR THE INSTALLATION OF THE UTILITIES AND STORMDRAINS WITHIN THE PUBLIC RIGHT OF WAY. THE CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC PLAN TO THE CITY IN ACCORDANCE WITH THE CITY OF PORTLAND TECHNICAL MANUAL PRIOR TO ANY WORK.

15. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL AT NO EXTRA EXPENSE TO THE OWNER.

16. ALL PIPE LINES SHALL SLOPE UNIFORMLY BETWEEN ELEVATIONS INDICATED ON THE DRAWINGS. NO CRESTS OR SAGS IN THE PIPING WILL BE PERMITTED. ALL HORIZONTAL AND VERTICAL BENDS IN PRESSURIZED PIPE LINES SHALL BE SUITABLY RESTRAINED WITH THRUST BLOCKS OR RETAINER GLANDS. RETAINER GLANDS ALLOWED FOR DUCTILE IRON PIPE ONLY. PROVIDE ALL BENDS, HORIZONTAL AND VERTICAL, AS REQUIRED TO MEET THE GRADES AND ALIGNMENTS INDICATED ON THE DRAWINGS.

17. ALL WASTEWATER PIPING, EXCLUDING BUILDING DRAINS, AND ALL PRESSURIZED PIPING, TO INCLUDE WATER MAINS, INSTALLED BENEATH STRUCTURES SHALL BE ENCASED IN CONCRETE.

18. WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS AND ADDITIONAL PIPE AS REQUIRED TO ENSURE A COMPLETE AND PROPERLY FUNCTIONING CONNECTION. CONTRACTOR TO VERIFY LOCATION, ELEVATION, ORIENTATION AND MATERIAL OF CONSTRUCTION. ADAPTERS AND FITTINGS ARE INCIDENTAL TO THE PIPE INSTALLATION.

19. WHENEVER POSSIBLE, WATER LINES SHOULD BE INSTALLED OVER WASTEWATER LINES. A MINIMUM SEPARATION OF 18 INCHES BETWEEN THE BOTTOM OF THE WATER LINE AND THE TOP OF THE WASTEWATER LINE SHALL BE MAINTAINED WHERE POSSIBLE. WHERE A WATER LINE CROSSES UNDER THE WASTEWATER LINE, A FULL LENGTH OF WASTEWATER PIPE SHALL BE CENTERED ABOVE THE WATER LINE SO THAT BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS POSSIBLE,

20. THE CONTRACTOR SHALL BE ANTICIPATE THAT THE NATIVE SILT AND CLAY SOILS WILL NOT BE SUITABLE FOR PIPE TRENCH BACKFILL IN PAVED AREAS.

21. GROUNDWATER SHALL BE CONTROLLED TO A LEVEL OF AT LEAST ONE FOOT BELOW SUBGRADE OF THE PIPE OR STRUCTURE. THE CONTRACTOR SHALL MAINTAIN THE LOWERED GROUNDWATER LEVEL UNTIL CONSTRUCTION HAS BEEN COMPLETED TO SUCH AN EXTENT THAT THE STRUCTURES OR PIPES WILL NOT BE FLOATED OR OTHERWISE DAMAGED.

22. EXCAVATION TO SUBRADE IN NATIVE SILT AND CLAY SHALL BE COMPLETED WITH A SMOOTH EDGE BUCKET TO MINIMIZE SUBGRADE DISTURBANCE.

23. ALL ADJUSTMENTS TO FINISHED GRADE ARE TO BE COMPLETED BY THE CONTRACTOR. THE CONTRACTOR SHALL CONFIRM STRUCTURES THAT REQUIRE ADJUSTMENT WITH THE ENGINEER OR OWNERS REPRESENTATIVE PRIOR TO ADJUSTING FRAMES.

DEMOLITION NOTES:

1. THE FOLLOWING ITEMS ARE TYPICAL OF MATERIAL WHICH MAY BE ON SITE:
   - ROCK AND CONCRETE FOUNDATIONS
   - CONCRETE SLABS
   - BITUMINOUS ASPHALT PAVEMENT
   - CONCRETE PADS AND BLOCKS
   - FENCE POST AND FENCING
   - UNDERGROUND UTILITY LINES
   - ABOVE AND OR BELOW FUEL OIL AND PROPANE GAS TANKS
   - STORM DRAIN PIPES AND APPURTENANCE STRUCTURES
   - OTHER TRASH & MISCELLANEOUS SOLID WASTES

2. THE CONTRACTOR IS ADVISED TO VISIT THE SITE TO CONFIRM DEMOLITION ITEMS SINCE THE LIST IS NOT INCLUSIVE OF THE SITE CONDITIONS WHICH MAY BE ENCOUNTERED

3. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTORS SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" DEMONSTRATING PROPER DISPOSAL OF ALL MATERIALS.

4. THE CLIENT HAS NOT REQUESTED NOR HAS ACORN COMPLETED A PHASE I – ENVIRONMENTAL SITE ASSESSMENT FOR THE PROPERTY.

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: GENERAL NOTES
PROJECT NAME/ADDRESS: 165 LAMBERT ST CO-OP, PORTLAND, MAINE 04103
CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS, PORTLAND, MAINE

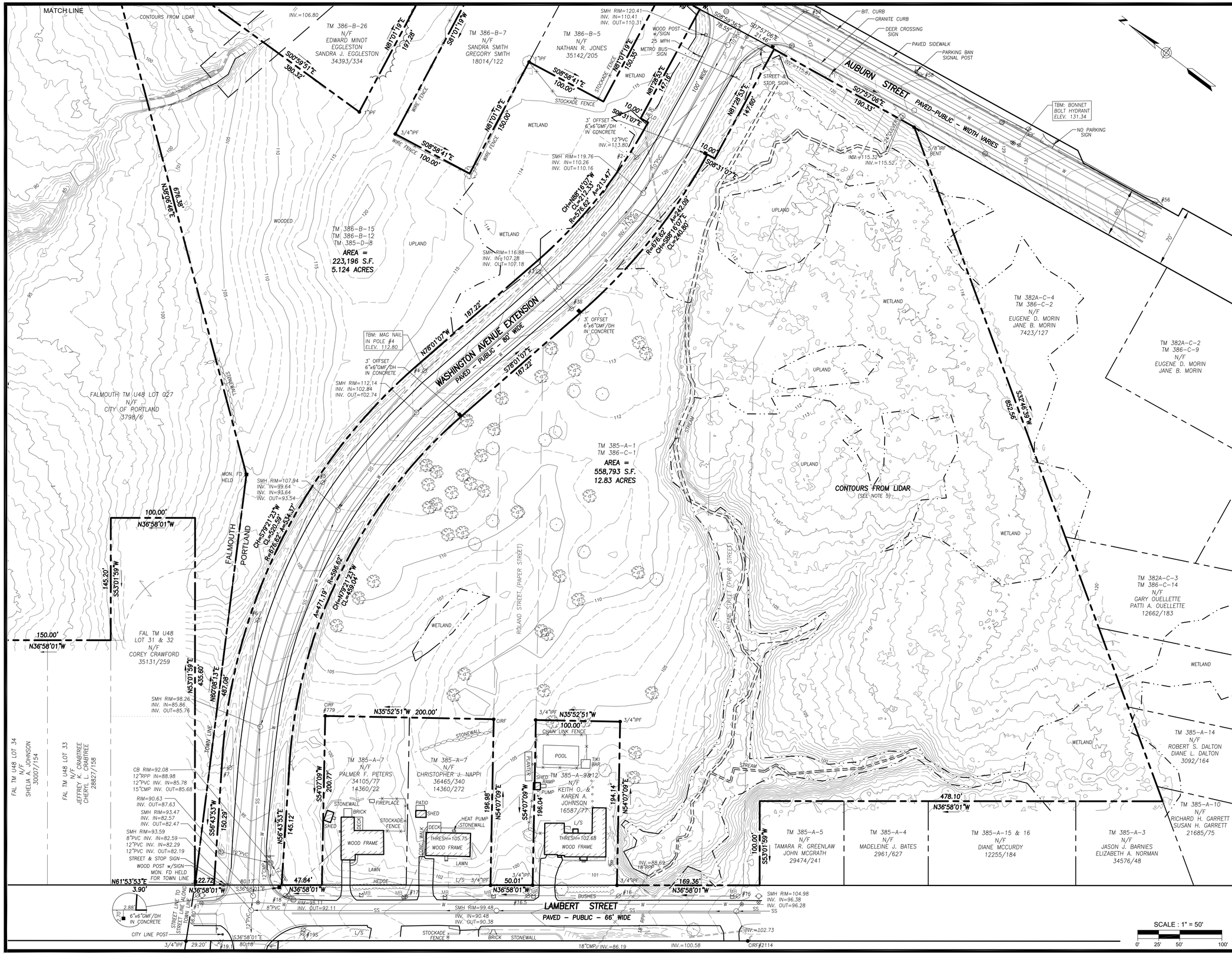
ACORN ENGINEERING, INC.
ENGINEERING, INC.
ACORN ENGINEERING, INC.
70 FORE STREET, PORTLAND, MAINE 04101
PO BOX 3287, PORTLAND, MAINE 04104
(207) 775-2665

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION OF ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE BY ANYONE OTHER THAN ACORN ENGINEERING, INC. SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

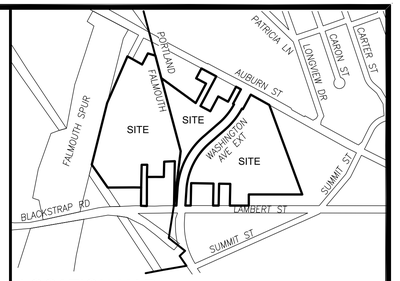
STATE OF MAINE
SAMUEL J. LEBEL
16596
LICENSED PROFESSIONAL ENGINEER
3/1/23

DRAWING NO.
C-02



LOCATION MAP

N.T.S.



LEGEND

IRON PIPE OR ROD FOUND	FENCE
MONUMENT FOUND	STONEWALL
CAPPED IRON ROD TO BE SET	CURB
UTILITY POLE	OVERHEAD WIRES
MANHOLE	E — UNDERGROUND POWER
ELECTRIC METER	W — WATER LINE
SIGN	G — GAS LINE
MB MAILBOX	T — TELEPHONE
CATCH BASIN	SD — STORM DRAIN
HYDRANT	SS — SANITARY SEWER
WATER VALVE OR SHUTOFF	100 — 1' CONTOUR
DECIDUOUS TREE	WETLAND LINE
CONIFEROUS TREE	IPF/IRF — IRON PIPE OR ROD FOUND
BUSH / SHRUB	N/F — NOW OR FORMERLY
	000/000 — DEED BOOK / PAGE
	L/S — LANDSCAPED AREA
	CONC. — CONCRETE
	GMF/DH — GRANITE MONUMENT FOUND/DRILL HOLE

PLAN REFERENCES

1. "STREET ACCEPTANCE PLAN OF WASHINGTON AVENUE EXTENSION, PORTLAND, MAINE" DATED FEBRUARY 15, 2011 BY CITY OF PORTLAND, MAINE PUBLIC SERVICES DEPARTMENT, ENGINEERING DIVISION.
2. "PLAN OF LAND IN FALMOUTH AND PORTLAND FOR CITY OF PORTLAND" DATED 1/1/76, BY OWEN HASKELL, INC.

GENERAL NOTES

1. OWNER OF RECORD:
   CITY OF PORTLAND
   C.C.R.D. 3702/236, 3795/236, 3798/6, 4550/327, 4593/154, 4599/266
2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD 83 PER PLAN REFERENCE 1.
3. ELEVATIONS ARE BASED ON NGVD 1929. BENCHMARK: USC&GS DISC G-163 ELEVATION=66.92
4. WETLANDS DELINEATED BY JONES ASSOCIATES AND FIELD LOCATED BY OWEN HASKELL, INC. EXCEPT FOR THE WETLANDS AND STREAM LOCATIONS SHOWN ON THE SOUTHERLY SIDE OF THE STREAM ON TM 385-A-1 & TM 386-C-1.
5. THE CONTOURS SOUTH OF THE WETLAND LINE ON PORTLAND TM 385-A-1 & TM 386-C-1 AND ALL OF FALMOUTH TM U48 LOT 27 SHOWN ON THIS SURVEY WERE GENERATED USING EXISTING LIDAR DATA COLLECTED IN 2015 AND DOWNLOADED FROM THE NOAA WEB SITE LOCATED AT https://coast.noaa.gov/dataviewer/#/
6. THE BOUNDARY SHOWN FOR FALMOUTH TM U48 LOT 27 IS BASED ON PLAN REFERENCE 2. PRIOR TO ANY DEVELOPMENT THESE BOUNDARIES SHOULD BE VERIFIED.

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 SURVEY HAS NOT PHYSICALLY LOCATION THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

RANDY R. LOUBIER, PLS #2407

08/24/22
DATE

STATE OF MAINE
RANDY R. LOUBIER 2407
PROFESSIONAL LAND SURVEYOR

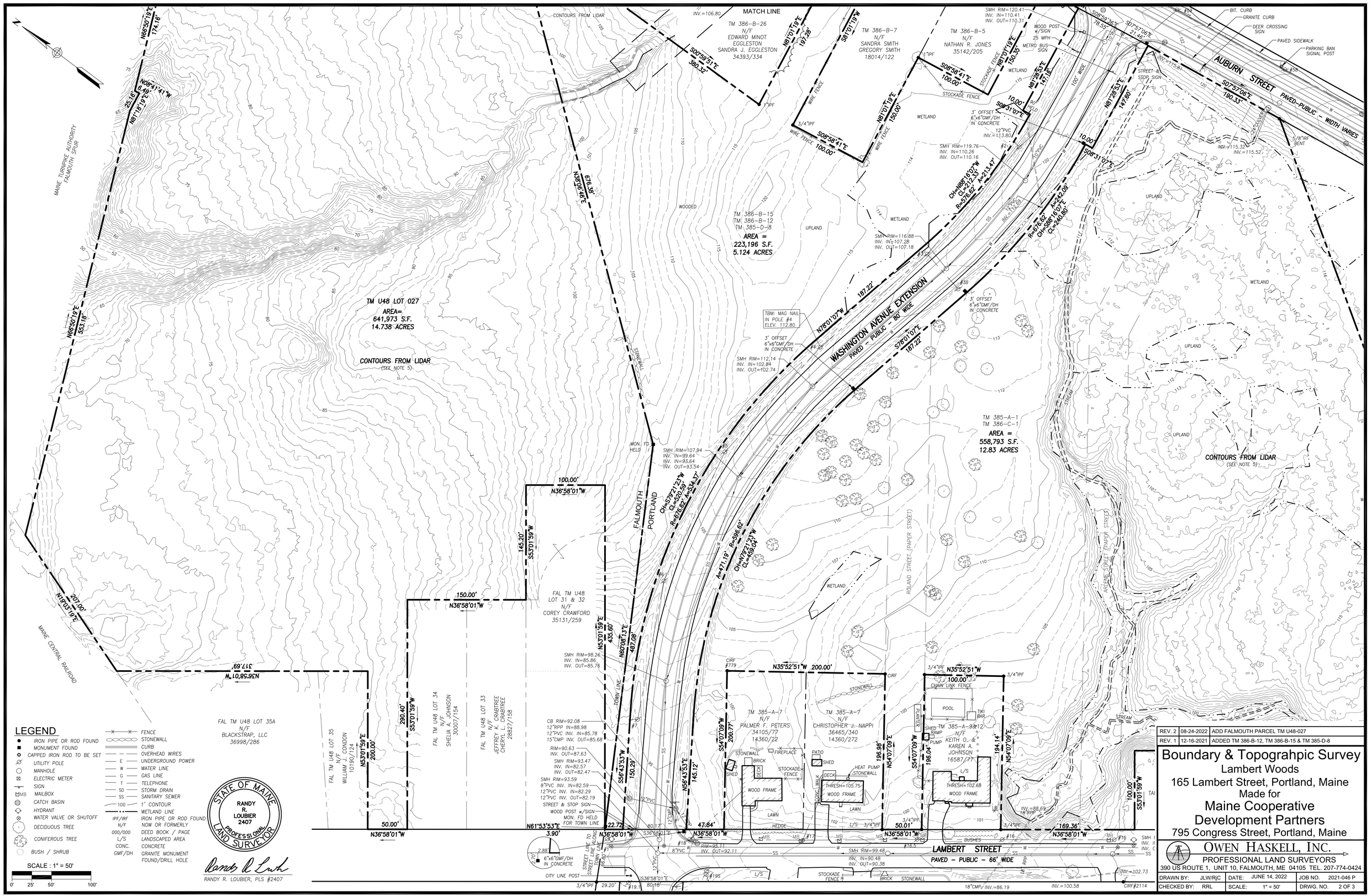
REV. 2	08-24-2022	ADD FALMOUTH PARCEL TM U48-027
REV. 1	12-16-2021	ADDED TM 386-B-12, TM 386-B-15 & TM 385-D-8

Boundary & Topograhpic Survey

Lambert Woods
165 Lambert Street, Portland, Maine
Made for
Maine Cooperative Development Partners
795 Congress Street, Portland, Maine

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

DRAWN BY:	JLW/RJC	DATE: JUNE 14, 2022	JOB NO. 2021-046 P
CHECKED BY:	RRL	SCALE: 1" = 50'	DRWG. NO. 1 OF 3



REV.	DATE	DESCRIPTION
REV. 2	08-24-2022	ADD FALMOUTH PARCEL TM U48-027
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CHECKED BY:	RRL	SCALE:	1" = 50'	DRWG. NO.	2 OF 3

SCALE : 1" = 50'

0' 25' 50' 100'

LEGEND

- IRON PIPE OR ROD FOUND
- MONUMENT FOUND
- CAPPED IRON ROD TO BE SET
- UTILITY POLE
- MANHOLE
- ELECTRIC METER
- SIGN
- MB MAILBOX
- CATCH BASIN
- HYDRANT
- WATER VALVE OR SHUTOFF
- DECIDUOUS TREE
- CONIFEROUS TREE
- BUSH / SHRUB
- FENCE
- STONEWALL
- CURB
- OVERHEAD WIRES
- E UNDERGROUND POWER
- W WATER LINE
- G GAS LINE
- T TELEPHONE
- SD STORM DRAIN
- SS SANITARY SEWER
- 100 1' CONTOUR
- WETLAND LINE
- IPF/IRF IRON PIPE OR ROD FOUND
- N/F NOW OR FORMERLY
- 000/000 DEED BOOK / PAGE
- L/S LANDSCAPED AREA
- CONC. CONCRETE
- GMF/DH GRANITE MONUMENT FOUND/DRILL HOLE

STATE OF MAINE
RANDY R. LOUBIER 2407
PROFESSIONAL LAND SURVEYOR

Randy R Loubier

RANDY R. LOUBIER, PLS #2407

EUGENE STREET

AUBURN STREET

QUIRSOE DR.

FAL TM U48 LOT 28
N/F
MARRGARO VAQUEZ RIVERA
37027/236

FAL TM U48 LOT 25
N/F
CHARLES P. HOOPER
11850/216

FAL TM U48 LOT 26
N/F
DONALD M. BREAULT, SR.
4365/274

FAL TM U48 LOT 24
N/F
SCOTT R. BARNES
33237/335

TM 386-B-16
N/F
ANDREA DUDLEY
ARTHUR C. DUDLEY
26323/327

TM 386-B-15
N/F
CITY OF PORTLAND
4550/327

TM 386-B-26
N/F
EDWARD MINOT EGGLESTON
SANDRA J. EGGLESTON
34393/334

TM 386-B-7
N/F
SANDRA SMITH
GREGORY SMITH
18014/122

TM 386-B-5
N/F
NATHAN R. JONES
35142/205

TM U48 LOT 027
AREA=
641,973 S.F.
14.738 ACRES

TM 386-B-15
TM 386-B-12
TM 385-D-8
AREA =
223,196 S.F.
5.124 ACRES

CONTOURS FROM LIDAR
(SEE NOTE 5)

MAINE TURNPIKE AUTHORITY
FALMOUTH SPUR

24"RCP = MDOT DRAINAGE EASEMENT 3901/31
INV.=106.80

WASHINGTON AVENUE EXTENSION
PAVED - PUBLIC - 80' WIDE

BIT. CURB
GRANITE CURB
DEER CROSSING SIGN
PAVED SIDEWALK
PARKING BAN SIGNAL POST
STREET & STOP SIGN
AUBURN STREET PAVED-PUBLIC - WIDTH VARIES

MON. FD TOP BROKEN OFF
H-MON.
CMF BROKEN
5/8"IRF BENT FLAG POLE
3/4"IPF BENT
1"IRF
5/8"IRF
1"IPF
1/4"IPF
3/4"IPF
5/8"IRF BENT
5/8"IRF

SMH RIM=120.41
INV. IN=110.41
INV. OUT=110.31
SMH RIM=119.76
INV. IN=110.26
INV. OUT=110.16
SMH RIM=116.88
INV. IN=107.28
INV. OUT=107.18
SMH RIM=112.14
INV. IN=102.84
INV. OUT=102.74

WOOD POST w/SIGN 25 MPH
METRO BUS SIGN
STOCKADE FENCE
WIRE FENCE
WETLAND
WOODED
UPLAND
STONEWALL
3' OFFSET 6"x6"GMF/DH IN CONCRETE
12"PVC INV.=113.80
INV.=115.32
INV.=115.52
TBM: MAG NAIL IN POLE #4 ELEV. 112.80

S06°41'41"E 150.00'
N81°18'19"E 281.37'
N65°50'19"E 174.16'
N09°41'41"W 25.16'
N81°18'19"E 6.58'
N65°50'19"E 553.18'
N81°18'19"E 100.00'
S06°41'41"E 85.79'
S38°06'46"W 191.69'
S00°59'51"E 380.32'
N37°06'46"E 676.38'
N81°01'19"E 197.28'
S81°01'19"W 300.29'
N81°01'19"E 150.00'
S06°58'41"E 100.00'
N81°01'19"E 100.00'
S06°59'36"E 150.00'
N05°58'36"W 100.00'
N05°59'36"W 49.49'
S06°59'36"E 78.55'
S07°57'06"E 21.48'
N81°28'54"E 147.15'
N81°28'54"E 147.80'
S07°57'06"E 190.33'
S06°31'07"E 10.00'
S06°31'07"E 10.00'
CH=N88°16'07"W CL=212.33' R=676.62' A=213.47'
CH=S86°16'07"E CL=240.80' R=676.62' A=242.09'
N78°01'07"W 187.22'
S78°01'07"E 187.22'

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DRAWN BY:	JLW/RJC	DATE:	JUNE 14, 2022	JOB NO.	2021-046 P
CHECKED BY:	RRL	SCALE:	1" = 50'	DRWG. NO.	3 OF 3

GENERAL NOTES:

1. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTOR SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" TO DEMONSTRATE PROPER DISPOSAL OF ALL MATERIALS.
2. SITE DEMOLITION SHALL NOT OCCUR UNTIL PROPER ABATEMENT PROCEDURES HAVE OCCURRED. ABATEMENT, IF NECESSARY, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE POTENTIAL CONFLICT WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.
4. ALL CONSTRUCTION SIGNAGE IS TEMPORARY AND WILL BE REMOVED AT PROJECT COMPLETION. FINAL SIGNAGE WORDING AND PLACEMENT LOCATION TO BE ACCEPTED BY THE CITY.
5. SEDIMENT BARRIERS TO BE PLACED DIRECTLY ON THE FRONT AND SIDE PROPERTY LINES, DOWN GRADIENT OF THE PROPOSED PROJECT WORK PER DETAIL; FENCES ARE OFFSET OF THE PROPERTY LINES AS SHOWN ON THE PLAN FOR CLARITY PURPOSES AND DO NOT NECESSARILY DEPICT THE PHYSICAL LOCATION.
6. CONTRACTOR SHALL PLACE CATCH BASIN INLET PROTECTION ON CATCH BASINS AND FIELD INLETS DOWN-GRADIENT OF ALL NON-STABILIZED SURFACES, PER DETAIL.
7. DEMOLITION PLAN IS NOT INCLUSIVE OF ALL EXISTING ITEMS TO BE REMOVED AS PART OF SITE CONSTRUCTION INCLUDING BUT NOT LIMITED TO LANDSCAPING, UTILITIES, WORK WITHIN THE ROW, ETC. ALL DEMOLITION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF PORTLAND REGULATIONS.
8. CONTRACTOR TO BE RESPONSIBLE FOR PROVIDING OFF-SITE PARKING TO EMPLOYEES; ON-SITE PARKING WILL NOT BE PROVIDED OR GUARANTEED. CONTRACTOR TO BE RESPONSIBLE FOR OBTAINING THE APPROPRIATE PERMITS FROM THE CITY FOR CLOSING ANY ON-STREET PARKING SPACES DURING THE CONSTRUCTION PERIOD.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR SNOW REMOVAL ALONG CONSTRUCTION FENCE AND GATE.
10. CONTRACTOR TO SUBMIT A DEWATERING PLAN FOR REVIEW AND APPROVAL TO THE DEPARTMENT OF PUBLIC WORKS PRIOR TO THE PRE-CONSTRUCTION MEETING, DURING THE BUILDING PERMIT APPLICATION PROCESS, OR PRIOR TO ADVANCED SITE WORK. CONTACT THE DEPARTMENT OF PUBLIC WORKS FOR ADDITIONAL INFORMATION AND CURRENT REGULATIONS.
11. WETLANDS LOCATED ON 622 AUBURN LOCUS PARCEL HAVE BEEN DELINEATED BY JONES ASSOCIATES IN A REPORT TITLED #21-094PO FROM OCTOBER 2021 AND GPS LOCATED BY OWEN HASKELL INC.. WETLANDS LOCATED ON 165 LAMBERT LOCUS PARCEL HAVE BEEN DELINEATED BY JONES ASSOCIATES IN A REPORT TITLED #21-024PO FROM MAY 2021 AND GPS LOCATED BY OWEN HASKELL INC. WETLANDS LOCATED ON FALMOUTH PARCEL HAVE BEEN DELINEATED BY JONES ASSOCIATES IN A REPORT TITLED WETLAND REPORT TITLED #19-079FA FROM MARCH 2020.

FALMOUTH TM U48 LOT 027
N/F
CITY OF PORTLAND
3798/6

TM 386-B-26
N/F
EDWARD MINOT EGGLESTON
SANDRA J. EGGLESTON
34393/334

TM 386-B-7
N/F
SANDRA SMITH
GREGORY SMITH
18014/122

TM 386-B-5
N/F
NATHAN R. JONES
35142/205

TM 385-A-7
N/F
PALMER P. PETERS
34165/13
14360/22

TM 385-A-7
N/F
CHRISTOPHER J. HARPER
36485/340
14360/272

TM 385-A-7&12
N/F
KEITH D. & KAREN A. JOHNSON
16087/77

75' DEP STREAM SETBACK
100' CITY STREAM SETBACK
BORING LOCATION, TYP. REFER TO GEOTECHNICAL INVESTIGATION PREPARED BY SUMMIT GEOENGINEERING SERVICES
PROBE LOCATION, TYP. REFER TO GEOTECHNICAL INVESTIGATION PREPARED BY SUMMIT GEOENGINEERING SERVICES
EX. STONEWALL TO REMAIN
REMOVE EXISTING TREES ON SITE, UNLESS EXPLICITLY IDENTIFIED AS TREE SAVES
TREE SAVE TYP. INSTALL TREE PROTECTION IN COORDINATION WITH FORESTER PRIOR TO CONSTRUCTION
APPROX LOCATION OF SILT FENCE OR EROSION CONTROL MIX PER DETAIL, TYP. INSTALL DOUBLE ROW OF BARRIER ADJACENT TO WETLANDS
POTENTIAL STOCKPILE AND PARKING AREA
APPROX. LOCATION OF STABILIZED CONSTRUCTION ENTRANCE TYP. PER DETAIL. FINAL LOCATION TO BE DETERMINED IN FIELD BY CONTRACTOR, TYP.
APPROX. LOCATION OF CONSTRUCTION FENCING, TYP.
INSTALL STONE CHECK DAM PER DETAIL WITHIN EXISTING NORTHERN AND SOUTHERN DITCHLINES ALONG WASHINGTON AVE. CHECK DAMS TO BE INSTALLED AS TEMPORARY MEASURE. CHECK DAM MAY BE REMOVED ONCE THE SWALE IS STABLIZED WITH 95% VEGETATION COVERAGE.
TRAFFIC CONTROL PLAN TO BE SUBMITTED BY CONTRACTOR FOR REVIEW AND APPROVAL BY THE CITY
EX. SMH
EX. 10" INV. IN: 102.84'
EX. 10" INV. OUT: 102.74'
WASHINGTON AVE
EX. SANITARY SEWER MAIN
EX. WATER MAIN
INSTALL STONE CHECK DAM PER DETAIL WITHIN EXISTING NORTHERN AND SOUTHERN DITCHLINES ALONG WASHINGTON AVE. CHECK DAMS TO BE INSTALLED AS TEMPORARY MEASURE. CHECK DAM MAY BE REMOVED ONCE THE SWALE IS STABLIZED WITH 95% VEGETATION COVERAGE.
APPROX LOCTION OF POTENTIAL CONSTRUCTION FENCE, TYP.
APPROX. LOCATION OF PERIMETER SEDIMENT CONTROL BMP, TYP.
100' CITY STREAM SETBACK LINE
75' DEP STREAM SETBACK LINE
EX. WETLAND TO REMAIN UNDISTURBED
EX. STREAM
APPROX. LOCATION OF PERIMETER SEDIMENT CONTROL BMP TYP. INSTALL DOUBLE ROW OF BARRIER ADJACENT TO WETLANDS AND STREAM
SEE SHEET C-10, C-11, AND LEGEND FOR NATURAL RESOURCE SETBACKS
TOWN LINE
LAMBERT STREET
GARSOE DR
AUBURN ST (RTE 26)
WETLAND
UPLAND
INV. OUT=92.11'
INV. IN=91.91'
40 0 40 80
SCALE: 1"=40'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: **OVERALL CONSTRUCTION MANAGEMENT & EROSION CONTROL PLAN**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

THESE PLANS SHALL NOT BE MODIFIED, IN PART OR WHOLE, UNLESS WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. IS OBTAINED. ANY ALTERATIONS TO THESE PLANS SHALL BE AT THE USER'S SOLE RISK AND OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
70 MAIN STREET, SACO, MAINE 04101
PO BOX 3201, SACO, MAINE 04101
(207) 775-2655

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
SAMUEL J. LEBEL
16506
LICENSED PROFESSIONAL ENGINEER
1/31/23

DRAWING NO.
C-03

GENERAL NOTES:

1. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTOR SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" TO DEMONSTRATE PROPER DISPOSAL OF ALL MATERIALS.
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FALMOUTH TM U48 LOT 027
N/F
CITY OF PORTLAND
3798/6

TM 386-B-26
N/F
EDWARD MINOT EGGLESTON
SANDRA J. EGGLESTON
34393/334

TM 386-B-7
N/F
SANDRA SMITH
GREGORY SMITH
18014/122

TM 386-B-5
N/F
NATHAN R. JONES
35142/205

TM 385-A-7
N/F
PALMER PETERS
34165/13
14360/22

TM 385-A-7
N/F
CHRISTOPHER J. HARPER
36485/340
14360/272

TM 385-A-7&12
N/F
KEITH D. & KAREN A. JOHNSON
16587/77

75' DEP STREAM SETBACK
100' CITY STREAM SETBACK
BORING LOCATION, TYP. REFER TO GEOTECHNICAL INVESTIGATION PREPARED BY SUMMIT GEOENGINEERING SERVICES
PROBE LOCATION, TYP. REFER TO GEOTECHNICAL INVESTIGATION PREPARED BY SUMMIT GEOENGINEERING SERVICES
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REMOVE EXISTING TREES ON SITE, UNLESS EXPLICITLY IDENTIFIED AS TREE SAVES
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APPROX LOCTION OF POTENTIAL CONSTRUCTION FENCE, TYP.
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SEE SHEET C-10, C-11, AND LEGEND FOR NATURAL RESOURCE SETBACKS
TOWN LINE
LAMBERT STREET
GARSOE DR
AUBURN ST (RTE 26)
WETLAND
UPLAND
STONE STREET (PAPER STREET)
INV. OUT=92.11
INV. IN=91.91
SCALE: 1"=40'
PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: **OVERALL CONSTRUCTION MANAGEMENT & EROSION CONTROL PLAN**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

THESE PLANS SHALL NOT BE MODIFIED, IN ANY MANNER WHATSOEVER, WITHOUT THE WRITTEN PERMISSION OF ACORN ENGINEERING, INC. AND ANY UNAUTHORIZED MODIFICATIONS OR REUSE OF THESE PLANS WILL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3294 PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
SAMUEL J. LEBEL
16501
LICENSED PROFESSIONAL ENGINEER
1/31/23

DRAWING NO.
C-03

LOT SUMMARY

LOT ID	LOT AREA
LOT 1 (TM 385 A–1, TM 386–C–1)	12.83 AC
LOT 2 (TM 386 B–15, TM 386–B–12, TM 385–D–8)	5.12 AC
LOT 3 (FALMOUTH TM U48 LOT 027)	14.74 AC

NET LAND AREA

PROPERTY AREA (SF)	DEDUCTED AREA (SF)	NET LAND AREA (SF)	WETLAND AREA (SF)	STREAM AREA (SF)	SLOPES > 25% (SF)	MAX. ALLOWABLE NET RESIDENTIAL DENSITY
781,989	244,738	537,251[1]	211,675	12,576	31,872	165 UNITS

[1] DERIVED BY TAKING THE AREA OF THE SUBJECT PARCELS AND DEDUCTING AREAS AS DEFINED IN SECTION 7.2 OF CITY LAND USE CODE. NOTE THERE ARE AREAS OF OVERLAP BETWEEN WETLANDS, STREAMS, AND SLOPES EXCEEDING 25%. WHERE THERE ARE AREAS OF OVERLAP THE TOTAL AREA OF EACH FEATURE IS NOT DOUBLE COUNTED TOWARDS THE NET LAND AREA. THE AREA CONTAINING WETLANDS, STREAMS, SLOPES EXCEEDING 25%, OR ANY OVERLAP OF THESE FEATURES IS REPRESENTED IN THE "DEDUCTED AREA" COLUMN.

PER SECTION 18.2.4.B.4 OF CITY LAND USE CODE, PRUD ALLOWED TO CROSS PUBLIC RIGHT–OF–WAY.

SPACE AND BULK STANDARDS – PRUD (NORTH)

ZONE: R3	REQUIRED	PROPOSED
MIN LOT AREA	3 AC	5.12 AC
NET LAND AREA PER DU	3,250 SF/DU [1]	3,316 SF/DU [2]
MAX STRUCTURE HEIGHT	35'	<35'
MIN SETBACK FROM EXTERNAL SUBDIVISION PL	10' [1,2]	24.50'
MIN DISTANCE BETWEEN BUILDINGS	16' [1]	19.4'
MIN RECREATIONAL OPEN SPACE	200 SF/UN [1]	230 SF/DU
REQUIRED BICYCLE PARKING	29	>29

SPACE AND BULK STANDARDS – PRUD (SOUTH)

ZONE: R3		
MIN LOT AREA	3 AC	12.83 AC
NET LAND AREA PER DU	3,250 SF/DU [1]	3,316 SF/DU [2]
MAX STRUCTURE HEIGHT	35'	<35'
MIN SETBACK FROM EXTERNAL SUBDIVISION PL	10' [1,2]	24.50'
MIN DISTANCE BETWEEN BUILDINGS	16'	16.10'
MIN RECREATIONAL OPEN SPACE	200 SF/UN	223 SF/DU
REQUIRED BICYCLE PARKING	36	>36

[1] UTILIZING BONUSES PER SECTION 18.2 OF CITY LAND USE CODE

[2] PER SECTION 18.2.4.B.4 OF CITY LAND USE CODE, PRUD ALLOWED TO CROSS PUBLIC RIGHT–OF–WAY. 10' BUILDING SETBACK NOT REQUIRED ALONG PROPERTY LINE ADJACENT TO WASHINGTON AVE RIGHT–OF–WAY.

LEGEND:

- PROPERTY LINE
- SETBACK LINE
- 75' STREAM SETBACK LINE
- STREAM CENTERLINE
- WETLAND
- REINFORCED GRASS PAVING
- FLUSH GRANITE CURB
- VERTICAL GRANITE CURB

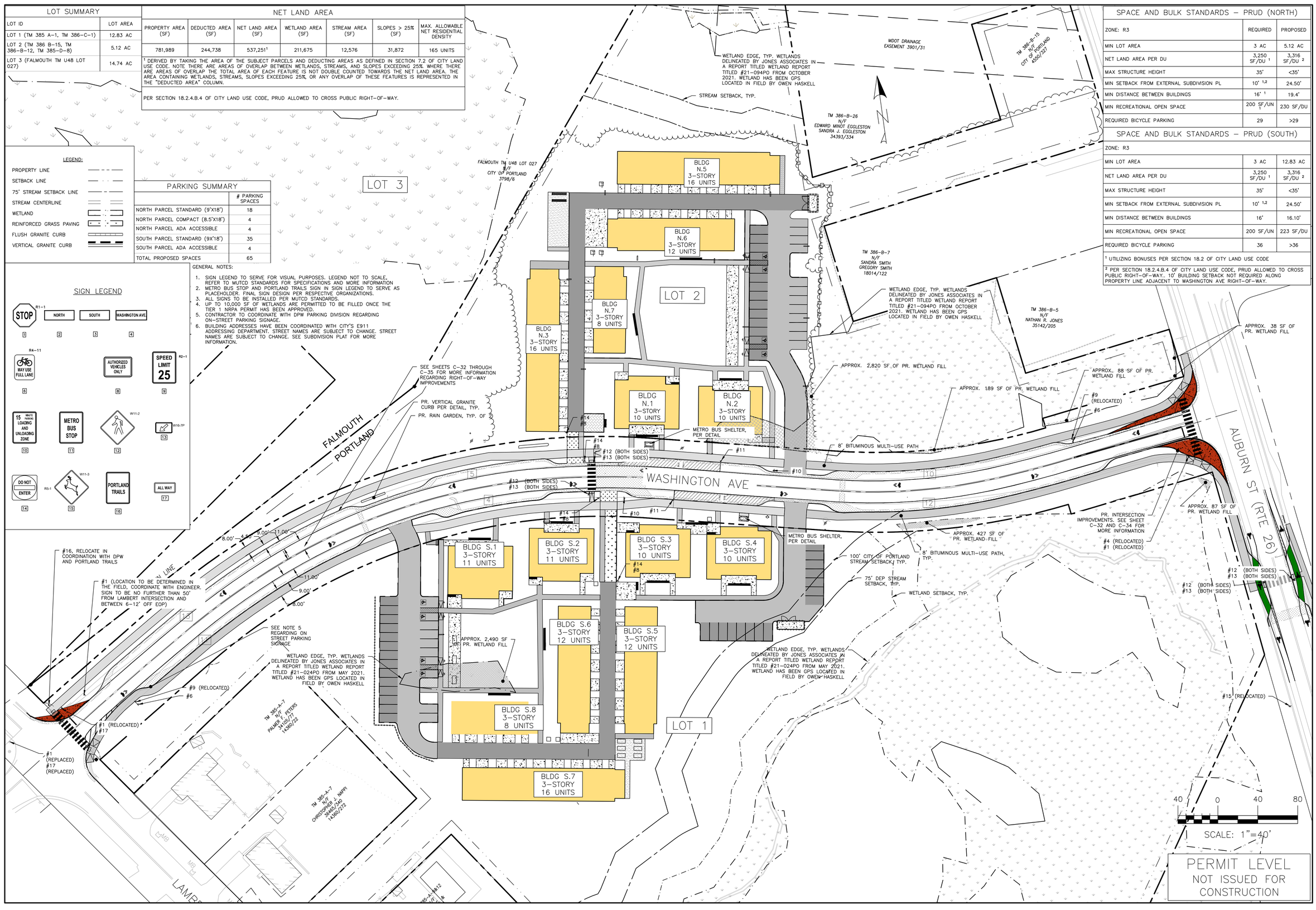
PARKING SUMMARY

	# PARKING SPACES
NORTH PARCEL STANDARD (9'X18')	18
NORTH PARCEL COMPACT (8.5'X18')	4
NORTH PARCEL ADA ACCESSIBLE	4
SOUTH PARCEL STANDARD (9X'18')	35
SOUTH PARCEL ADA ACCESSIBLE	4
TOTAL PROPOSED SPACES	65

GENERAL NOTES:

1. SIGN LEGEND TO SERVE FOR VISUAL PURPOSES. LEGEND NOT TO SCALE. REFER TO MUTCD STANDARDS FOR SPECIFICATIONS AND MORE INFORMATION
2. METRO BUS STOP AND PORTLAND TRAILS SIGN IN SIGN LEGEND TO SERVE AS PLACEHOLDER. FINAL SIGN DESIGN PER RESPECTIVE ORGANIZATIONS.
3. ALL SIGNS TO BE INSTALLED PER MUTCD STANDARDS.
4. UP TO 10,000 SF OF WETLANDS ARE PERMITTED TO BE FILLED ONCE THE TIER 1 NRPA PERMIT HAS BEEN APPROVED.
5. CONTRACTOR TO COORDINATE WITH DPW PARKING DIVISION REGARDING ON–STREET PARKING SIGNAGE.
6. BUILDING ADDRESSES HAVE BEEN COORDINATED WITH CITY'S E911 ADDRESSING DEPARTMENT. STREET NAMES ARE SUBJECT TO CHANGE. STREET NAMES ARE SUBJECT TO CHANGE. SEE SUBDIVISION PLAT FOR MORE INFORMATION.

SIGN LEGEND



PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SITE/SUB	SJL	6/17/22
COMMENT RESPONSE	SJL	9/26/22
COMMENT RESPONSE II	SJL	12/23/22
COMMENT RESPONSE III	SJL	1/31/23

DRAWING NAME: OVERALL SITE PLAN

PROJECT NAME/ADDRESS: 165 LAMBERT ST CO–OP
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC.
70 FORE RIVER PARKWAY, SUITE 104
PO BOX 3372 PORTLAND, MAINE 04101
(207) 775–2655

THESE PLANS, NOT BE, MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. AND ARE NOT TO BE USED BY AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC. OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
REGISTERED PROFESSIONAL ENGINEER
LICENSED
3/21/23

DRAWING NO.
C–09

GENERAL NOTES:

1. ALL PAVEMENT STRIPING AND MARKINGS SHALL COMPLY TO CITY OF PORTLAND STANDARDS.
2. ANY ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
3. CURB TO BE REMOVED, STOCKPILED AND RESET IN ACCORDANCE WITH DETAIL. BROKEN CURB SHALL BE PROPERLY DISPOSED OF AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
4. ALL RAMPS TO CONFORM TO ADA GUIDELINES. SLOPE SHALL NOT EXCEED 1 INCH PER FOOT.
5. ALL SITE SIGNAGE TO COMPLY WITH MUTCD STANDARDS. CONTRACTOR TO COORDINATE AND INSTALL.
6. FOLLOWING COMPLETION OF CONSTRUCTION, THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SITE LIGHTING, TRASH REMOVAL AND SNOW REMOVAL.
7. FUTURE TRAILS TO BE COORDINATED WITH PORTLAND TRAILS.
8. IN ACCORDANCE WITH SECTION 14.6.1 OF THE PORTLAND LAND USE CODE, AND SECTION 1.17 OF THE PORTLAND TECHNICAL MANUAL, NEW PARKING LOTS WITH FIVE OR MORE SPACES SHALL INCLUDE ENERGIZED ELECTRICAL OUTLETS OR INSTALLED CHARGERS CAPABLE OF PROVIDING LEVEL 2 ELECTRIC VEHICLE CHARGING OR HIGHER TO 20% OF PARKING SPACES. REMAINING SPACES MUST BE SERVED BY SUFFICIENT CONDUIT, WIRING, AND ELECTRICAL SERVICE TO ALLOW FOR FUTURE INSTALLATION OF ELECTRIC VEHICLE SUPPLY EQUIPMENT.
9. CONTRACTOR SHALL VERIFY BOTTOM AND TOP OF CURB ELEVATIONS ALONG BUILDING FRONTAGES PRIOR TO CONSTRUCTION OF THE FOUNDATIONS. CONTACT ENGINEER PRIOR TO CONSTRUCTION IF DISCREPANCIES ARE FOUND.
10. BUILDING ADDRESSES HAVE BEEN COORDINATED WITH CITY'S E911 ADDRESSING DEPARTMENT. STREET NAMES ARE SUBJECT TO CHANGE. SEE SUBDIVISION PLAT FOR MORE INFORMATION.

LEGEND:

- PROPERTY LINE
- SETBACK LINE
- 75' STREAM SETBACK LINE
- STREAM CENTERLINE
- WETLAND
- REINFORCED GRASS PAVING
- FLUSH GRANITE CURB
- VERTICAL GRANITE CURB

SPACE AND BULK STANDARDS – PRUD (NORTH)		
ZONE: R3	REQUIRED	PROPOSED
MIN LOT AREA	3 AC	5.12 AC
NET LAND AREA PER DU	3,250 SF/DU [1]	3,316 SF/DU [2]
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MIN DISTANCE BETWEEN BUILDINGS	16' [1]	19.4'
MIN RECREATIONAL OPEN SPACE	200 SF/UN [1]	230 SF/DU
REQUIRED BICYCLE PARKING	29	>29

[1] UTILIZING BONUSES PER SECTION 18.2 OF CITY LAND USE CODE

[2] PER SECTION 18.2.4.B.4 OF CITY LAND USE CODE, PRUD ALLOWED TO CROSS PUBLIC RIGHT-OF-WAY. 10' BUILDING SETBACK NOT REQUIRED ALONG PROPERTY LINE ADJACENT TO WASHINGTON AVE RIGHT-OF-WAY.

100' STREAM SETBACK REQUIRED BY CITY OF PORTLAND
75' STREAM SETBACK REQUIRED BY DEP
22" WHITE PINE
16" WHITE PINE
19" WHITE PINE
APPROX. EDGE OF DISTURBANCE
CRUSHED STONE PER LA
SNOW STORAGE, TYP.
PR. BENCHES PER LA
POROUS PAVEMENT PER DETAIL
BLDG N.5 3-STORY 16 UNITS
SOLID WASTE LOCATION, ENCLOSURE PER LA
BITUMINOUS PAVEMENT PER INTERNAL PARKING AND PRIVATE DRIVE PAVEMENT PROFILE DETAIL
PRIVACY FENCE PER LA
STONE DUST PER LA
4'X8' RAISED BEDS PER LA
CIP CONCRETE
BLDG N.6 3-STORY 12 UNITS
COMPACT 8.5'X18' PARKING SPACE, TYP.
CONCRETE TRANSFORMER PAD, FINAL SIZING PER MEP, TYP.
BUILDING SETBACK LINE, TYP.
CONCRETE PATIO, TYP.
CIP CONCRETE
23" RED MAPLE
PR. BENCH PER LA
POROUS PAVEMENT PER DETAIL
SNOW STORAGE, TYP.
5' WIDE BITUMINOUS WALKWAY PER DETAIL, TYP.
7" RED OAK
POROUS PAVEMENT PER DETAIL
PICNIC TABLE PER LA
BARRIER FREE SIGN PER DETAIL
4" LOAM AND SEED
CIP CONCRETE
EXPRESSION WALL PER LA
HAMMOCK GLADE POLE PER LA
ADA SPACE PER DETAIL
LIGHT POLE BASE PER DETAIL, LIGHT FIXTURE PER LA. TYP.
SEE LANDSCAPE PLAN FOR PLANTINGS
SEE ELECTRICAL PLANS FOR PR. EV CHARGING STATIONS AND CONDUIT/PULL STRING FOR FUTURE INSTALLATION. SEE NOTE 8.
PLAYGROUND PER LA
26" WHITE PINE
BLDG N.3 3-STORY 16 UNITS
VERTICAL CURB
BIKE RACK PER LA, TYP.
POROUS PAVERS PER DETAIL
BLDG N.1 3-STORY 10 UNITS
BLDG N.2 3-STORY 10 UNITS
APPROX. 4,700 SF OF PR. WETLAND FILL. WETLANDS DELINEATED BY JONES ASSOCIATES IN A REPORT TITLED WETLAND REPORT TITLED #21-094PO FROM OCTOBER 2021
PROPOSED DRIVEWAY ENTRANCE PER DETAIL
CURB TIPDOWN
8' WIDE PUBLIC BITUMINOUS MULTI-USE PATH
PR. MUTCD R5-1 "DO NOT ENTER" SIGN AND "AUTHORIZED VEHICLES ONLY" SIGN, SEE SHEET C-09
EMERGENCY ACCESS LANE WITH GRASS PAVERS PER LA
PR. VERTICAL GRANITE CURB, SEE NOTE 9.
WASHINGTON AVE
BUS ONLY
4+00
5+00
6+00
7+00
8+00
9+00
SCALE: 1"=20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: SITE PLAN – NORTH

PROJECT NAME/ADDRESS: 165 LAMBERT ST CO-OP, PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS, PORTLAND, MAINE

ACORN ENGINEERING, INC.

THESE PLANS SHALL NOT BE MODIFIED WITHOUT THE WRITTEN PERMISSION OF ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE TO THESE PLANS WITHOUT SUCH PERMISSION SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC
P.O. BOX 432, CAPE ELIZABETH, MAINE 04101
(207) 775-2655

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE — SAMUEL J. LEBEL — No. 16505 — REGISTERED PROFESSIONAL ENGINEER — 2/21/23

DRAWING NO.

C-10

GENERAL NOTES:

1. ALL PAVEMENT STRIPING AND MARKINGS SHALL COMPLY TO CITY OF PORTLAND STANDARDS.
2. ANY ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
3. CURB TO BE REMOVED, STOCKPILED AND RESET IN ACCORDANCE WITH DETAIL. BROKEN CURB SHALL BE PROPERLY DISPOSED OF AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
4. ALL RAMPS TO CONFORM TO ADA GUIDELINES. SLOPE SHALL NOT EXCEED 1 INCH PER FOOT.
5. ALL SITE SIGNAGE TO COMPLY WITH MUTCD STANDARDS. CONTRACTOR TO COORDINATE AND INSTALL.
6. FOLLOWING COMPLETION OF CONSTRUCTION, THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SITE LIGHTING, TRASH REMOVAL AND SNOW REMOVAL.
7. FUTURE TRAILS TO BE COORDINATED WITH PORTLAND TRAILS.
8. IN ACCORDANCE WITH SECTION 14.6.1 OF THE PORTLAND LAND USE CODE, AND SECTION 1.17 OF THE PORTLAND TECHNICAL MANUAL, NEW PARKING LOTS WITH FIVE OR MORE SPACES SHALL INCLUDE ENERGIZED ELECTRICAL OUTLETS OR INSTALLED CHARGERS CAPABLE OF PROVIDING LEVEL 2 ELECTRIC VEHICLE CHARGING OR HIGHER TO 20% OF PARKING SPACES. REMAINING SPACES MUST BE SERVED BY SUFFICIENT CONDUIT, WIRING, AND ELECTRICAL SERVICE TO ALLOW FOR FUTURE INSTALLATION OF ELECTRIC VEHICLE SUPPLY EQUIPMENT.
9. CONTRACTOR SHALL VERIFY BOTTOM AND TOP OF CURB ELEVATIONS ALONG BUILDING FRONTAGES PRIOR TO CONSTRUCTION OF THE FOUNDATIONS. CONTACT ENGINEER PRIOR TO CONSTRUCTION IF DISCREPANCIES ARE FOUND.
10. BUILDING ADDRESSES HAVE BEEN COORDINATED WITH CITY'S E911 ADDRESSING DEPARTMENT. STREET NAMES ARE SUBJECT TO CHANGE. SEE SUBDIVISION PLAT FOR MORE INFORMATION.

SPACE AND BULK STANDARDS – PRUD (SOUTH)		
ZONE: R3	REQUIRED	PROPOSED
MIN LOT AREA	3 AC	12.83 AC
NET LAND AREA PER DU	3,250 SF/DU [1]	3,316 SF/DU [2]
MAX STRUCTURE HEIGHT	35'	<35'
MIN SETBACK FROM EXTERNAL SUBDIVISION PL	10' [1,2]	24.50'
MIN DISTANCE BETWEEN BUILDINGS	16'	16.10'
MIN RECREATIONAL OPEN SPACE	200 SF/UN	223 SF/DU
REQUIRED BICYCLE PARKING	36	>36

[1] UTILIZING BONUSES PER SECTION 18.2 OF CITY LAND USE CODE

[2] PER SECTION 18.2.4.B.4 OF CITY LAND USE CODE, PRUD ALLOWED TO CROSS PUBLIC RIGHT-OF-WAY.. 10' BUILDING SETBACK NOT REQUIRED ALONG PROPERTY LINE ADJACENT TO WASHINGTON AVE RIGHT-OF-WAY.

LEGEND:

- PROPERTY LINE
- SETBACK LINE
- 75' STREAM SETBACK LINE
- STREAM CENTERLINE
- WETLAND
- REINFORCED GRASS PAVING
- FLUSH GRANITE CURB
- VERTICAL GRANITE CURB

WASHINGTON AVE

BUS ONLY

BUS STOP

PR. VERTICAL GRANITE CURB, SEE NOTE 9

PROPOSED DRIVEWAY ENTRANCE PER DETAIL

PR. STEPS AND RAILING PER LA

PR. BIKE RACKS PER LA

PR. STEPS AND RAILING PER LA, SEE SHEET C-30 FOR MORE INFORMATION.

PR. BENCH PER LA

PR. ACCESSIBLE ROUTE TO SIDEWALK

EMERGENCY ACCESS LANE WITH GRASS PAVERS PER LA

PR. STEP

PR. BIKE RACK PER LA

BLDG S.1 3-STORY 11 UNITS

BLDG S.2 3-STORY 11 UNITS

BLDG S.3 3-STORY 10 UNITS

BLDG S.4 3-STORY 10 UNITS

GRANITE OR SLIPFORM VERTICAL CURB

PR. MUTCD R5-1 "DO NOT ENTER SIGN" AND "AUTHORIZED VEHICLES ONLY" SIGN, SEE SHEET C-09

16.10'

16.40'

22.00'

SEE LANDSCAPE PLAN FOR PLANTINGS

14" RED OAK

7" RED OAK

26" WHITE PINE

24" RED OAK

9" RED MAPLE

PR. BENCH PER LA

PR. BIKE RACKS PER LA

18.00'

22.00'

R3'

11'

TRANSFORMER PAD, TYP.

HAMMOCK GLADE POLES, TYP. OF 7 PER LA

CIP CONCRETE EXPRESSION WALL PER LA

5' WIDE BITUMINOUS SIDEWALK PER DETAIL, TYP.

PICNIC TABLE PER LA

GRANITE OR SLIPFORM VERTICAL CURB, TYP.

PR. FENCE PER LA

BARRIER FREE SIGN PER DETAIL, TYP.

POROUS PAVEMENT DENOTED BY HATCH, TYP.

8'X18' ADA SPACE WITH 5' WIDE ACCESS AISLE UNLESS OTHERWISE NOTED, PER DETAIL

APPROX. 2,500 SF OF PR. WETLAND FILL. WETLANDS DELINEATED BY JONES ASSOCIATES IN A REPORT TITLED WETLAND REPORT TITLED #21-024PO FROM MAY 2021

BLDG S.6 3-STORY 12 UNITS

BLDG S.5 3-STORY 12 UNITS

CIP PATIOS PER LA, TYP.

POROUS PAVEMENT, TYP.

SEE ELECTRICAL PLANS FOR PR. EV CHARGING STATIONS AND CONDUIT/PULL STRING FOR FUTURE INSTALLATION. SEE NOTE 8.

PR. LIGHT POLE, TYP.

BLDG S.8 3-STORY 8 UNITS

19.47'

16'

R3'

22'

R15'

16'

TIPDOWN

16.00'

35.28'

SEE LA PLANS FOR PLACE MAKING ELEMENTS

RAISED 8'X4' PLANTERS PER LA

STONE DUST PER LA

POROUS PAVERS, TYP.

BLDG S.7 3-STORY 16 UNITS

13" & 15" CHERRY

7" RED MAPLE

7" RED OAK

11" WHITE BIRCH

10" WHITE BIRCH

12" RED OAK

STONEWALL

TM 385-A-7
N/F
CHRISTOPHER J. NAPPI
36465/340
14360/272

F. PETERS
4105/77
14360/22

PAVED TURNAROUND

9'X18' PARKING STALL, TYP. PER DETAIL

9'

SOLID WASTE LOCATION

SNOW STORAGE, TYP.

APPROX. EDGE OF DISTURBANCE, TYP.

6" RED MAPLE

6" RED MAPLE

100' STREAM SETBACK LINE REQUIRED BY CITY OF PORTLAND

75' STREAM SETBACK LINE REQUIRED BY DEP

APPLE

WETLAND SETBACK LINE

10" WHITE PINE

APPLE

STREAM

20 0 20 40

SCALE: 1"=20'

PERMIT LEVEL
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DRAWING NAME: SITE PLAN

PROJECT NAME/ADDRESS: 165 LAMBERT ST CO-OP
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.

THESE PLANS SHALL NOT BE MODIFIED WITHOUT WRITTEN CONSENT FROM ACORN ENGINEERING, INC. ANY ALTERATIONS MADE TO THESE PLANS WITHOUT THE WRITTEN CONSENT OF ACORN ENGINEERING, INC. OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 1372, FALMOUTH, MAINE 04101
(207) 775-2655

FILE:	1145_CIVIL
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DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
Sam Lebel
SAMUEL J. LEBEL
No. 16505
REGISTERED PROFESSIONAL ENGINEER
LICENSED
2/21/23

DRAWING NO.
C-11

GENERAL NOTES:

1. LOCATION OF PROPOSED CONNECTIONS ARE APPROXIMATE. CONTRACTOR TO CONTACT ENGINEER IF FIELD INFORMATION VARIES FROM INFORMATION ON PLANS.
2. CONTRACTOR IS TO BE CAUTIONED THAT CERTAIN LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES HAVE BEEN PROVIDED THROUGH UTILITY COORDINATION OR OTHER OBSERVATIONS. INFORMATION IS NOT TO BE RELIED UPON AS EXACT OR COMPLETE. CONTRACTOR TO FIELD VERIFY AND COORDINATE WITH UTILITY COMPANY AND DIG SAFE NO LESS THAN 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF ALL UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DIFFERENTIATIONS FROM EXISTING CONDITIONS, INCLUDING UTILITY INFORMATION, PRIOR TO ANY CHANGES.
3. FOR ALL UTILITIES, ACORN ENGINEERING DESIGN LIMITS END AT EXTERIOR WALL OF BUILDING. METERING OF UTILITIES TO BE COMPLETED BY M.E.P. UNLESS SPECIFIED OTHERWISE.
4. CONTRACTOR TO COORDINATE WITH ARCHITECT ON FINAL UTILITY CONNECTIONS WITHIN THE BUILDING.
5. SEWER UTILITIES: CONTRACTOR TO COORDINATE WITH ARCHITECT FOR FINAL SERVICE CONNECTION. SEWER UTILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL STANDARDS. VALVE FOR BACKFLOW PREVENTION SHALL BE INSTALLED WITHIN THE THE PROPERTY LINES FOR EACH CITY SEWER CONNECTION. CONTACT ENGINEER IF INVERT FIELD CONDITIONS VARY FROM DESIGN.
6. WATER UTILITIES: FINAL PIPE SIZING PROVIDED BY M.E.P. ENGINEER AND FIRE PROTECTION DESIGNER. INTERNAL METERING, BACKFLOW PREVENTION, AND PRESSURE REDUCERS TO BE COMPLETED BY M.E.P. ENGINEER. DOMESTIC WATER PIPE SIZES WILL DETERMINE THE FINAL WATER METERING OPTIONS. METER MAY BE SMALLER THAN PROPOSED WATER MAIN. WATER METERING, PRESSURE REDUCER AND BACKFLOW PREVENTION TO BE IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARDS. CONTRACTOR TO FOLLOW METERING GUIDELINES OF THE PORTLAND WATER DISTRICT AND CITY OF PORTLAND.
7. GAS UTILITIES: PROJECT GAS LOAD, GAS UTILITY DESIGN, AND FINAL GAS SERVICE LOCATION AND METERS TO BE DEFINED BY M.E.P. AND IN ACCORDANCE WITH UNITIL. WHEN EXCAVATION OCCURS NEAR THE MAIN, ANODE BED, OR RECTIFIER, UNITIL DAMAGE CONTROL DEPARTMENT SHALL BE COORDINATED WITH.
8. ELECTRIC UTILITIES: ELECTRIC DESIGN TO BE FINALIZED BY M.E.P. ENGINEER. ELECTRICAL LOAD TO BE DETERMINED BY M.E.P. ENGINEER. METER LOCATION AND TRANSFORMER SIZE, IF NECESSARY DEFINED BY M.E.P. M.E.P. TO FINALIZE SERVICE CONNECTION TO BUILDING. ALL ELECTRIC CONSTRUCTION SHALL CONFORM TO CMP GUIDEBOOK OF STANDARD REQUIREMENTS, MOST RECENT EDITION. DESIGN SUBJECT TO FINAL APPROVAL FROM CMP.
9. SECONDARY CONDUIT RUNS SHOWN FOR REFERENCE, SUBJECT TO CHANGE BASED UPON FIELD CONDITIONS AND MEP DESIGN. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND UTILITIES WITH ALL UTILITY COMPANIES INVOLVED.

STRUCTURE TABLE			
NAME	RIM	INV. IN / PIPE (SIZE)	INV. OUT / PIPE (SIZE)
SMH-A	112.90'	104.00' (8") 104.00' (4")	103.90' (8")
SMH-B	111.90'	104.30' (8")	104.20' (8")
SMH-C	111.95'	104.75' (8") 104.75' (6")	104.65' (8")
SMH-D	111.40'	105.80' (8")	105.70' (8")
SMH-E	112.00'		106.75' (8")
SMH-F	114.95'	108.10' (4")	108.00' (6")
SMH-G	114.15'	105.60' (4")	105.50' (4")

BLDG N.5 3-STORY 16 UNITS
BLDG N.6 3-STORY 12 UNITS
BLDG N.7 3-STORY 8 UNITS
BLDG N.3 3-STORY 16 UNITS
BLDG N.1 3-STORY 10 UNITS
BLDG N.2 3-STORY 10 UNITS
ALL CURB STOPS TO BE LOCATED IN A PAVED AREA MUST BE INSTALLED IN A VALVE BOX TOP SECTION, TYP.
8" SEWER L: 188' S: 0.49%
4" PVC SDR 35 SEWER LATERAL, TYP. L=24' S=0.02 MIN
WHEN LESS THAN 4' OF COVER OVER SEWER, PROVIDE INSULATED TRENCH PER DETAIL
BLOW OFF VALVE AT END OF WATER SERVICE
SD-N.3.6
SEE SHEETS C-30 FOR PROPOSED DRAINAGE INFRASTRUCTURE
45° BENDS, TYP.
SMH-D
SD-N.15.1
ALL SANITARY PIPING TO BE PVC SDR 35
SMH-E
CB-N.15
4" PVC SDR 35 SEWER LATERAL, TYP. L=12' S=0.02 MIN
CB-N.14
SD-N.14.1
SD-N.14.4
POTENTIAL LOCATION FOR CMP METERS. COORDINATE WITH ARCHITECT ON FINAL PLACEMENT
PR. 4" SPRINKLER LINE WITH 4" GATE VALVE CONNECTION PER DETAIL, TYP.
4" GATE VALVE AND 2" CURB STOP, TYP.
PR. 2" WATER SERVICE WITH TAPPING SADDLE PER DETAIL, TYP.
38Y MANHOLE PER CMP
PR. 4" SPRINKLER LINE WITH 4" GATE VALVE CONNECTION PER DETAIL, TYP.
POTENTIAL IRRIGATION SERVICE PER OWNER. COORDINATE WITH PWD REGARDING BACKFLOW REQUIREMENTS
8" SEWER L: 156' S: 0.60%
4" PVC SDR 35 SEWER LATERAL, TYP. L: 12' S: 0.02 MIN.
6" SEWER L: 146' S: 2.18%
SMH-F
SMH-C
8" SEWER L: 66' S: 0.51%
4" SEWER L: 21' S: 1.81%
ABOVE GROUND DOUBLE CHECK BACKFLOW ASSEMBLY WITH INSULATED HOUSING ON CONCRETE PAD
PROPOSED METER PIT PER DETAIL
POTENTIAL LOCATION FOR CMP METERS. COORDINATE WITH ARCHITECT ON FINAL PLACEMENT
PR. TRANSFORMER PAD, FINAL SIZING PER MEP, TYP.
4" PVC SDR 35 SEWER LATERAL, TYP. L=15' S=0.02 MIN.
8" SEWER L: 27' S: 0.65%
SMH-A
PROP. TELECOM SERVICES WITH RISER TO UNDERGROUND CONDUITS
SINGLE PHASE PRIMARY ELECTRIC AND TELECOM. CONDUIT SIZE & QUANTITY PER MEP
SD-N.13.3
PR. 4" SPRINKLER LINE WITH 4" GATE VALVE CONNECTION PER DETAIL, TYP.
GUY WIRE ANCHOR PER CMP
SINGLE PHASE POLE AND RISER TO ELECTRIC
SMH-B
8" SEWER L: 39' S: 0.62%
PR. GUY WIRE, ANCHOR DESIGN AND LOCATION PER CMP
SD-N.5.3
EX. SMH
EX. 10" INV. IN: 102.84'
EX. 10" INV. OUT: 102.74'
EX. 8" INV. IN: 103.65'
PR. 8" INV. IN: 103.65'
PROPOSED 12"X6" TAPPING SLEEVE AND 6" GATE VALVE
INSTALL RISERS AND PROVIDE UNDERGROUND CONDUIT FOR METRO SHELTER "REAL-TIME" UPGRADES. COODINATE WITH METRO REGARDING SIZE AND NUMBER OF CONDUITS.
RELOCATED UTILITY POLE, COORDINATE WITH CMP, MAINTAIN MIN. 10' OF HORIZONTAL SEPARATION BETWEEN OVERHEAD UTILITIES AND FACE OF BUILDING. INSTALL COBRAHEAD ON UTILITY POLE
5+00
6+00
7+00
8+00
9+00
10+00
20 0 20 40
SCALE: 1"=20'

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COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: UTILITY PLAN - NORTH
PROJECT NAME/ADDRESS: 165 LAMBERT ST CO-OP PORTLAND, MAINE 04103
CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS PORTLAND, MAINE

ACORN ENGINEERING, INC.
ENGINEERING

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ACORN ENGINEERING, INC.
90 BRIDGE STREET, SUITE 100
PO BOX 3477 PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1145_CIVIL
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DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
REGISTERED PROFESSIONAL ENGINEER
2/21/23

DRAWING NO.
C-20

GENERAL NOTES:

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3. FOR ALL UTILITIES, ACORN ENGINEERING DESIGN LIMITS END AT EXTERIOR WALL OF BUILDING. METERING OF UTILITIES TO BE COMPLETED BY M.E.P. UNLESS SPECIFIED OTHERWISE.
4. CONTRACTOR TO COORDINATE WITH ARCHITECT ON FINAL UTILITY CONNECTIONS WITHIN THE BUILDING.
5. SEWER UTILITIES: CONTRACTOR TO COORDINATE WITH ARCHITECT FOR FINAL SERVICE CONNECTION. SEWER UTILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL STANDARDS. VALVE FOR BACKFLOW PREVENTION SHALL BE INSTALLED WITHIN THE THE PROPERTY LINES FOR EACH CITY SEWER CONNECTION. CONTACT ENGINEER IF INVERT FIELD CONDITIONS VARY FROM DESIGN.
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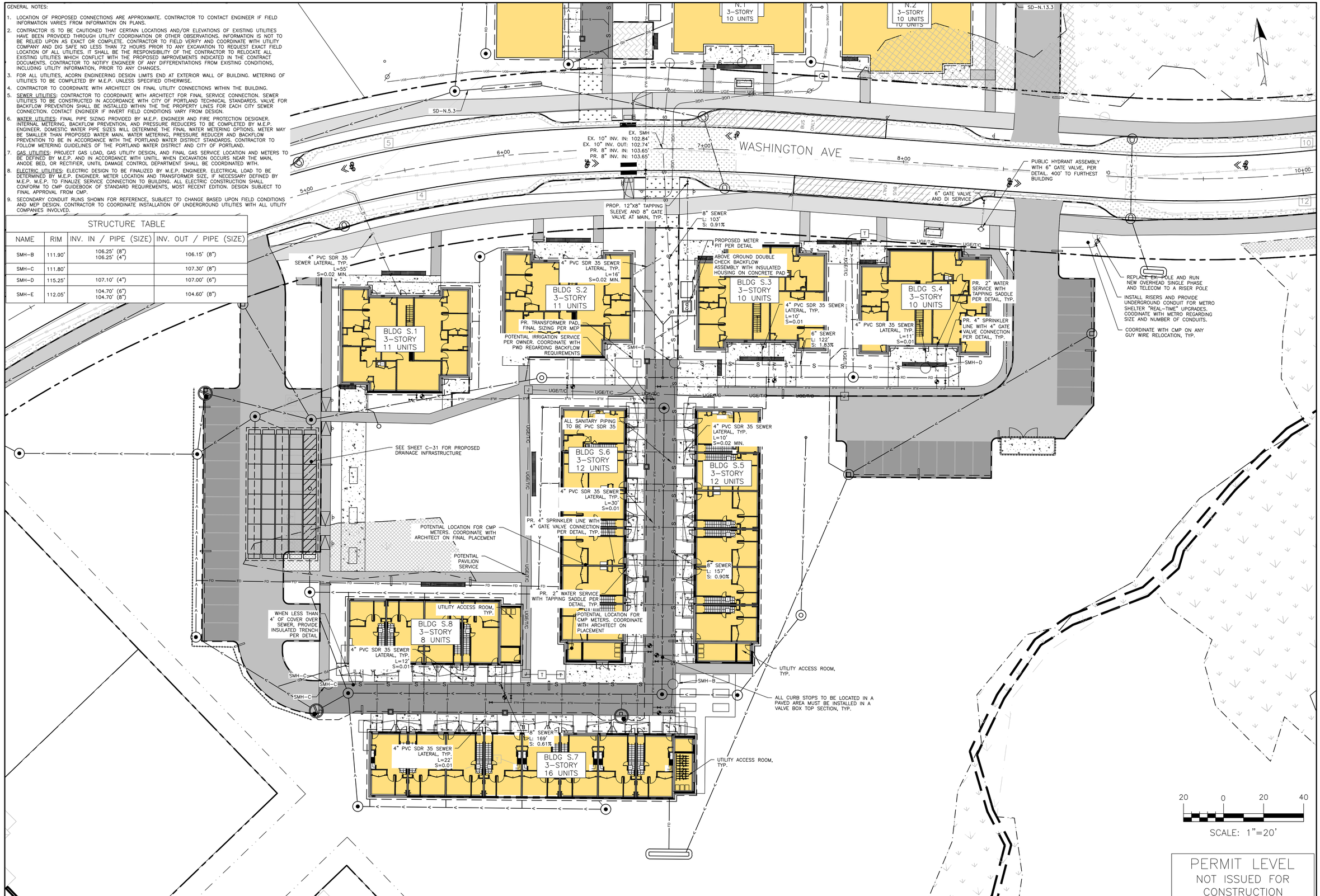
9. SECONDARY CONDUIT RUNS SHOWN FOR REFERENCE, SUBJECT TO CHANGE BASED UPON FIELD CONDITIONS AND MEP DESIGN. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND UTILITIES WITH ALL UTILITY COMPANIES INVOLVED.

STRUCTURE TABLE

NAME	RIM	INV. IN / PIPE (SIZE)	INV. OUT / PIPE (SIZE)
SMH-B	111.90'	106.25' (8") 106.25' (4")	106.15' (8")
SMH-C	111.80'		107.30' (8")
SMH-D	115.25'	107.10' (4")	107.00' (6")
SMH-E	112.05'	104.70' (6") 104.70' (8")	104.60' (8")



PERMIT LEVEL
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COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: UTILITY PLAN – SOUTH

PROJECT NAME/ADDRESS: 165 LAMBERT ST CO-OP
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

THESE PLANS SHALL NOT BE MODIFIED WITHOUT THE EXPRESS WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE TO THESE PLANS BY ANY PARTY OTHER THAN ACORN ENGINEERING, INC. OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
CIVIL • SURVEY • LAND PLANNING
PO BOX 4593, PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1145_CIVIL
JN:	1145
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DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
REGISTERED PROFESSIONAL ENGINEER
2/21/23

DRAWING NO.
C-21

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.
6. CONTRACTOR SHALL VERIFY BOTTOM AND TOP OF CURB ELEVATIONS ALONG BUILDING FRONTAGES PRIOR TO CONSTRUCTION OF THE FOUNDATIONS. CONTACT ENGINEER PRIOR TO CONSTRUCTION IF DISCREPANCIES ARE FOUND.

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

STRUCTURE TABLE			
NAME	RIM	INV. IN / PIPE (SIZE)	INV. OUT / PIPE (SIZE)
CB-N.1	111.05'	106.40' (8") 106.53' (8") 105.00' (6")	102.75' (12") 105.90' (12")
CB-N.2	111.25'	107.30' (8")	107.20' (8")
CB-N.3	111.30'	107.55' (8")	107.45' (8") 107.45' (12")
CB-N.4	112.10'	107.85' (6")	107.75' (8") 107.75' (12")
CB-N.5	114.35'		108.20' (6")
CB-N.6	111.75'	106.85' (6")	106.75' (8")
CB-N.7	111.50'	107.35' (6") 107.35' (12") 106.35' (6")	106.25' (15")
CB-N.8	111.25'	107.00' (8")	106.65' (8")
CB-N.10	111.75'	107.60' (6")	107.50' (6")
CB-N.11	111.75'	107.35' (6")	107.25' (6")
CB-N.12	111.75'	107.10' (6")	107.00' (6")
CB-N.13	111.75'		107.70' (6")
CB-N.14	111.80'	107.10' (12")	107.00' (6")
CB-N.15	111.50'	107.40' (12")	107.30' (12")
DMH-N.1	111.25'	102.35' (15") 102.20' (4")	102.10' (15")
DMH-N.2	110.25'	105.90' (6") 105.70' (12")	105.60' (24")
DMH-N.3	111.75'	105.60' (15") 106.75' (12") 106.75' (6")	105.55' (24")
DMH-N.4	113.50'	110.00' (12") 110.00' (6")	109.90' (12") 109.90' (12")
DMH-N.5	109.75'	101.00' (15") 105.25' (12")	100.90' (15")
DMH-N.6	108.00'	99.80' (15") 99.80' (12")	99.70' (15")
DMH-N.7	111.25'		108.49' (6")
DMH-N.8	111.40'	108.10' (6")	108.00' (12")
DMH-N.9	111.30'	106.25' (6") 106.25' (12")	106.15' (6")
DMH-N.10	110.10'	106.60' (6")	106.50' (6")
DMH-N.11	112.00'	107.30' (12")	107.20' (12")
DMH-N.12	117.40'	110.90' (6") 110.90' (8")	110.80' (12")
DMH-N.13	115.15'	111.10' (6") 111.10' (8")	111.00' (6")

STORM DRAIN TABLE				STORM DRAIN TABLE			
PIPE NAME	SIZE	LENGTH	SLOPE	PIPE NAME	SIZE	LENGTH	SLOPE
SD-N.1.1	12"	46'	0.005	SD-N.6.1	15"	52'	0.008
SD-N.1.2	8"	70'	0.003	SD-N.6.2	6"	34'	0.015
SD-N.1.3	8"	94'	0.003	SD-N.7.1	6"	160'	0.007
SD-N.1.4	15"	34'	0.001	SD-N.8.1	8"	76'	0.003
SD-N.1.5	4"	4'	0.013	SD-N.8.2	6"	56'	0.034
SD-N.1.6	15"	187'	0.006	SD-N.9.1	6"	42'	0.006
SD-N.1.7	6"	51'	0.005	SD-N.9.3	12"	195'	0.005
SD-N.2.1	8"	65'	0.002	SD-N.10.1	6"	118'	0.008
SD-N.2.2	6"	55'	0.005	SD-N.10.2	6"	37'	0.004
SD-N.2.3	24"	10'	0.010	SD-N.11.1	6"	38'	0.004
SD-N.2.4	12"	17'	0.011	SD-N.12.1	6"	40'	0.004
SD-N.3.1	8"	62'	0.003	SD-N.12.2	8"	29'	0.017
SD-N.3.3	15"	71'	0.009	SD-N.12.3	6"	17'	0.064
SD-N.3.4	12"	170'	0.007	SD-N.13.1	6"	38'	0.003
SD-N.3.5	24"	4'	0.013	SD-N.13.2	6"	23'	0.017
SD-N.3.6	12"	7'	0.022	SD-N.13.3	8"	22'	0.018
SD-N.4.1	6"	133'	0.003	SD-N.14.1	12"	29'	0.007
SD-N.4.2	6"	97'	0.012	SD-N.15.1	12"	13'	0.026
SD-N.4.3	12"	108'	0.024				
SD-N.4.4	6"	106'	0.006				
SD-N.4.5	6"	98'	0.010				
SD-N.5.2	12"	83'	0.010				
SD-N.5.3	12"	13'	0.019				
SD-N.5.4	15"	160'	0.007				
SD-N.5.5	12"	10'	0.020				

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: **GRADING & DRAINAGE PLAN – NORTH**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP**
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.
ENGINEERING, INC.

THESE PLANS SHALL NOT BE MODIFIED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY UNAUTHORIZED MODIFICATIONS TO THESE PLANS OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
P.O. BOX 224 ALFRED, MAINE 04101
(207) 775-2655

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
Sam Lebel
SAMUEL J. LEBEL
No. 16505
REGISTERED PROFESSIONAL ENGINEER
2/21/23

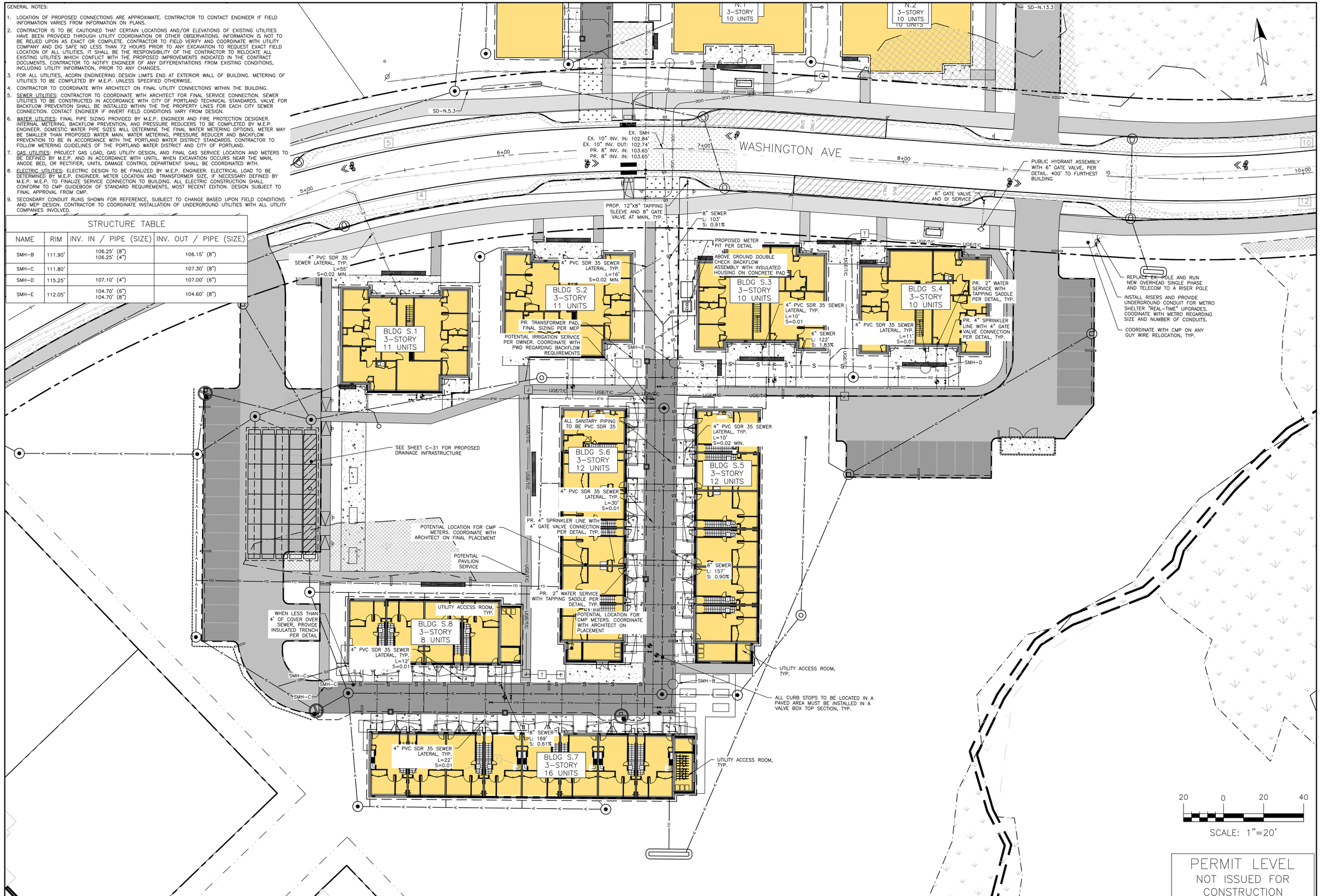
DRAWING NO.
C-30

GENERAL NOTES:

1. LOCATION OF PROPOSED CONNECTIONS ARE APPROXIMATE. CONTRACTOR TO CONTACT ENGINEER IF FIELD INFORMATION VARIES FROM INFORMATION ON PLANS.
2. CONTRACTOR IS TO BE CAUTIONED THAT CERTAIN LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES HAVE BEEN PROVIDED THROUGH UTILITY COORDINATION OR OTHER OBSERVATIONS. INFORMATION IS NOT TO BE RELIED UPON AS EXACT OR COMPLETE. CONTRACTOR TO FIELD VERIFY AND COORDINATE WITH UTILITY COMPANY AND DIG SAFE NO LESS THAN 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF ALL UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DIFFERENTIATIONS FROM EXISTING CONDITIONS, INCLUDING UTILITY INFORMATION, PRIOR TO ANY CHANGES.
3. FOR ALL UTILITIES, ACORN ENGINEERING DESIGN LIMITS END AT EXTERIOR WALL OF BUILDING. METERING OF UTILITIES TO BE COMPLETED BY M.E.P. UNLESS SPECIFIED OTHERWISE.
4. CONTRACTOR TO COORDINATE WITH ARCHITECT ON FINAL UTILITY CONNECTIONS WITHIN THE BUILDING.
5. SEWER UTILITIES: CONTRACTOR TO COORDINATE WITH ARCHITECT FOR FINAL SERVICE CONNECTION. SEWER UTILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL STANDARDS. VALVE FOR BACKFLOW PREVENTION SHALL BE INSTALLED WITHIN THE THE PROPERTY LINES FOR EACH CITY SEWER CONNECTION. CONTACT ENGINEER IF INVERT FIELD CONDITIONS VARY FROM DESIGN.
6. WATER UTILITIES: FINAL PIPE SIZING PROVIDED BY M.E.P. ENGINEER AND FIRE PROTECTION DESIGNER. INTERNAL METERING, BACKFLOW PREVENTION, AND PRESSURE REDUCERS TO BE COMPLETED BY M.E.P. ENGINEER. DOMESTIC WATER PIPE SIZES WILL DETERMINE THE FINAL WATER METERING OPTIONS. METER MAY BE SMALLER THAN PROPOSED WATER MAIN. WATER METERING, PRESSURE REDUCER AND BACKFLOW PREVENTION TO BE IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARDS. CONTRACTOR TO FOLLOW METERING GUIDELINES OF THE PORTLAND WATER DISTRICT AND CITY OF PORTLAND.
7. GAS UTILITIES: PROJECT GAS LOAD, GAS UTILITY DESIGN, AND FINAL GAS SERVICE LOCATION AND METERS TO BE DEFINED BY M.E.P. AND IN ACCORDANCE WITH UNITIL. WHEN EXCAVATION OCCURS NEAR THE MAIN, ANODE BED, OR RECTIFIER, UNITIL DAMAGE CONTROL DEPARTMENT SHALL BE COORDINATED WITH.
8. ELECTRIC UTILITIES: ELECTRIC DESIGN TO BE FINALIZED BY M.E.P. ENGINEER. ELECTRICAL LOAD TO BE DETERMINED BY M.E.P. ENGINEER. METER LOCATION AND TRANSFORMER SIZE, IF NECESSARY DEFINED BY M.E.P. M.E.P. TO FINALIZE SERVICE CONNECTION TO BUILDING. ALL ELECTRIC CONSTRUCTION SHALL CONFORM TO CMP GUIDEBOOK OF STANDARD REQUIREMENTS, MOST RECENT EDITION. DESIGN SUBJECT TO FINAL APPROVAL FROM CMP.
9. SECONDARY CONDUIT RUNS SHOWN FOR REFERENCE, SUBJECT TO CHANGE BASED UPON FIELD CONDITIONS AND MEP DESIGN. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND UTILITIES WITH ALL UTILITY COMPANIES INVOLVED.

STRUCTURE TABLE

NAME	RIM	INV. IN / PIPE (SIZE)	INV. OUT / PIPE (SIZE)
SMH-B	111.90'	106.25' (8") 106.25' (4")	106.15' (8")
SMH-C	111.80'		107.30' (8")
SMH-D	115.25'	107.10' (4")	107.00' (6")
SMH-E	112.05'	104.70' (6") 104.70' (8")	104.60' (8")



PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: UTILITY PLAN – SOUTH

PROJECT NAME/ADDRESS: 165 LAMBERT ST CO-OP
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC.
PO BOX 321 SCARBOROUGH, MAINE 04101
(207) 775-2655

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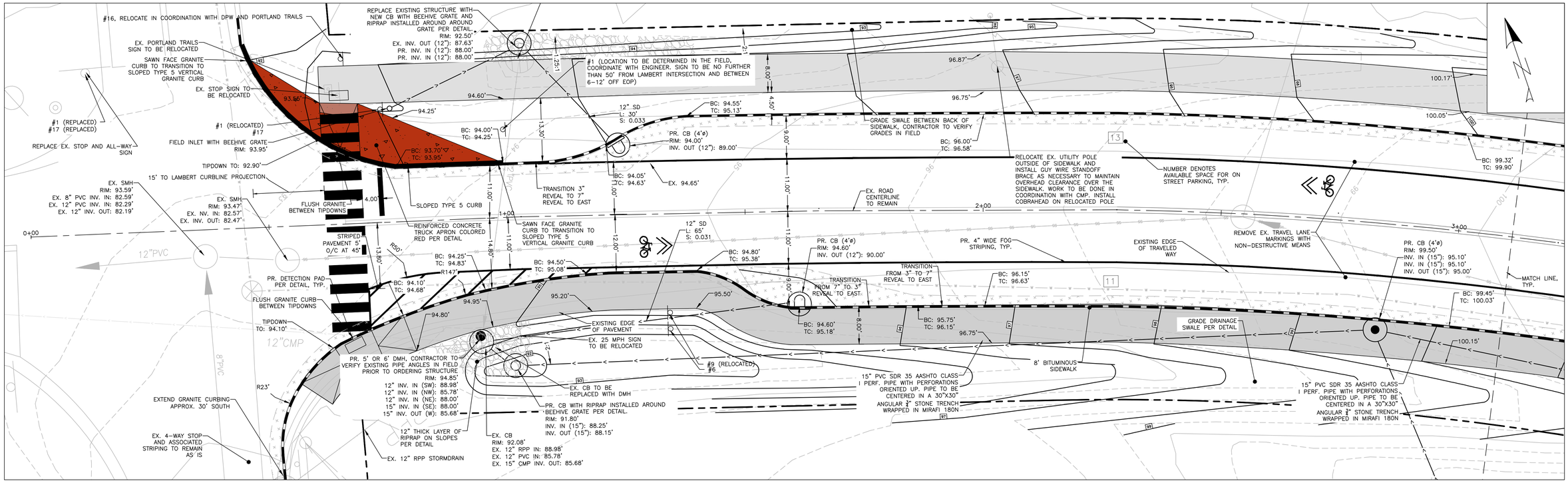
FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

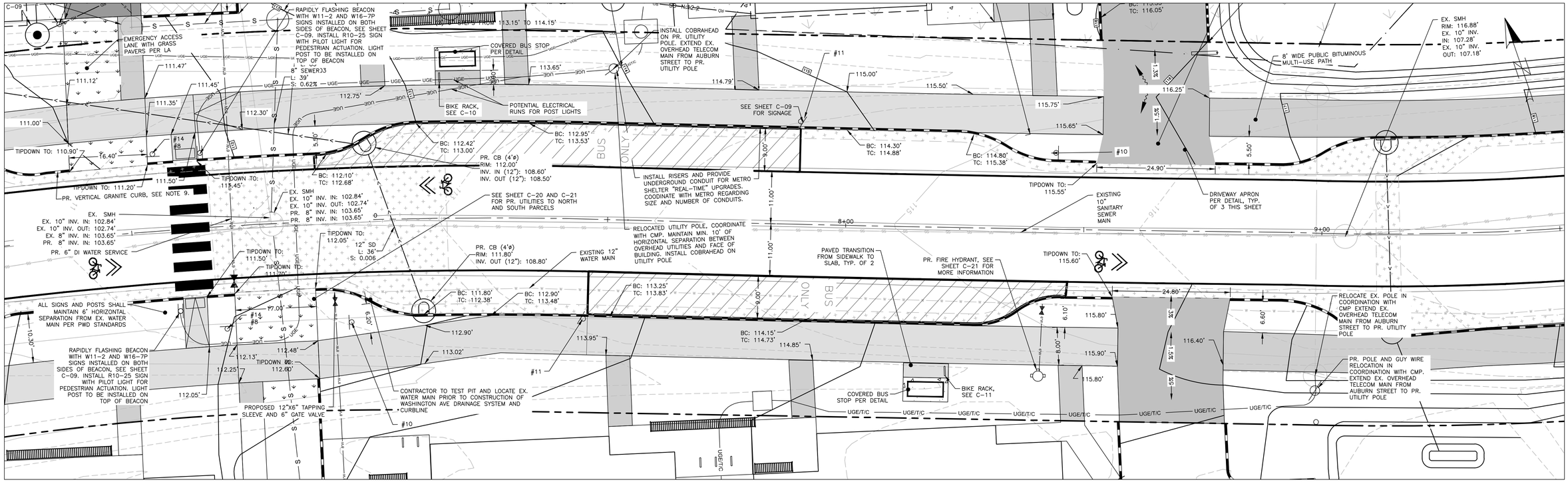
STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
REGISTERED PROFESSIONAL ENGINEER
LICENSED
2/21/23

DRAWING NO.
C-21

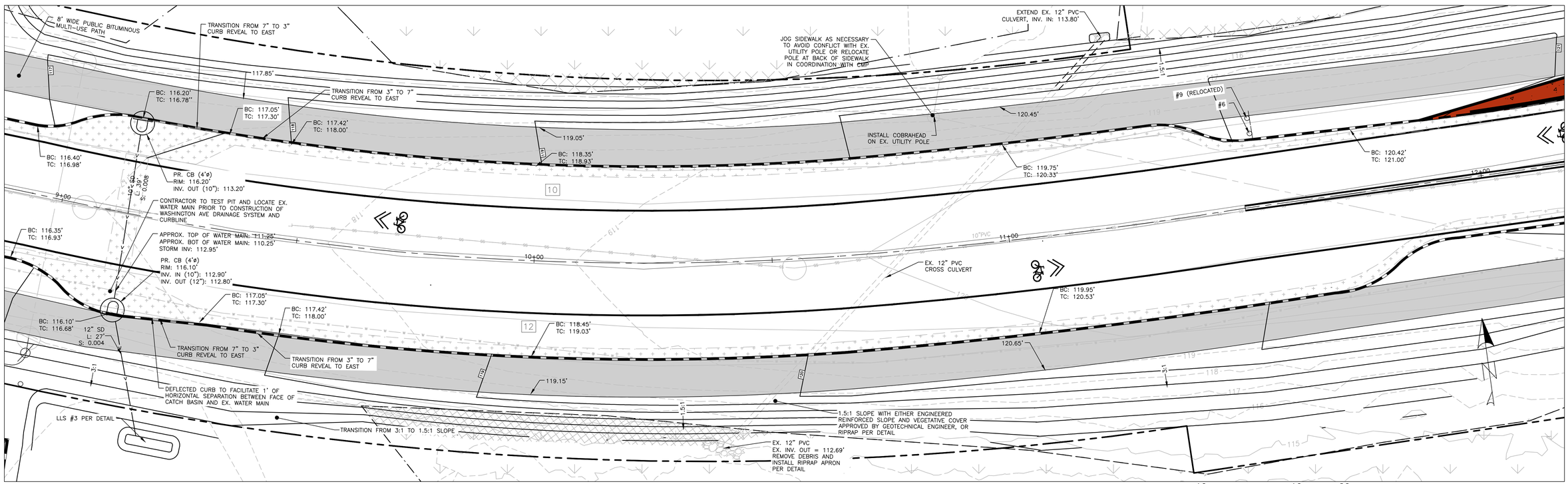


LAMBERT STREET INTERSECTION – STATIONS: 0+00 – 3+25

PR. UTILITY POLE, SEE SHEET C-20 FOR MORE INFORMATION.
DMH-N.5
18" NYLOPLAST DRAIN BASIN WITH BEEHIVE GRATE
RIM: 104.25'
PR. RAIN GARDEN #2
INSTALL PLUNGEPOOL WITH 12" LAYER OF 4" D50 RIPRAP AT PIPE OUTLET
INV OUT: 103.00'
PR. RAIN GARDEN #1
INSTALL PLUNGEPOOL WITH 12" LAYER OF 4" D50 RIPRAP AT PIPE OUTLET, INV. OUT: 108.25'
RELOCATE EX. UTILITY POLE OUTSIDE OF SIDEWALK AND INSTALL GUY WIRE STANDOFF BRACE AS NECESSARY TO MAINTAIN OVERHEAD CLEARANCE OVER THE SIDEWALK. WORK TO BE DONE IN COORDINATION WITH CMP. INSTALL COBRAHEAD ON RELOCATED POLE
SD-N.5.4
SD-N.5.3
103.67'
103.55'
104.75'
109.75'
110.30'
109.90'
5.00'
3.00'
BC: 104.20'
TC: 104.78'
BC: 102.80'
TC: 103.38'
BC: 104.45'
TC: 105.03'
BC: 104.95'
TC: 105.53'
BC: 105.37'
TC: 105.95'
BC: 106.25'
TC: 106.78'
BC: 106.80'
TC: 107.38'
BC: 109.20'
TC: 109.78'
BC: 109.60'
TC: 110.18'
PR. CB (4'ø)
RIM: 106.15'
INV. OUT (12"): 103.15'
12" SD
L: 43'
S: 0.003
EX. DROP MANHOLE
EX. 10" INV. IN: 99.64'
EX. 12" INV. IN: 93.64'
EX. 12" INV. OUT: 93.54'
APPROX. LOCATION OF EX. 12" SANITARY SERVICE. CAP AND FLOW FILL EX. SEWER LATERAL STUB IF ENCOUNTERED DURING CONSTRUCTION.
18" NYLOPLAST DRAIN BASIN WITH BEEHIVE GRATE
RIM: 109.50'
20' MIN TRANSITION LENGTH, TYP.
9.00'
11.00'
4+00
5+00
6+00
APPROX. TOP OF EX. WATER MAIN: 98.50'
APPROX. BOT OF EX. WATER MAIN: 97.50'
STORM INV AT CROSSING: 99.35'
TIPDOWN TO: 105.75'
TIPDOWN TO: 104.80'
TIPDOWN TO: 105.42'
TIPDOWN TO: 106.37'
106.25'
105.30'
104.53'
104.65'
103.65'
BC: 102.95'
TC: 103.53'
BC: 106.50'
TC: 107.08'
PR. 4" PVC SDR 35 SEWER LATERAL CONNECTION TO EX. SEWER MAIN. INVERT IN: 93.65'
CONTRACTOR TO TEST PIT AND LOCATE EX. WATER MAIN PRIOR TO CONSTRUCTION OF WASHINGTON AVE DRAINAGE SYSTEM AND CURBLINE, TYP. OF 3 LOCATIONS. MIN. 1' HORIZONTAL SEPARATION BETWEEN THE EXTERNAL FACE OF THE CATCH BASIN AND THE FACE OF THE WATER MAIN. CONTACT ENGINEER IF DISCREPANCY IS DISCOVERED
DEFLECTED CURB TO FACILITATE 1' OF HORIZONTAL SEPARATION BETWEEN FACE OF CATCH BASIN AND EX. WATER MAIN
BC: 107.95'
TC: 108.53'
4
108.65'
109.65'
110.60'
BC: 108.95'
TC: 109.53'
BC: 109.90'
TC: 110.48'
PR. CB (4'ø)
RIM: 106.30'
INV. OUT (12"): 102.40'
BC: 107.45'
TC: 108.03'
APPROX. TOP OF EX. WATER MAIN: 102.25'
APPROX. BOT OF EX. WATER MAIN: 101.25'
SANITARY INV AT CROSSING: 93.90'
4" PVC SDR 35 SEWER LATERAL, TYP.
L=55'
S=0.02 MIN.
12" SD
L: 83'
S: 0.037
PR. DMH
RIM: 104.60'
INV. IN (15"): 99.30'
INV. IN (12"): 99.30'
INV. OUT (15"): 99.20'
15" SD
L: 138'
S: 0.030
BC: 99.45'
TC: 100.03'
100.15'
MATCH LINE, TYP.
TIPDOWN
ALL SIGNS AND POST
MAINTAIN 6' HOR
SEPARATION FROM EX
MAIN PER PWD STAN
RAPIDLY FLASHIN
WITH W11-2 AND
SIGNS INSTALLED
SIDES OF BEACON,
C-09 INSTALL
PEDESTRIAN
R10
10.30'
R76'
R38'
S
S
S



STATIONS: 6+25 – 9+50



STATIONS: 9+00 – 12+25

10 0 10 20

SCALE: 1"=10'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/17/22
HUD PRE-APP	SJL 7/13/21

DRAWING NAME: **RIGHT-OF-WAY GRADING & SITE PLAN STA 6+25 – 12+25**

PROJECT NAME: **165 LAMBERT ST CO-OP** PORTLAND, MAINE 04103

CLIENT: MAINE COOPERATIVE DEVELOPMENT PARTNERS PORTLAND, MAINE

Barton & Loguidice
383 US-1 Suite 2A Scarborough, Maine 04074
(207) 331-6694 jadams@bartonandloguidice.com

ACORN ENGINEERING, INC

THE PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

1145_CIVIL
1145
SCALE: AS NOTED
DESIGNED BY: NPH/SJL
DRAWN BY: NPH
CHECKED BY: SJL/JQA

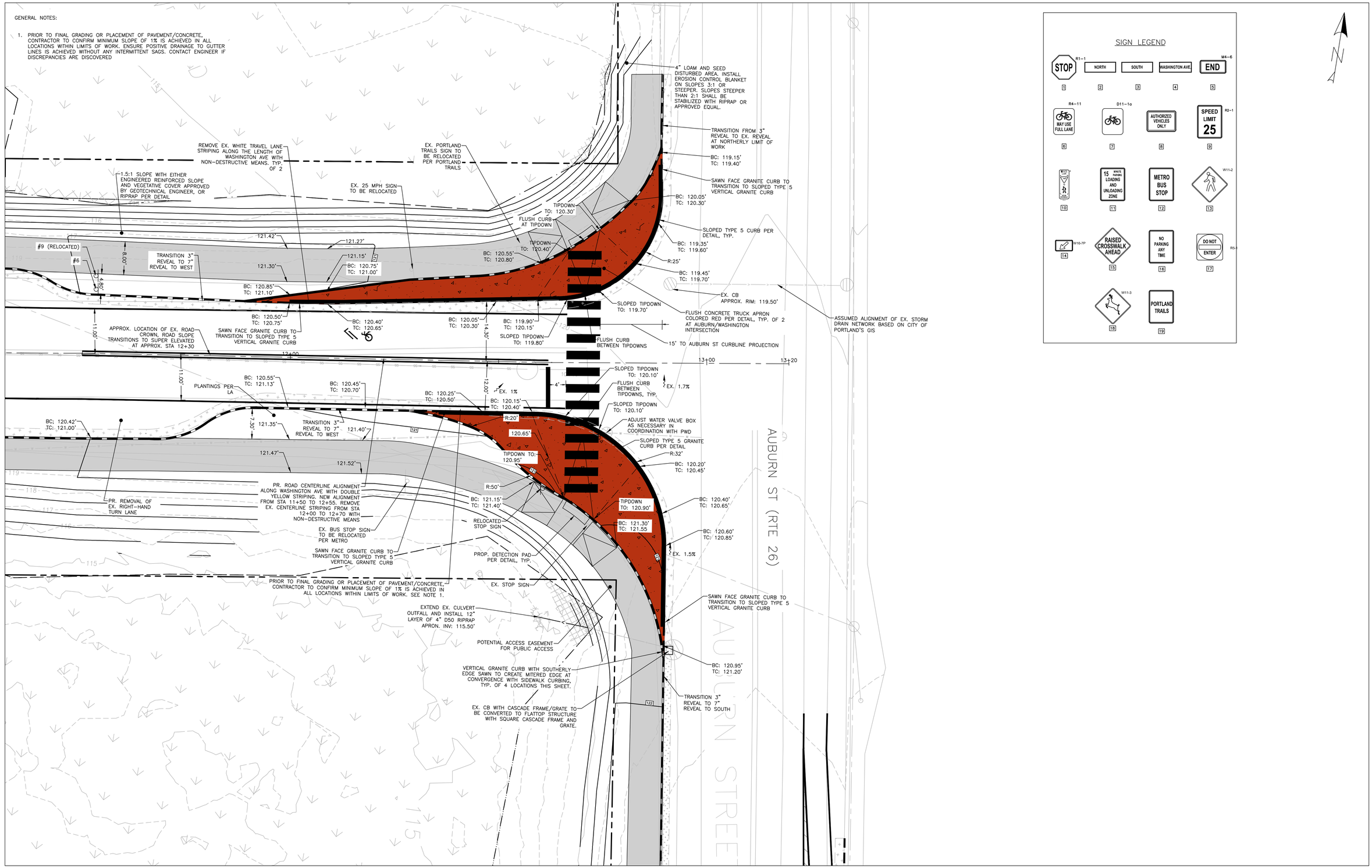
STATE OF MAINE SAMUEL J. LEBEL 16595 LICENSED PROFESSIONAL ENGINEER 6/24/22

STATE OF MAINE JOHN QUENTIN ADAMS No. 11083 LICENSED PROFESSIONAL ENGINEER 6/24/22

DRAWING NO.
C-33

GENERAL NOTES:

1. PRIOR TO FINAL GRADING OR PLACEMENT OF PAVEMENT/CONCRETE, CONTRACTOR TO CONFIRM MINIMUM SLOPE OF 1% IS ACHIEVED IN ALL LOCATIONS WITHIN LIMITS OF WORK. ENSURE POSITIVE DRAINAGE TO GUTTER LINES IS ACHIEVED WITHOUT ANY INTERMITTENT SAGS. CONTACT ENGINEER IF DISCREPANCIES ARE DISCOVERED



SIGN LEGEND

AUBURN STREET INTERSECTION – STATIONS: 11+25 – 13+20

10 0 10 20

SCALE: 1"=10'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/17/22
HUD PRE-APP	SJL 7/13/21

DRAWING NAME: RIGHT-OF-WAY GRADING & SITE PLAN STA 11+25 – 13+25

PROJECT NAME: 165 LAMBERT ST CO-OP
PORTLAND, MAINE 04103

CLIENT: MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

Barton & Loguidice
383 US Route 1, Suite 2A Scarborough, Maine 04074
(207) 531-6694 jadams@bartonandloguidice.com

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1145_CIVIL
1145

SCALE: AS NOTED
DESIGNED BY: NPH/SJL
DRAWN BY: NPH
CHECKED BY: SJL/JQA

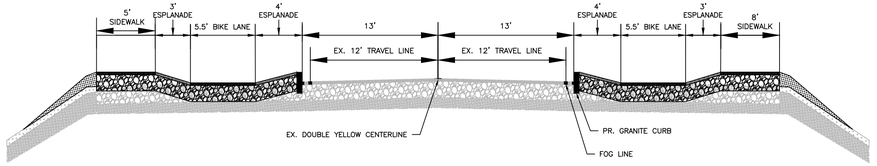
STATE OF MAINE SAMUEL J. LEDEL 16505 LICENSED PROFESSIONAL ENGINEER 6/24/22

STATE OF MAINE JOHN QUENTIN ADAMS No. 11083 REGISTERED PROFESSIONAL ENGINEER 6/24/22

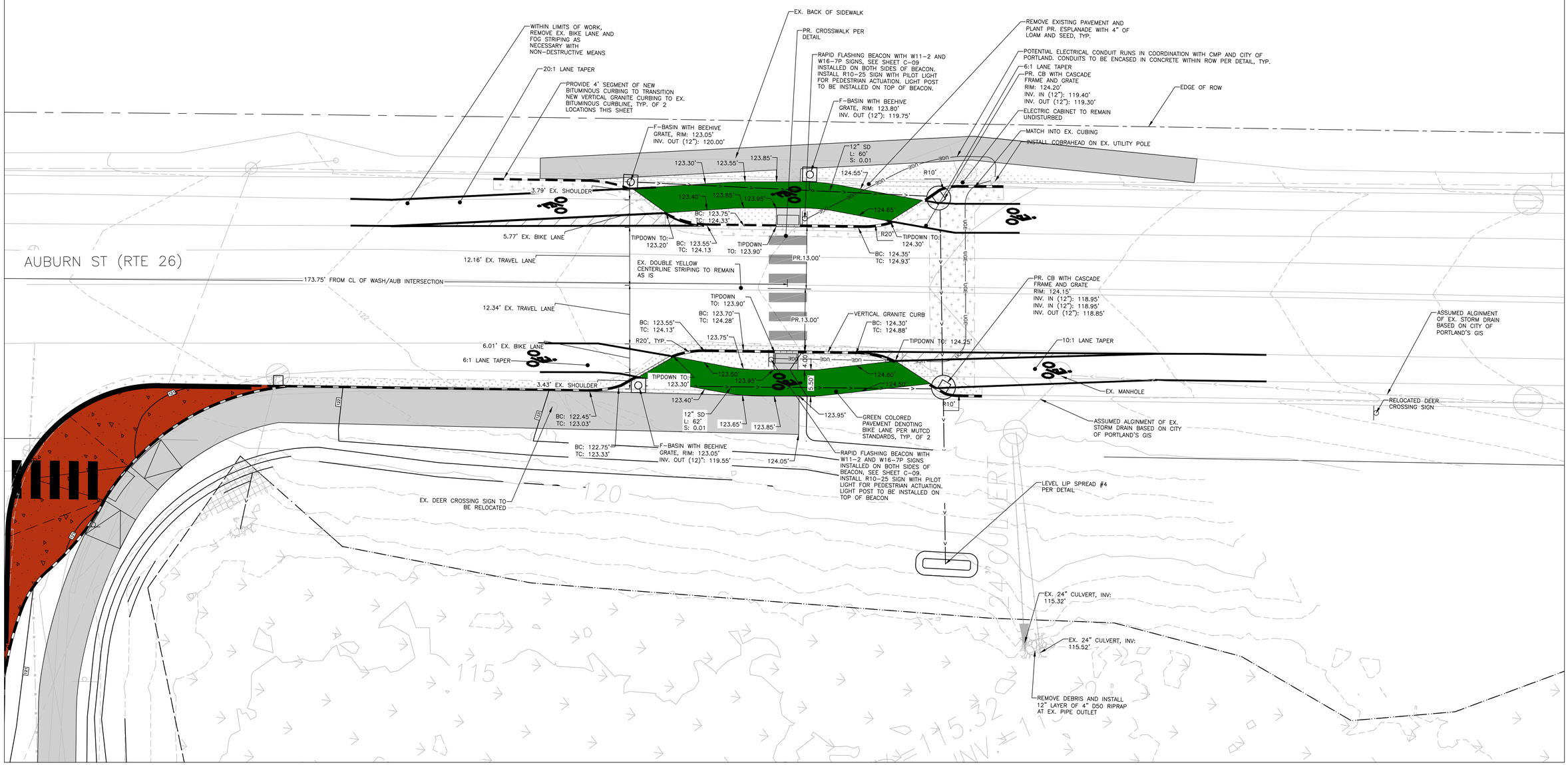
DRAWING NO.
C-34

GENERAL NOTES:

1. WITHIN LIMITS OF WORK, REMOVE EX. BIKE LANE AND FOG STRIPING AS NECESSARY WITH NON-DESTRUCTIVE MEANS.
2. CONTRACTOR TO VIF EXISTING GRADE TO EAST OF AUBURN STREET PRIOR TO CONSTRUCTING DRAINAGE INFRASTRUCTURE.



LOOKING SOUTH – CROSSWALK ON AUBURN
NOT TO SCALE



AUBURN STREET CURB EXTENSION/CROSSWALK

10 0 10 20
SCALE: 1"=10'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 6/17/22
HUD PRE-APP	SJL 7/13/21

DRAWING NAME: RIGHT-OF-WAY GRADING & SITE PLAN – AUBURN STREET

PROJECT NAME: 165 LAMBERT ST CO-OP
PORTLAND, MAINE 04103

CLIENT: MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

Barton & Loguidice
383 US-1 Suite 2A Scarborough, Maine 04074
(207) 331-6694 jadams@bartonandloguidice.com

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1145_CIVIL
1145
SCALE: AS NOTED
DESIGNED BY: NPH/SJL
DRAWN BY: NPH
CHECKED BY: SJL/JQA

STATE OF MAINE
SAMUEL J. LEBEL
16509
LICENSED PROFESSIONAL ENGINEER
6/17/22

STATE OF MAINE
JOHN QUENTIN ADAMS
No. 11083
REGISTERED PROFESSIONAL ENGINEER

DRAWING NO.
C-35

GENERAL NOTES:

1. FOR INFORMATION REGARDING PROPOSED GROUND LEVEL LAYOUT, REFER TO SITE PLAN, SHEET C-10 AND C-11, MOST RECENT VERSION.
2. FOR INFORMATION REGARDING PROPOSED UTILITIES, REFER TO THE UTILITY PLAN, SHEET C-20 AND C-21, MOST RECENT VERSION.
3. FOR INFORMATION REGARDING PROPOSED GRADING AND STORMWATER, REFER TO THE GRADING & DRAINAGE PLAN, SHEET C-30 AND C-31, MOST RECENT VERSION.
4. UNIT TABULATION PROVIDED BY KAPLAN THOMPSON ARCHITECTS; REFER TO ARCHITECTURAL PLANS FOR FLOOR PLANS AND BUILDING HEIGHTS.
5. TOTAL SITE AREA INCLUDES 12.83 ACRES (558,793 S.F.) CONTAINED WITHIN THE SOUTH PARCEL AND 5.12 ACRES (223,196 S.F.) WITHIN THE NORTH PARCEL. SITE BOUNDARIES PER BOUNDARY SURVEY & TOPOGRAPHICAL MAP WITH EXISTING CONDITIONS PROVIDED BY OWEN HASKELL, INC. ON A PLAN TITLED "BOUNDARY & TOPOGRAPHIC SURVEY LAMBERT WOODS" DATED JUNE 2021 REVISED DECEMBER 2021.
6. AS OF 6/14/2022, THE SITE IS BOUNDED BY THE R3 ZONE TO THE NORTH, WEST, AND SOUTH. THE SITE IS BOUNDED BY THE R2 ZONE TO THE EAST. ZONE INFORMATION WAS OBTAINED FROM THE CITY OF PORTLAND'S GIS WEBSITE.
7. LOCUS PARCEL IS SHOWN ON THE CITY OF PORTLAND ASSESSOR'S MAP CHART, BOOK, LOT: 385-A-1, 386-C-1, 385-D-8, 386-B-12, AND 386-B-15.
8. LOCUS PARCEL DOES NOT FALL IN A SPECIAL FLOOD HAZARD AREA PER FEMA FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 230051 0002 C DATED 12/8/1998 AND 230045 0011 B DATED 10/16/1984.
9. ALL BUILDING CORNER OFFSETS TO BOUNDARY LINES ARE FROM CORNERBOARDS AND NOT BUILDING FOUNDATION, UNLESS OTHERWISE NOTED.
10. THIS SHEET IS THE SUBDIVISION PLAT FOR THE CREATION OF UP TO ONE-HUNDRED SIXTY FIVE (165) DWELLING UNITS ON THE EXISTING SUBJECT PROPERTY.
11. ANY PROPERTY MARKER PROPOSED WITHIN A PEDESTRIAN OR VEHICULAR WAY SHALL BE FLUSH OR BELOW GRADE AT THE DISCRETION OF THE PROFESSIONAL LAND SURVEYOR AND/OR ENGINEER.
12. THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF THE SITE INCLUDING ALL DRIVEWAYS, SIDEWALKS, STORMWATER DEVICES, SITE LIGHTING, TRASH REMOVAL, RETAINING WALLS, AND SNOW REMOVAL.
13. THE OWNER SHALL BE RESPONSIBLE FOR COMPLYING WITH THE CONDITIONS OF CHAPTER 302 STORMWATER INCLUDING ARTICLE III, POST-CONSTRUCTION STORMWATER MANAGEMENT AGREEMENT, WHICH SPECIFIES ANNUAL INSPECTIONS AND REPORTING REQUIREMENTS AT A MINIMUM. IN ADDITION, THE OWNER SHALL BE RESPONSIBLE FOR COMPLYING WITH THE CONDITIONS OF THE SUBMITTED STORMWATER MANAGEMENT PLAN AND THE APPROVED PLANS, AND MEET CITY STANDARDS AND STATE GUIDELINES.
14. THE OWNER MUST COMPLY TO THE FOLLOWING AS APPROVED BY THE CITY:
    14.1. POST-CONSTRUCTION STORMWATER MANAGEMENT AGREEMENT:

    BOOK _____ PAGE _____

SURVEY NOTES:

1. OWNER OF RECORD:
   CITY OF PORTLAND
   C.C.R.D. 3702/236, 3795/236, 3798/6, 4550/327, 4593/154, 4599/266
2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD 83 PER PLAN REFERENCE 1.
3. ELEVATIONS ARE BASED ON NGVD 1929. BENCHMARK: USC&GS DISC G-163 ELEVATION=66.92
4. WETLANDS DELINEATED BY JONES ASSOCIATES AND FIELD LOCATED BY OWEN HASKELL, INC. EXCEPT FOR THE WETLANDS AND STREAM LOCATIONS SHOWN ON THE SOUTHERLY SIDE OF THE STREAM ON TM 385 LOT A-1 & TM 386 LOT C-1. WETLANDS LOCATED ON FALMOUTH PARCEL HAVE NOT BEEN FIELD LOCATED.
5. THE CONTOURS SOUTH OF THE WETLAND LINE SHOWN ON THIS SURVEY WERE GENERATED USING DATA COLLECTED IN 2015 AND DOWNLOADED FROM THE NOAA WEB SITE LOCATED AT https://coast.noaa.gov/dataviewer/#/

PLAN REFERENCES:

1. "STREET ACCEPTANCE PLAN OF WASHINGTON AVENUE EXTENSION, PORTLAND, MAINE" DATED FEBRUARY 15, 2011 BY CITY OF PORTLAND, MAINE PUBLIC SERVICES DEPARTMENT, ENGINEERING DIVISION.
2. "PLAN OF LAND IN FALMOUTH AND PORTLAND FOR CITY OF PORTLAND" DATED 1/1/76, BY OWEN HASKELL, INC.

WAIVERS & CONDITIONS OF APPROVAL:

TBD

EASEMENTS:

ALL PROPOSED EASEMENTS ARE TO BE REVIEWED BY OWEN HASKELL, INC. AND RECORDED IN CCRD. ALL EXISTING EASEMENTS ARE TO REMAIN.

EXISTING EASEMENTS:
1. A DRAINAGE EASEMENT BENEFITING MAINE DOT AS RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 3901/31.

PROPOSED EASEMENTS:
1. ACCESS EASEMENT BENEFITING THE CITY OF PORTLAND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK _____ PAGE _____
2. POTENTIAL DRAINAGE EASEMENT BENEFITING THE CITY OF PORTLAND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK _____ PAGE _____.

GENERAL NOTES:

1. SIGN LEGEND TO SERVE FOR VISUAL PURPOSES. LEGEND NOT TO SCALE, REFER TO MUTCD STANDARDS FOR SPECIFICATIONS AND MORE INFORMATION.
2. METRO BUS STOP AND PORTLAND TRAILS SIGN IN SIGN LEGEND TO SERVE AS PLACEHOLDER. FINAL SIGN DESIGN PER RESPECTIVE ORGANIZATIONS.
3. ALL SIGNS TO BE INSTALLED PER MUTCD STANDARDS.
4. UP TO 10,000 SF OF WETLANDS ARE PERMITTED TO BE FILLED ONCE THE TIER 1 NRPA PERMIT HAS BEEN APPROVED.
5. CONTRACTOR TO COORDINATE WITH DPW PARKING DIVISION REGARDING ON-STREET PARKING SIGNAGE.
6. BUILDING ADDRESSES HAVE BEEN COORDINATED WITH CITY'S E911 ADDRESSING DEPARTMENT. STREET NAMES ARE SUBJECT TO CHANGE.

VICINITY MAP
SCALE: 1"=1000'

LOT SUMMARY	
LOT ID	LOT AREA
LOT 1 (TM 385 A-1, TM 386-C-1)	12.83 AC
LOT 2 (TM 386 B-15, TM 386-B-12, TM 385-D-8)	5.12 AC
LOT 3 (FALMOUTH TM U48 LOT 027)	14.74 AC

PARKING SUMMARY	
	# PARKING SPACES
NORTH PARCEL STANDARD (9'X18')	18
NORTH PARCEL COMPACT (8.5'X18')	4
NORTH PARCEL ADA ACCESSIBLE	4
SOUTH PARCEL STANDARD (9X'18')	35
SOUTH PARCEL ADA ACCESSIBLE	4
TOTAL PROPOSED SPACES	65

SPACE AND BULK STANDARDS – PRUD (NORTH)		
ZONE: R3		
	REQUIRED	PROPOSED
MIN LOT AREA	3 AC	5.12 AC
NET LAND AREA PER DU	3,250 SF/DU [1]	3,316 SF/DU [2]
MAX STRUCTURE HEIGHT	35'	<35'
MIN SETBACK FROM EXTERNAL SUBDIVISION PL	10' [1,2]	24.50'
MIN DISTANCE BETWEEN BUILDINGS	16' [1]	19.4'
MIN RECREATIONAL OPEN SPACE	200 SF/UN [1]	230 SF/DU
REQUIRED BICYCLE PARKING	29	>29

SPACE AND BULK STANDARDS – PRUD (SOUTH)		
ZONE: R3		
MIN LOT AREA	3 AC	12.83 AC
NET LAND AREA PER DU	3,250 SF/DU [1]	3,316 SF/DU [2]
MAX STRUCTURE HEIGHT	35'	<35'
MIN SETBACK FROM EXTERNAL SUBDIVISION PL	10' [1,2]	24.50'
MIN DISTANCE BETWEEN BUILDINGS	16'	16.10'
MIN RECREATIONAL OPEN SPACE	200 SF/UN	223 SF/DU
REQUIRED BICYCLE PARKING	36	>36

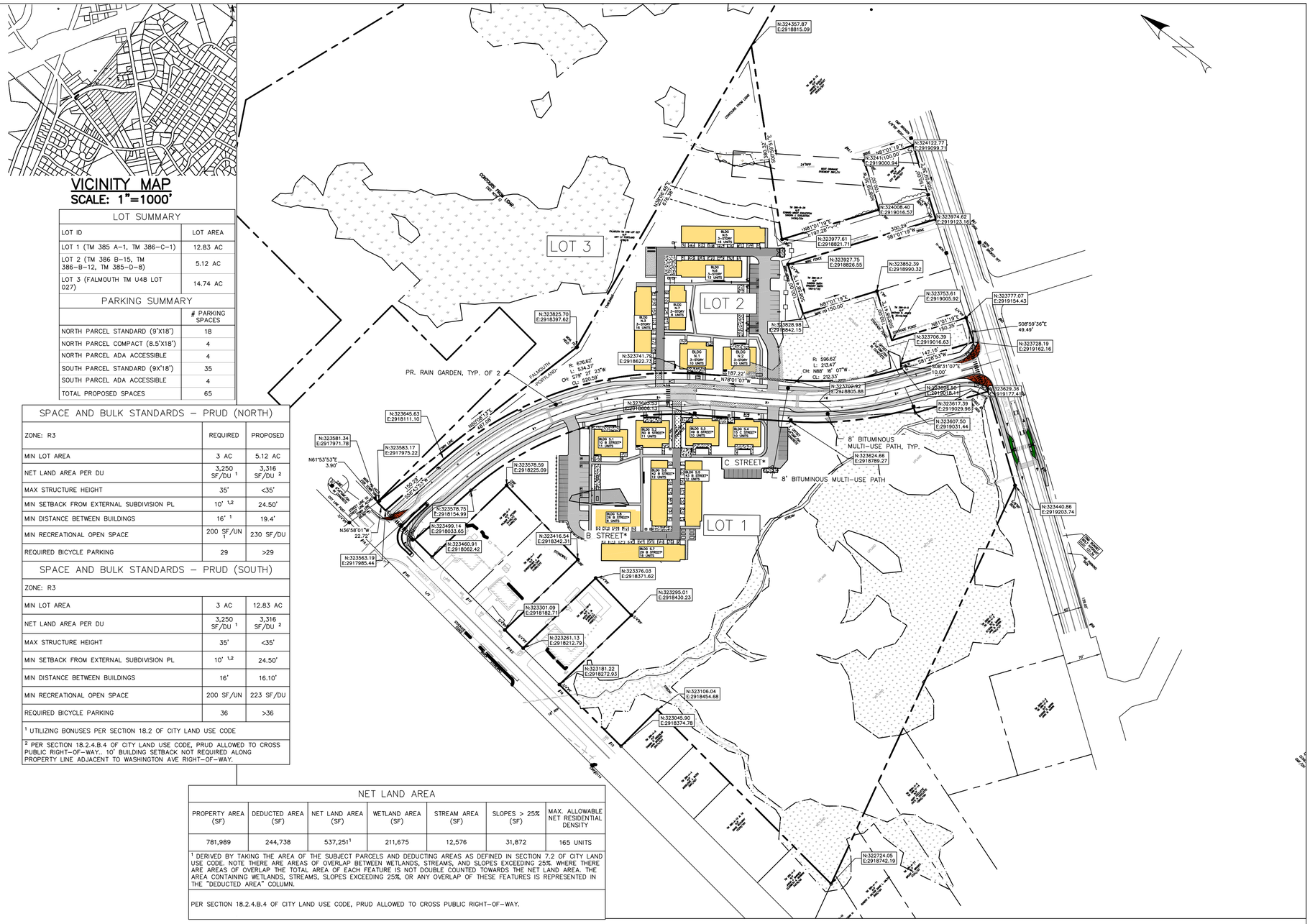
[1] UTILIZING BONUSES PER SECTION 18.2 OF CITY LAND USE CODE

[2] PER SECTION 18.2.4.B.4 OF CITY LAND USE CODE, PRUD ALLOWED TO CROSS PUBLIC RIGHT-OF-WAY.. 10' BUILDING SETBACK NOT REQUIRED ALONG PROPERTY LINE ADJACENT TO WASHINGTON AVE RIGHT-OF-WAY.

NET LAND AREA						
PROPERTY AREA (SF)	DEDUCTED AREA (SF)	NET LAND AREA (SF)	WETLAND AREA (SF)	STREAM AREA (SF)	SLOPES > 25% (SF)	MAX. ALLOWABLE NET RESIDENTIAL DENSITY
781,989	244,738	537,251[1]	211,675	12,576	31,872	165 UNITS

[1] DERIVED BY TAKING THE AREA OF THE SUBJECT PARCELS AND DEDUCTING AREAS AS DEFINED IN SECTION 7.2 OF CITY LAND USE CODE. NOTE THERE ARE AREAS OF OVERLAP BETWEEN WETLANDS, STREAMS, AND SLOPES EXCEEDING 25% WHERE THERE ARE AREAS OF OVERLAP THE TOTAL AREA OF EACH FEATURE IS NOT DOUBLE COUNTED TOWARDS THE NET LAND AREA. THE AREA CONTAINING WETLANDS, STREAMS, SLOPES EXCEEDING 25%, OR ANY OVERLAP OF THESE FEATURES IS REPRESENTED IN THE "DEDUCTED AREA" COLUMN.

PER SECTION 18.2.4.B.4 OF CITY LAND USE CODE, PRUD ALLOWED TO CROSS PUBLIC RIGHT-OF-WAY.



RECORDING INFORMATION
STATE OF MAINE,
CUMBERLAND COUNTY
REGISTRY OF DEEDS

RECEIVED: _____

RECORDED IN: _____

ATTEST: _____
REGISTRAR

THIS SURVEY CONFORMS TO THE CURRENT STANDARDS OF PRACTICE SET FORTH BY THE MAINE STATE BOARD OF LICENSURE FOR LAND SURVEYORS.

RANDY R. LOUBIER #2407 DATE:
OWEN HASKELL, INC.

OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
6 CITY CENTER, FL 3
PORTLAND, MAINE
CONTACT: MATT PETERS & LIZ TRICE

CIVIL/SITE ENGINEER:
ACORN ENGINEERING, INC.
P.O. BOX 3372
PORTLAND, MAINE
CONTACT: SAM LEBEL, P.E.

SURVEYOR:
OWEN HASKELL, INC.
390 U.S. ROUTE 1
FALMOUTH, MAINE
CONTACT: RANDY LOUBIER, P.L.S.

APPROVED: PORTLAND PLANNING BOARD

CHAIRPERSON: DATE:

100 0 100 200
SCALE: 1"=100'

FOR PERMITTING
NOT FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SITE/SUB	SJL	6/17/22
COMMENT RESPONSE	SJL	9/29/22

DRAWING NAME: SUBDIVISION PLAT – 165 LAMBERT STREET AND 622 AUBURN STREET

PROJECT NAME/ADDRESS: 165 LAMBERT ST CO-OP
PORTLAND, ME 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN AUTHORIZATION OF ACORN ENGINEERING, INC. AND SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
P.O. BOX 3372 PORTLAND, MAINE 04101
(207) 775-2655

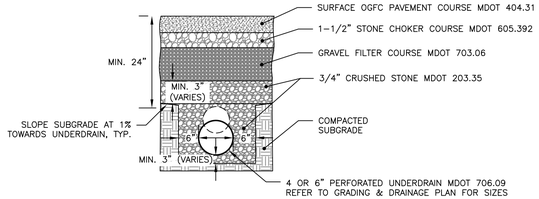
FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
SAMUEL J. LEBEL
16505
LICENSED PROFESSIONAL ENGINEER
9/29/22

DRAWING NO.
PLAT

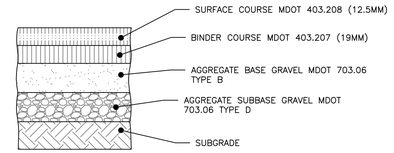
NOTES:

1. COMPACT THE GRAVEL FILTER COURSE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557. DO NOT OVER-COMPACT.
2. PAVING OPERATIONS SHALL BE SUBJECT TO THE MINIMUM REQUIREMENTS OF THE MAINE DOT SECTION 401.19 QUALITY CONTROL METHOD D, UNLESS WAIVED BY THE OWNER.
3. THE ATMOSPHERIC TEMPERATURE MUST BE 60°F OR HIGHER FOR PLACEMENT OF OGFC.
4. INSTALL TACK COAT OF PGAB 64-28 ON BASE OF PAVEMENT AND IN BETWEEN COLD JOINTS (AFTER SAWCUT) AT AN APPLICATION RATE OF .10 TO .14 GALLONS PER SQUARE YARD AT A SPRAYING TEMPERATURE OF 325° F.
5. THE ACCEPTABLE TEMPERATURE RANGE FOR OGFC IS ±25 THE PGAB MANUFACTURER'S RECOMMENDED MIXING SAND COMPACTION TEMPERATURE. ANY OGFC TEMPERATURES OUTSIDE OF THIS RANGE SHALL NOT BE PLACED.
6. MATERIALS SHALL MEET THE FOLLOWING REQUIREMENTS:
   6.1. PERFORMANCE GRADED ASPHALT BINDER (PGAB) – MDOT 702.01
   6.2. AGGREGATES FOR HMA PAVEMENT – MDOT 703.07 EXCEPT AS NOTED IN TABLE 1
7. THE REQUIRED PGAB SHALL BE A STORAGE-STABLE, PRE-BLENDED, HOMOGENEOUS, SBS POLYMER MODIFIED ASPHALT BINDER THAT MEETS PG 70E-28 GRADING REQUIREMENTS IN AASHTO MP 19. THE USE OF RECYCLED ASPHALT PAVEMENT (RAP) WILL NOT BE PERMITTED IN MIXTURES UTILIZING MODIFIED PGAB'S.
8. MINERAL FILLER SHALL CONSIST OF FINELY DIVIDED MINERAL MATTER SUCH AS ROCK OR LIMESTONE DUST OR OTHER SUITABLE MATERIAL. AT THE TIME OF USE IT SHALL BE SUFFICIENTLY DRY TO FLOW FREELY AND ESSENTIALLY FREE FROM AGGLOMERATIONS. FILLER SHALL BE FREE FROM ORGANIC IMPURITIES AND HAVE A PLASTICITY INDEX NOT GREATER THAN 4. FILLER MATERIAL FOR THE MIX SHALL MEET AASHTO M17, EXCEPT THAT THE GRADATION REQUIREMENTS OF M17 SHALL NOT APPLY.
9. STABILIZING ADDITIVE SHALL CONSIST OF A FIBER STABILIZER, EITHER CELLULOSE OR MINERAL FIBER. THE DOSAGE RATE FOR CELLULOSE SHALL BE APPROXIMATELY 0.3 PERCENT BY TOTAL MIXTURE MASS AND SUFFICIENT TO PREVENT DRAINDOWN. CELLULOSE FIBERS SHALL CONFORM TO THE PROPERTIES OUTLINED IN TABLE 2. FOR MINERAL FIBERS, THE DOSAGE RATE SHALL BE APPROXIMATELY 0.4 PERCENT BY TOTAL MIXTURE MASS AND SUFFICIENT TO PREVENT DRAINDOWN. MINERAL FIBERS SHALL CONFORM TO THE PROPERTIES OF TABLE 3.
10. COMPACTION OF THE OGFC SHALL INCLUDE A MINIMUM OF 3 PASSES OF A STEEL ROLLER OPERATED IN STATIC MODE. NO TRAFFIC SHALL BE ALLOWED ON THE PAVEMENT FOR A MINIMUM OF 24 HOURS AFTER COMPACTION.
11. PAVERS SHALL BE TRACK MOUNTED.



THICKNESS OF LAYERS	
STANDARD	LAYERS
4"	OPEN-GRADED FRICTION COURSE MDOT 404.31
6"	1-1/2" STONE CHOKER COURSE
12"	GRAVEL FILTER COURSE MDOT 703.06 TYPE D (4-7% FINES)
VARIES – MIN. 6"	3/4" CRUSHED STONE MDOT 203.35

POROUS PAVEMENT DETAILS
NOT TO SCALE

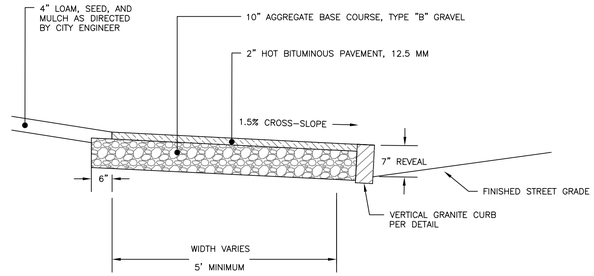


NOTE:

COMPACT THE AGGREGATE BASE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.

THICKNESS OF LAYERS	
STANDARD	LAYERS
1-1/2"	SURFACE COURSE MDOT 403.208 (12.5 mm)
2-1/2"	BINDER COURSE MDOT 403.207 (19 mm)
3"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE B
18"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

WASHINGTON AVE & LAMBERT ST PAVEMENT PROFILE
NOT TO SCALE



PUBLIC BITUMINOUS SIDEWALK
NOT TO SCALE

TABLE 1 – AGGREGATE REQUIREMENTS			
CRITERIA	TEST METHOD	SPECIFIED MINIMUM	SPECIFIED MAXIMUM
MICRO-DEVAL	AASHTO TP 58-99	–	18.0
FLAT & ELONGATED, %			
3 TO 1	ASTM D4791	–	20
5 TO 1	ASTM D4791	–	5
FRACTURED FACES, %			
ONE FACE	ASTM D5821	100	–
TWO FACES		90	–
FRACTURED FACES, %	AASHTO T176	50	–
UNCOMPACTED VOID CONTENT OF FINE AGGREGATE	AASHTO T304	45	–

TABLE 2 – CELLULOSE FIBER	
PROPERTY	REQUIREMENTS
METHOD A – ALPINE SIEVE ANALYSIS	
FIBER LENGTH	6 MM (0.25") MAXIMUM
PASSING 0.150 MM (NO. 100) SIEVE	70 ± 10%
ASH CONTENT	18 ± 5% NON-VOLATILES
PH	7.5 ± 1.0
OIL ABSORBTION	5.0 ± 1.0 (TIMES FIBER MASS)
MOISTURE CONTENT	LESS THAN 5.0% (BY MASS)

TABLE 3 – MINERAL FIBER	
SIEVE ANALYSIS	
FIBER LENGTH	6 MM (0.25") MAXIMUM MEAN TEST VALUE
THICKNESS	0.050 MM (0.002") MAXIMUM MEAN TEST VALUE
SHOT CONTENT	
0.250 MM (NO. 60) SIEVE	90 ± 5% PASSING
0.060 MM (NO. 230) SIEVE	70 ± 10% PASSING

TABLE 4 – AGGREGATE GRADATION	
SIEVE DESIGNATION	NOMINAL MAXIMUM AGGREGATE SIZE-CONTROL POINTS-PERCENTAGE BY WEIGHT PASSING SQUARE MESH SIEVES (COMBINED AGGREGATE)
19 MM	100
12.5 MM	85-100
9.5 MM	55-75
4.75 MM	10-25
2.36 MM	5-10
0.075 MM	2.0-4.0

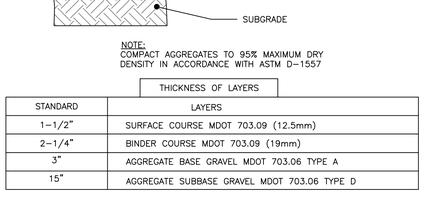
TABLE 5 – DESIGN CRITERIA	
AIR VOIDS @ N_{DESIGN}	20.0 %
BINDER CONTENT	6.0 % MIN.
VCA_{MIX}	LESS THAN VCA_{DRC}
DRAINDOWN	0.3 % MAXIMUM (AASHTO T 305)
GYRATIONS @ N_{DESIGN}	50

OGFC MIX CRITERIA:

CONSTRUCTION OBSERVATION:

CONSTRUCTION OBSERVATION SHALL BE PROVIDED FOR EACH PHASE OF CONSTRUCTION BY ACORN ENGINEERING. THE CONTRACTOR OR OWNERS REPRESENTATIVE SHALL NOTIFY ACORN ENGINEERING A MINIMUM 48 HOURS OR 2 BUSINESS DAY WHICH EVER IS GREATER PRIOR TO ANY OF THE PHASES OF CONSTRUCTION LISTED BELOW SO THAT THE FOLLOWING SITE VISITS MAY BE SCHEDULED.

1. ONE SITE VISIT AFTER PRELIMINARY CONSTRUCTION OF THE BIORETENTION CELL GRADES;
2. ONE SITE VISIT DURING THE INSTALLATION OR THE IMPERVIOUS LINER.
3. ONE SITE VISIT AFTER THE UNDER DRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED.
4. ONE SITE VISIT DURING THE CONSTRUCTION OF THE SOIL FILTER LAYER.
5. ONE SITE VISIT DURING THE CONSTRUCTION OF THE TOPSOIL LAYER.
6. ONE SITE VISIT DURING THE FLOODING OF THE BIORETENTION CELL, IF REQUIRED.



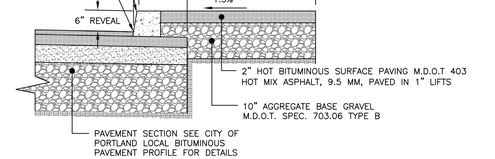
NOTE:
COMPACT AGGREGATES TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557

THICKNESS OF LAYERS	
STANDARD	LAYERS
1-1/2"	SURFACE COURSE MDOT 703.09 (12.5mm)
2-1/4"	BINDER COURSE MDOT 703.09 (19mm)
3"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE A
15"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

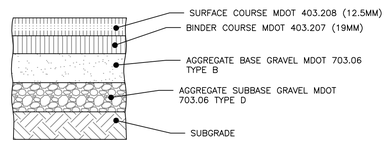
INTERNAL PARKING AND PRIVATE DRIVE PAVEMENT PROFILE
NOT TO SCALE

NOTES:

1. COMPACT GRAVEL SUBBASE, BASE COURSE TO 95% MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.



INTERNAL BITUMINOUS SIDEWALK DETAIL
NOT TO SCALE



NOTE:

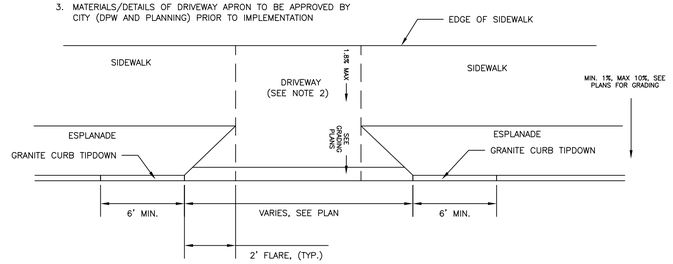
COMPACT THE AGGREGATE BASE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.

THICKNESS OF LAYERS	
STANDARD	LAYERS
2"	SURFACE COURSE MDOT 403.208 (12.5 mm)
3"	BINDER COURSE MDOT 403.207 (19 mm)
3"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE B
18"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

AUBURN STREET PROFILE
NOT TO SCALE

NOTES:

1. REFER TO GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR SITE GRADING
2. REFER TO INTERNAL PARKNIG AND PRIVATE DRIVE PAVEMENT PROFILE FOR APRON CROSS-SECTION
3. MATERIALS/DETAILS OF DRIVEWAY APRON TO BE APPROVED BY CITY (DPW AND PLANNING) PRIOR TO IMPLEMENTATION



DRIVEWAY APRON LAYOUT DETAIL
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 5/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: SITE DETAILS – 1

PROJECT NAME/ADDRESS: 165 LAMBERT ST CO-OP
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL RELIEVE ACORN ENGINEERING, INC. OF ALL RESPONSIBILITY AND LIABILITY

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2655

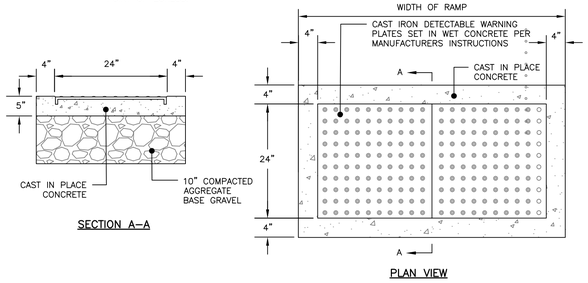
FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
SAMUEL J. LEBEL
16504
LICENSED PROFESSIONAL ENGINEER
2/1/23

DRAWING NO.
C-40

NOTES:

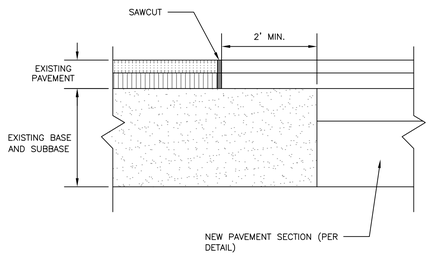
1. ALL DETECTABLE WARNING PLATES SHALL BE UNCOATED CAST IRON. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
2. CAST IN PLACE CONCRETE SHALL MEET SPECIFICATIONS FOR MDOT CLASS A STRUCTURAL CONCRETE, MINIMUM COMPRESSIVE STRENGTH 4,000 PSI. THE EXPOSED CONCRETE BORDER SHALL RECEIVE A UNIFORM BROOM 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 FORM THE CURB LINE. THE PANEL SHALL BE ORIENTED TO THE DIRECTION OF TRAVEL AS IDENTIFIED BY THE POINT OF EGRESS.



SIDEWALK RAMP DETECTABLE WARNING PANEL
NOT TO SCALE

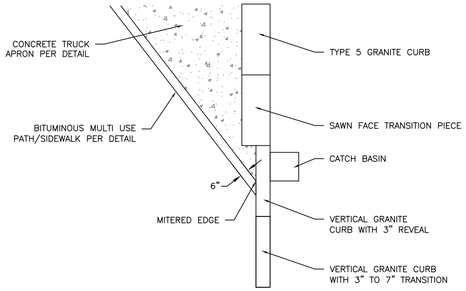
NOTES:

1. SAWCUT EXISTING PAVEMENT AND REMOVE 2' STRIP OF EXISTING PAVEMENT. CREATE UNIFORM AND RIGID BUTT JOINT AND APPLY BITUMINOUS TACK COAT AT AN APPLICATION RATE OF 0.10 TO 0.14 GALLONS PER SQUARE YARD PRIOR TO PLACEMENT OF NEW BITUMINOUS PAVEMENT.
2. THE NEW PAVEMENT SECTION SHALL MEET THE CITY OF PORTLAND BITUMINOUS PAVEMENT SECTION DETAIL AT A MINIMUM OR THE THE EXISTING PAVEMENT AND AGGREGATE BASE AND SUBBASE DEPTH WHICHEVER IS GREATER.



PAVEMENT SAWCUT DETAIL
NOT TO SCALE

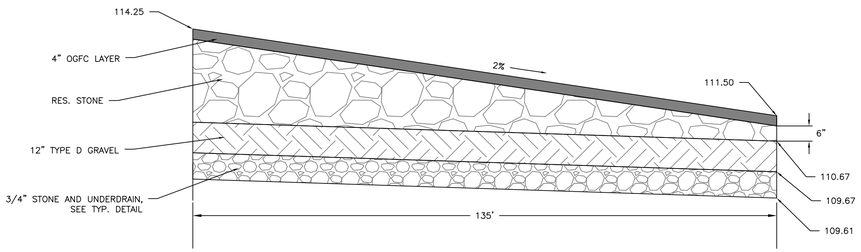
CHOKER STONE GRADATION	
2–1/2"	100
2"	95–100
1"	0–30
3/4"	0–5.0
L.A. ABRASION	25.0 MAX.



CURB CONVERGENCES AT AUBURN/WASH INTERSECTION
NOT TO SCALE

NOTES:

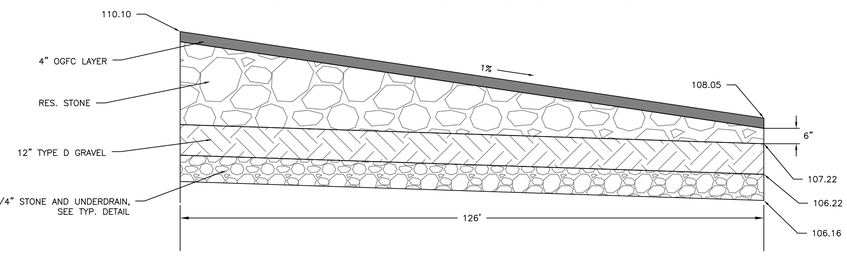
1. AGGREGATES, INCLUDING CRUSHED STONES SHALL BE PLACED IN LIFTS NO GREATER THAN 12".
2. COMPACT TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D–1557.



NORTH–PARKING LOT POROUS SECTION
NOT TO SCALE

NOTES:

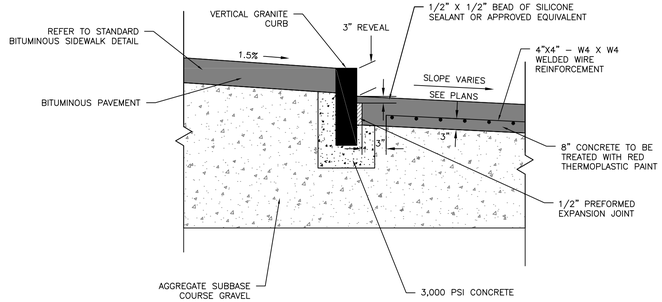
1. AGGREGATES, INCLUDING CRUSHED STONES SHALL BE PLACED IN LIFTS NO GREATER THAN 12".
2. COMPACT TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D–1557.



SOUTH–PARKING LOT POROUS SECTION
NOT TO SCALE

NOTES:

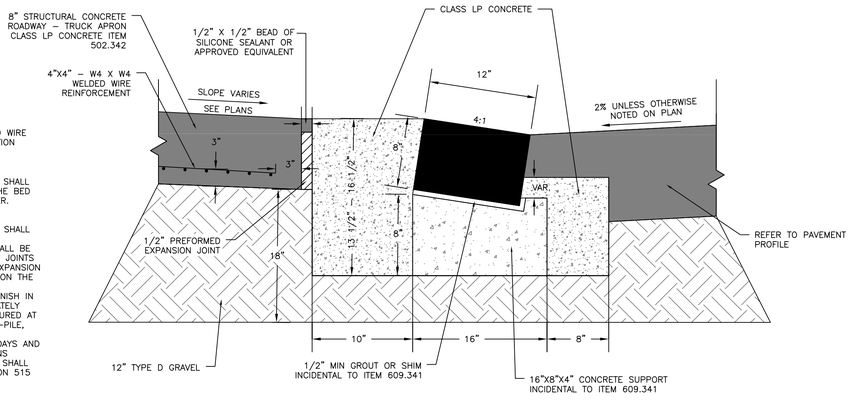
1. CONCRETE SHALL BE CLASS A.
2. REINFORCEMENT SHALL BE 4" X 4" W4 X W4 STEEL WELDED WIRE FABRIC, DEFORMED, CONFORMING TO SECTION 503 AND SECTION 709.02 OF MAINE DOT STANDARD SPECIFICATIONS (MDSS).
3. PREFORMED EXPANSION JOINT FILLERS SHALL MEET THE REQUIREMENTS OF SECTION 705.01 OF MDSS.
4. PRIOR TO THE CONCRETE PLACEMENT, THE FOUNDATION BED SHALL BE THOROUGHLY AND UNIFORMLY SATURATED WITH WATER. THE BED SHALL BE FREE OF PUDDLES AND EXCESSIVE SURFACE WATER.
5. CONCRETE SHALL BE PLACED IN A CONTINUOUS PLACEMENT OPERATION BETWEEN PREFORMED EXPANSION JOINTS. NO CONSTRUCTION JOINTS WILL BE ALLOWED. EXPANSION JOINTS SHALL HAVE AN APPROVED EXPANSION JOINT SEALER INSTALLED AS DETAILED ON THE PLANS. PREFORMED EXPANSION JOINTS SHALL BE CONTINUOUS AND OF AN APPROVED MATERIAL, AND CONTROL JOINTS SHALL BE SAWCUT INTO THE SURFACE OF THE CONCRETE. EXPANSION JOINTS AND CONTROL JOINTS SHALL BE PLACED AS SHOWN ON THE DETAILS.
6. THE SURFACE OF THE CONCRETE SHALL RECEIVE A FLOAT FINISH IN ACCORDANCE WITH SUBSECTION 602.14 OF MDSS 7. IMMEDIATELY FOLLOWING THE FLOAT FINISH, THE SURFACE SHALL BE TEXTURED AT RIGHT ANGLES TO THE ROADWAY USING AN APPROVED OPEN–PILE, STIFF BRISTLE BROOM OR MAT.
7. THE CURING PERIOD FOR THE CONCRETE SHALL BE SEVEN DAYS AND SHALL MEET THE REQUIREMENTS OF STANDARD SPECIFICATIONS SECTION 502.15. THE FINISHED SURFACE OF THE CONCRETE SHALL RECEIVE A PROTECTIVE COATING IN ACCORDANCE WITH SECTION 515 OF MDSS.



TRUCK APRON AT SIDEWALK DETAIL
NOT TO SCALE

NOTES:

1. CONCRETE SHALL BE CLASS A.
2. REINFORCEMENT SHALL BE 4" X 4" W4 X W4 STEEL WELDED WIRE FABRIC, DEFORMED, CONFORMING TO SECTION 503 AND SECTION 709.02 OF MAINE DOT STANDARD SPECIFICATIONS (MDSS).
3. PREFORMED EXPANSION JOINT FILLERS SHALL MEET THE REQUIREMENTS OF SECTION 705.01 OF MDSS.
4. PRIOR TO THE CONCRETE PLACEMENT, THE FOUNDATION BED SHALL BE THOROUGHLY AND UNIFORMLY SATURATED WITH WATER. THE BED SHALL BE FREE OF PUDDLES AND EXCESSIVE SURFACE WATER.
5. CONCRETE SHALL BE PLACED IN A CONTINUOUS PLACEMENT OPERATION BETWEEN PREFORMED EXPANSION JOINTS. NO CONSTRUCTION JOINTS WILL BE ALLOWED. EXPANSION JOINTS SHALL HAVE AN APPROVED EXPANSION JOINT SEALER INSTALLED AS DETAILED ON THE PLANS. PREFORMED EXPANSION JOINTS SHALL BE CONTINUOUS AND OF AN APPROVED MATERIAL, AND CONTROL JOINTS SHALL BE SAWCUT INTO THE SURFACE OF THE CONCRETE. EXPANSION JOINTS AND CONTROL JOINTS SHALL BE PLACED AS SHOWN ON THE DETAILS.
6. THE SURFACE OF THE CONCRETE SHALL RECEIVE A FLOAT FINISH IN ACCORDANCE WITH SUBSECTION 602.14 OF MDSS 7. IMMEDIATELY FOLLOWING THE FLOAT FINISH, THE SURFACE SHALL BE TEXTURED AT RIGHT ANGLES TO THE ROADWAY USING AN APPROVED OPEN–PILE, STIFF BRISTLE BROOM OR MAT.
7. THE CURING PERIOD FOR THE CONCRETE SHALL BE SEVEN DAYS AND SHALL MEET THE REQUIREMENTS OF STANDARD SPECIFICATIONS SECTION 502.15. THE FINISHED SURFACE OF THE CONCRETE SHALL RECEIVE A PROTECTIVE COATING IN ACCORDANCE WITH SECTION 515 OF MDSS.



TRUCK APRON AT GUTTERLINE DETAIL
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 5/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: SITE DETAILS – 2

PROJECT NAME/ADDRESS: 165 LAMBERT ST CO–OP, PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS, PORTLAND, MAINE

ACORN ENGINEERING, INC.

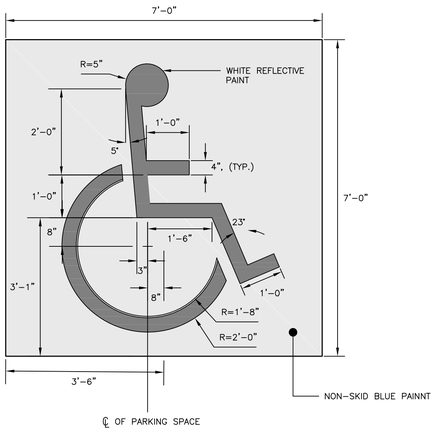
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BEAR THE NAME AND SEAL OF THE PERSON MAKING THE ALTERATIONS, AND SHALL INCLUDE A DESCRIPTION OF THE ALTERATIONS. ACORN ENGINEERING, INC. WILL NOT BE RESPONSIBLE FOR ANY ALTERATIONS MADE TO THESE PLANS WITHOUT OUR WRITTEN APPROVAL AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775–2655

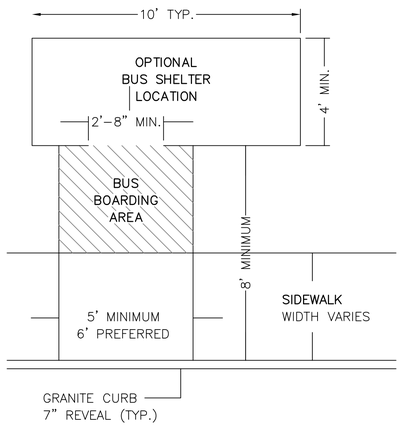
FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE — SAMUEL J. LEBEL — 12509 — LICENSED PROFESSIONAL ENGINEER — 2/1/23

DRAWING NO.
C-41



INTERNATIONAL BARRIER FREE SYMBOL
NOT TO SCALE



NOTES:

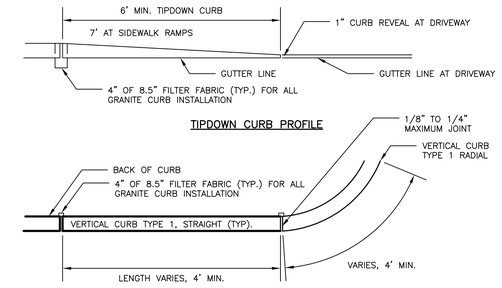
1. DIMENSIONS. MINIMUM CLEAR FLOOR INTERIOR AREA ENTIRELY WITHIN THE PERIMETER OF THE SHELTER IS 2'–6" WIDE BY 4' DEEP TO PERMIT WHEELCHAIR OR MOBILITY AID USER ACCESS. THE MINIMUM SHELTER OPENING FOR WHEELCHAIR ACCESS IS 2'–8".

2. CONNECTION. BUS SHELTER OPENINGS WILL BE CONNECTED TO THE BUS BOARDING AREA BY AN ADA ACCESSIBLE ROUTE.

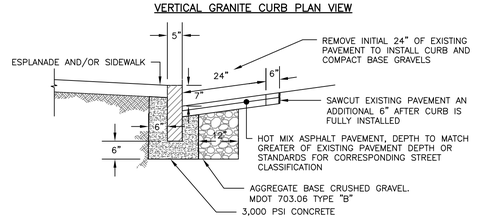
3. SLOPE. PARALLEL TO THE ROADWAY, THE SLOPE OF THE BUS BOARDING AREA SHALL BE THE SAME AS THE ROADWAY, TO THE MAXIMUM EXTENT PRACTICABLE. PERPENDICULAR TO THE ROADWAY, THE SLOPE OF THE BUS BOARDING AREA SHALL NOT EXCEED 2%.

ADDITIONAL WIDENING, AS NEEDED.

BUS SHELTER AND SHELTER SITING WITHOUT ESPLANADE
NOT TO SCALE



VERTICAL GRANITE CURB PLAN VIEW



NOTES:

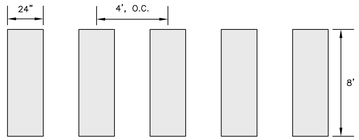
1. CURB SHALL BE RESET IN ACCORDANCE WITH MDOT 609.08 WITH THE EXCEPTION OF CURB SPACING TO BE INSTALLED PER DETAIL.
2. INDIVIDUAL PIECES OF CURB SHORTER THAN 4 L.F. ARE NOT ALLOWED, WITH THE EXCEPTION OF RADIAL CURB.
3. THE MINIMUM HEIGHT OF THE CONCRETE BACKING SHALL BE 10 INCHES OR TO THE BOTTOM OF THE HOT MIX ASPHALT PAVEMENT, WHICHEVER IS GREATER, MEASURED FROM THE BOTTOM OF THE CURB.
4. CURBING SHALL BE SET IN A 6–INCH BED OF POURED IN PLACE 3,000 PSI CONCRETE MIX.
5. WOODEN SHIMS MAY BE USED TO SET CURB.

VERTICAL GRANITE CURB CROSS SECTION

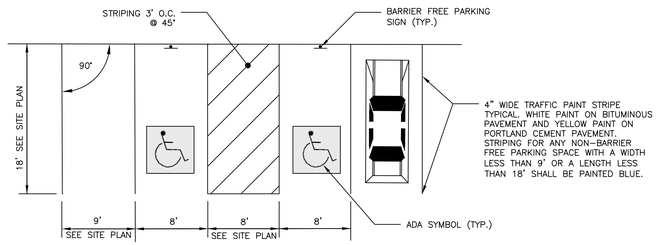
VERTICAL GRANITE CURB AND TIPDOWN INSTALLATION IN EXISTING STREETS DETAIL
NOT TO SCALE

NOTE:

1. CROSSWALKS TO BE BUILT IN CONFORMANCE WITH MUTCD STANDARDS, LATEST EDITION.
2. CROSSWALKS ARE TO BE PAINTED WHITE MEETING MAINE DOT SPECIFICATIONS.
3. BLOCKS TO BE PARALLEL TO THE DIRECTION OF CAR TRAFFIC.

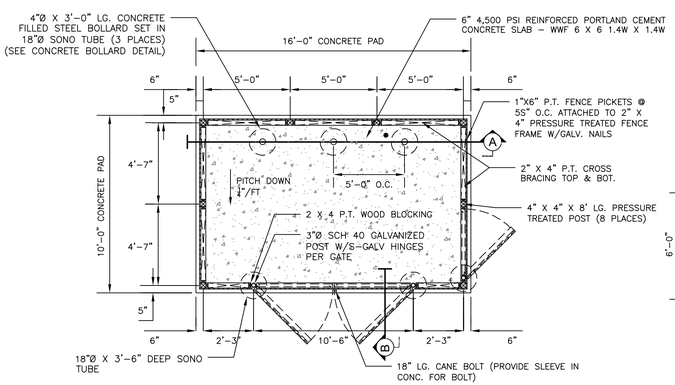


BLOCK CROSSWALK
NOT TO SCALE

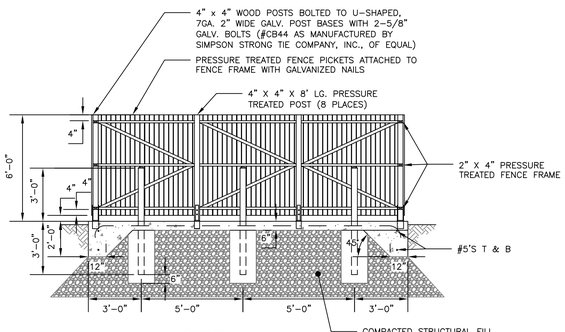


PARKING SPACE DIMENSIONS
NOT TO SCALE

DUMPSTER COUNT					
CONC. PAD DIMENSIONS	TOTES	2–YD	4–YD	6–YD	8–YD
4' X 3'	1	0	0	0	0
8' X 5'	4	1	1	0	0
8' X 7'	4	1	1	1	0
8' X 8'	8	2	2	1	1
10' X 12'	12	3	3	2	1
10' X 14'	16	4	4	2	2
10' X 16'	16	4	4	2	2



DUMPSTER ENCLOSURE PLAN AND DETAILS
NOT TO SCALE



SECTION A–A

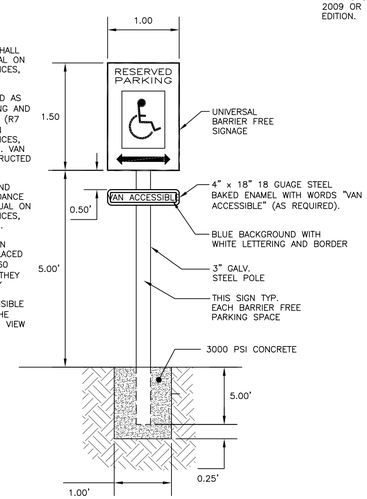
NOTES:

1. ALL ASPECTS OF RESERVED PARKING SIGN CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION

2. SIGN SHALL BE CONSTRUCTED AS SIGN R7–8 UNDER THE "PARKING AND STANDING SIGNS AND PLAQUES" (R7 SERIES) WITHIN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION. VAN ACCESSIBILITY SHALL BE CONSTRUCTED AS SIGN R7–8a OR R7–8b.

3. SIGN POST CONSTRUCTION AND MOUNTING SHALL BE IN ACCORDANCE WITH CHAPTER 2A OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.

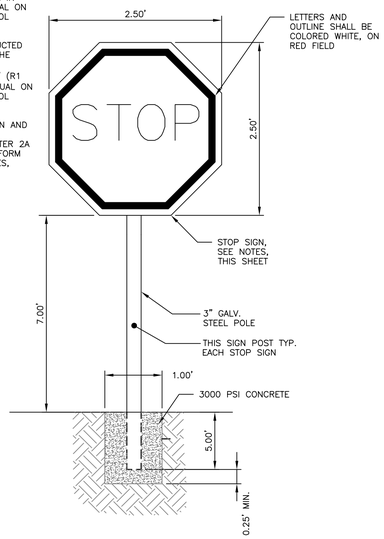
4. SIGN SHALL BE INSTALLED ON BUILDING. SIGNS SHOULD BE PLACED AT SUCH A HEIGHT (AT LEAST 60 INCHES ABOVE SURFACE) THAT THEY DO NOT GET OBSCURED BY ANY PARKED VEHICLES OR OTHER OBSTRUCTIONS AND MUST BE VISIBLE FROM THE DRIVER'S SEAT OF THE VEHICLE AND LOCATED RIGHT IN VIEW OF PARKING.



BARRIER FREE PARKING SIGN
NOT TO SCALE

NOTES:

1. ALL ASPECTS OF STOP SIGN CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.
2. SIGN SHALL BE CONSTRUCTED AS SIGN R1–1 UNDER THE "REGULATORY SIGNS, BARRICADES, AND GATES" (R1 SERIES) WITHIN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.
3. SIGN POST CONSTRUCTION AND MOUNTING SHALL BE IN ACCORDANCE WITH CHAPTER 2A OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.



TRAFFIC SIGN DETAIL
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 5/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: SITE DETAILS – 3

PROJECT NAME/ADDRESS: 165 LAMBERT ST CO–OP, PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS, PORTLAND, MAINE

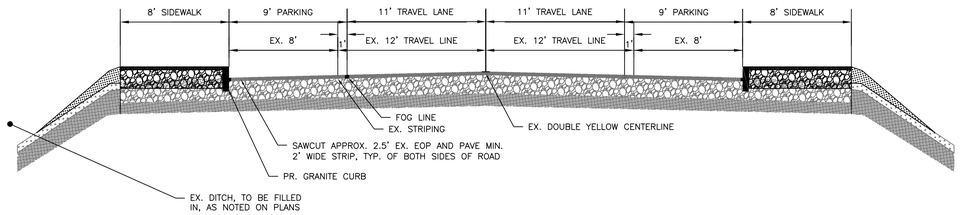
ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775–2655

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL RENDER SAID PLAN WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

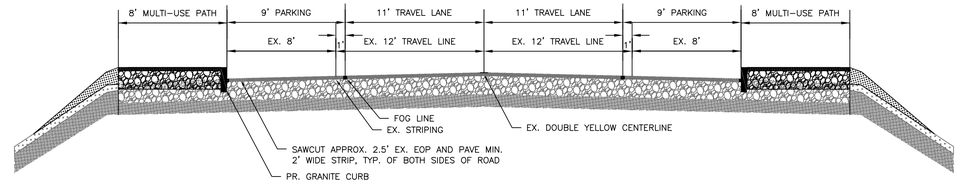
STATE OF MAINE SAMUEL J. LEBEL 10509 LICENSED PROFESSIONAL ENGINEER
2/1/23

DRAWING NO.
C-42



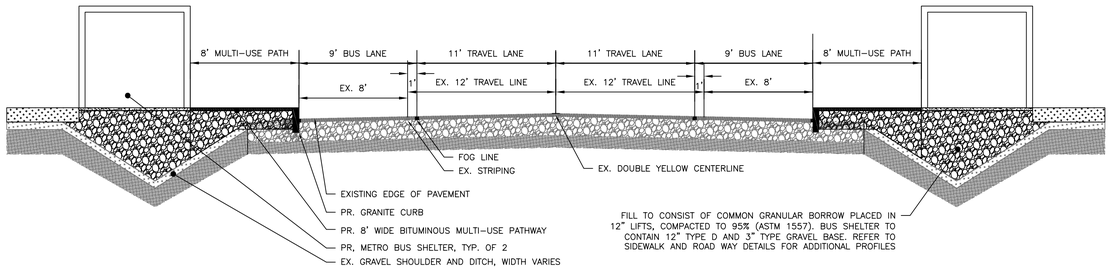
WASHINGTON AVE AT STATION 3+00 FACING EAST

NOT TO SCALE



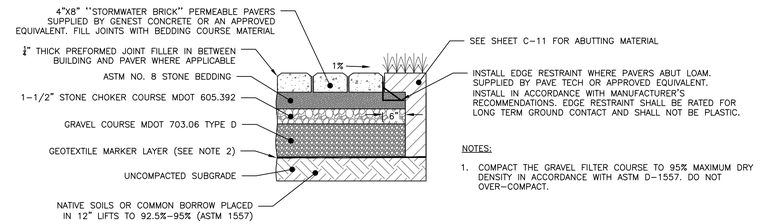
WASHINGTON AVE AT STATION 10+00 FACING EAST

NOT TO SCALE



WASHINGTON AVE AT STATION 7+50 FACING EAST

NOT TO SCALE



NOTES:

1. COMPACT THE GRAVEL FILTER COURSE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557. DO NOT OVER-COMPACT.

THICKNESS OF LAYERS	
DEPTH	LAYER
1-1/2"	ASTM NO. 8 AGGREGATE BEDDING COURSE
3"	1-1/2" STONE CHOKER COURSE (SEE CHOKER STONE GRADATION)
8"	GRAVEL COURSE MDOT 703.06 TYPE D

PERMEABLE PAVER PROFILE

NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 5/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: SITE DETAILS - 4

PROJECT NAME/ADDRESS: 165 LAMBERT ST CO-OP
PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD:
MAINE COOPERATIVE DEVELOPMENT PARTNERS
PORTLAND, MAINE

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, ARE AT USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2855

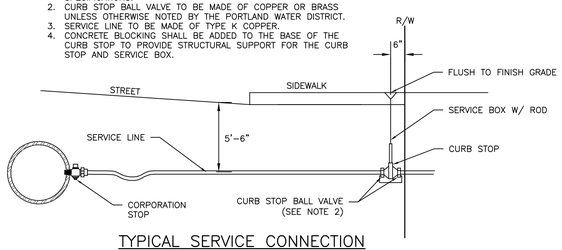
FILE: 1145_CIVIL
JN: 1145
SCALE: AS NOTED
DESIGNED BY: SJL
DRAWN BY: NPH
CHECKED BY: WHS

STATE OF MAINE
SAMUEL J. LEBEL
16509
LICENSED PROFESSIONAL ENGINEER
1/31/23

DRAWING NO.
C-43

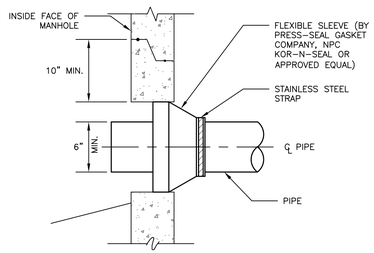
NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES MUST COMPLY WITH THE CITY OF PORTLAND WATER DISTRICT (PWD) SPECIFICATIONS.
2. CURB STOP BALL VALVE TO BE MADE OF COPPER OR BRASS UNLESS OTHERWISE NOTED BY THE PORTLAND WATER DISTRICT.
3. SERVICE LINE TO BE MADE OF TYPE K COPPER.
4. CONCRETE BLOCKING SHALL BE ADDED TO THE BASE OF THE CURB STOP TO PROVIDE STRUCTURAL SUPPORT FOR THE CURB STOP AND SERVICE BOX.



TYPICAL SERVICE CONNECTION

NOT TO SCALE

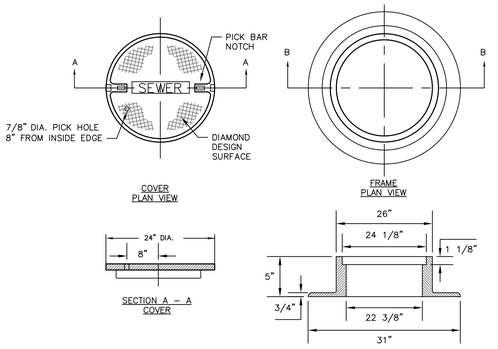


NEW PIPE TO NEW STRUCTURE CONNECTION DETAIL

NOT TO SCALE

NOTES:

1. MANHOLE COVER FOR SEWER MANHOLE SHALL BE ENGRAVED "SEWER", AND SHALL BE EITHER ITEM # 2160A AS MANUFACTURED BY EAST JORDAN CO. OR ITEM # 14960002 AS MANUFACTURED BY NEENAH FOUNDRY. MANHOLE COVER FOR STORM SEWER SHALL BE ENGRAVED "DRAIN", AND SHALL BE EITHER ITEM # 2160A AS MANUFACTURED BY EAST JORDAN CO. OR ITEM # 14960003 AS MANUFACTURED BY NEENAH FOUNDRY.
2. MANHOLE FRAME SHALL BE EITHER ITEM # 14960001, AS MANUFACTURED BY NEENAH FOUNDRY, OR ITEM # 1960Z, AS MANUFACTURED BY EAST JORDAN CO.
3. WITHIN CITY OF PORTLAND ROW, STORM DRAIN MANHOLE SHALL CONFORM WITH "STANDARD PRECAST SEWER MANHOLE DETAIL", WITH THE EXCEPTION THAT THE COVER SHALL BE MARKED AS "DRAIN". REFER TO CITY OF PORTLAND TECHNICAL MANUAL, SECTION 2 – SANITARY SEWER AND STORM DRAIN, FIGURE II-1
4. SUBMITTAL REQUIRED FOR MANHOLES, MANHOLE FRAMES & MANHOLE COVERS



NOTES:

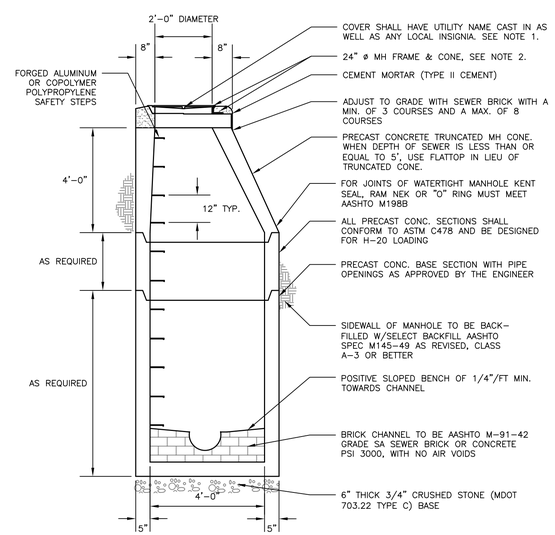
1. ALL MANHOLE COVERS SHALL BE SOLID AND SHALL HAVE ONE 7/8" DIAMETER DRILLED PICK HOLE, LOCATED 8" FROM THE CENTER OF THE COVER
2. ALL SANITARY AND STORMWATER/DRAIN MANHOLE COVERS SHALL BE 24" x 5".
3. ALL SANITARY MANHOLE COVERS AND SHALL HAVE "SEWER" CAST INTO THE COVER.
4. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
5. APPROVED MANHOLE FRAMES:
   - 5.1. EAST JORDAN = 1690Z
   - 5.2. NEENAH = R-1496
   - 5.3. OR APPROVED EQUAL
6. APPROVED MANHOLE COVERS
   - 6.1. EAST JORDAN = 2160A
   - 6.2. NEENAH = R-1496
   - 6.3. OR APPROVED EQUAL

CAST IRON MANHOLE COVER AND FRAME

NOT TO SCALE

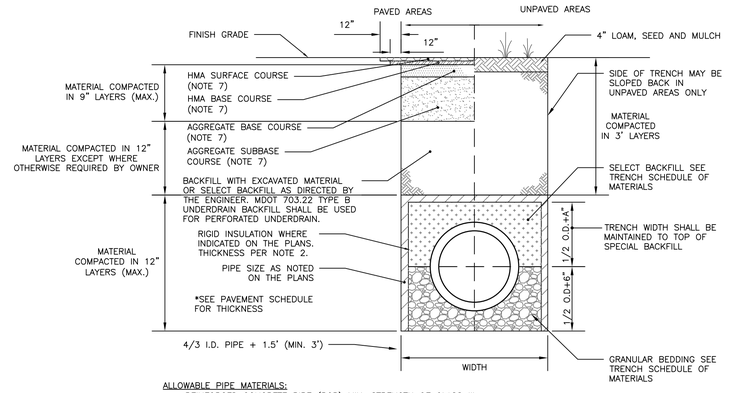
PRECAST CONCRETE MANHOLE

NOT TO SCALE



STANDARD PRECAST SEWER MANHOLE

NOT TO SCALE



SCHEDULE OF MATERIALS		
TYPE OF PIPE	GRANULAR BEDDING	SELECT BACKFILL
CMP DUCTILE IRON RCP	MDOT 703.22 TYPE B UD BACKFILL	MDOT 703.22 TYPE B UD BACKFILL
PVC/HDPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL
CMP	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE

NOTES:

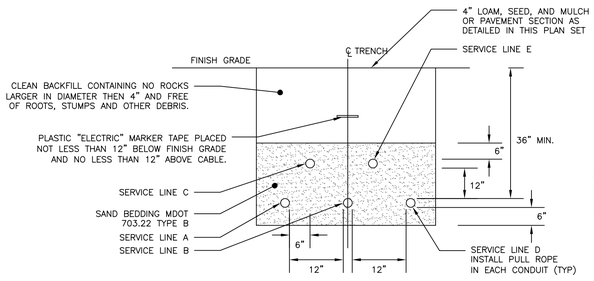
1. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. STORM DRAIN COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" OF RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2' RIGID INSULATION. OTHER UTILITIES: ADD 2" OF RIGID INSULATION FOR EACH FOOT ABOVE MINIMUM DEPTH.
3. INSTALL WARNING TAPE DIRECTLY ABOVE UTILITIES AT THE TOP OF SUBGRADE.
4. MINIMUM COVER
   - 4.1. 2'-0" – STORM DRAIN
   - 4.2. 5'-0" – SEWER
5. NO TREES SHALL BE PLANTED WITHIN 5' OF A SEWER PIPE OR SERVICE
6. THICKNESS AS NOTED BY SURFACE DETAILS
7. CONTRACTOR TO COORDINATE WITH TOWN ENGINEER ON MATERIAL SPECIFICATIONS FOR INSTALLATION IN THE PUBLIC ROW.

ALLOWABLE PIPE MATERIALS:

- REINFORCED CONCRETE PIPE (RCP) MIN. STRENGTH OF CLASS III
- PVC RING TYPE SEWER (SDR 35) OR EQUIVALENT, MIN PS-46 RATING
- PVC RING TYPE SEWER PIPE MEETING ASTM F 789
- DUCTILE IRON PIPE (DIP)
- ADS N-12 HP DUAL WALL MIN PS-46 RATING
- ADS SANITITE HP MIN. PS-46

INTERNAL STORM DRAIN AND SEWER TYPICAL TRENCH SECTION

NOT TO SCALE



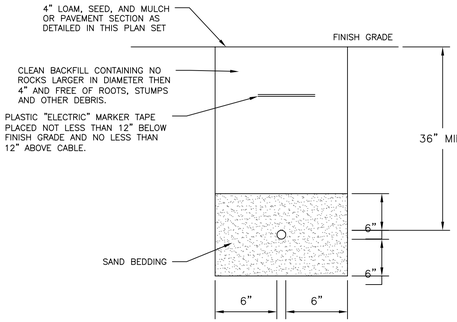
CONDUIT TYPE				
SERVICE	CONDUIT SIZE	GRASS AND PAVED AREAS	UTILITY	REMARKS
A	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
B	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
C	2-4"	SCHEDULE 40 PVC	COMMUNICATION	–
D	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	SPARE	SEE NOTE 1
E	2-4"	SCHEDULE 40 PVC	CABLE	–

NOTES:

1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND-OFF BRACKETS.
2. MINIMUM SEPARATION OF 24 INCHES BETWEEN PRIMARY CABLE/CONDUIT AND GAS LINES SHALL BE MAINTAINED.
3. CONDUITS WITHIN THE CITY RIGHT-OF-WAY SHALL BE ENCASED IN CONCRETE.
4. FINAL SIZE OF CONDUITS TO BE SPECIFIED BY MEP, ELECTRICIAN, OR DESIGN/BUILD ELECTRICAL CONTRACTOR.

UTILITY TRENCH – PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE

NOT TO SCALE

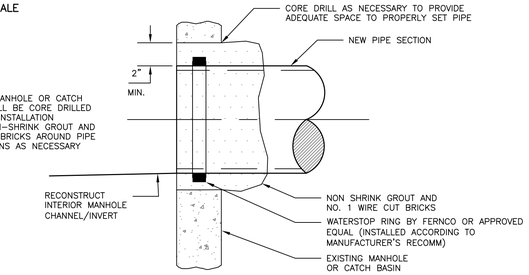


SECONDARY ELECTRICAL TRENCH

NOT TO SCALE

NOTE:

1. EXISTING MANHOLE OR CATCH BASIN SHALL BE CORE DRILLED FOR PIPE INSTALLATION
2. PLACE NON-SHRINK GROUT AND WIRE-CUT BRICKS AROUND PIPE CONNECTIONS AS NECESSARY



NEW PIPE TO EXISTING STRUCTURE CONNECTION DETAIL

NOT TO SCALE

ISSUED FOR	BY	DATE
SITE/SUB	SJL	5/17/22
COMMENT RESPONSE	SJL	9/26/22
COMMENT RESPONSE II	SJL	12/23/22
COMMENT RESPONSE III	SJL	1/31/23

DRAWING NAME: UTILITY DETAILS – 1

PROJECT NAME/ADDRESS: 165 LAMBERT ST CO-OP, PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS, PORTLAND, MAINE

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT THE WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL RELIEVE ACORN ENGINEERING, INC. OF ALL RESPONSIBILITY AND LIABILITY FOR THE PLAN AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2855

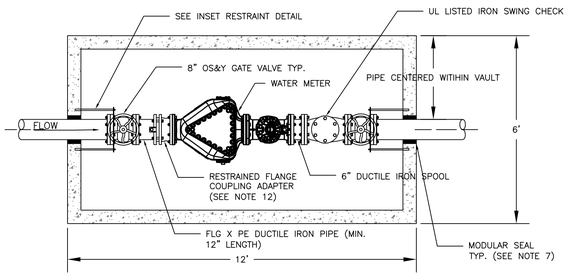
FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
SAMUEL J. LEBEL
16509
LICENSED PROFESSIONAL ENGINEER
2/1/23

DRAWING NO.

C-44

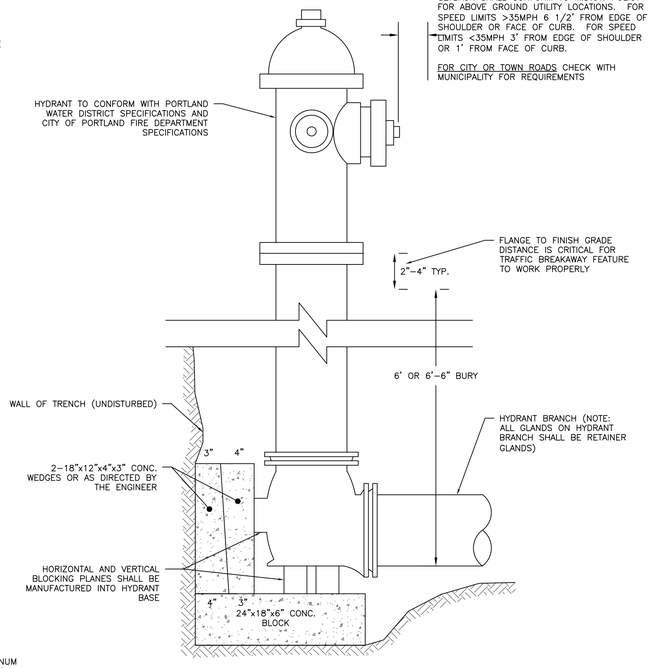
PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION



SECTION E–E

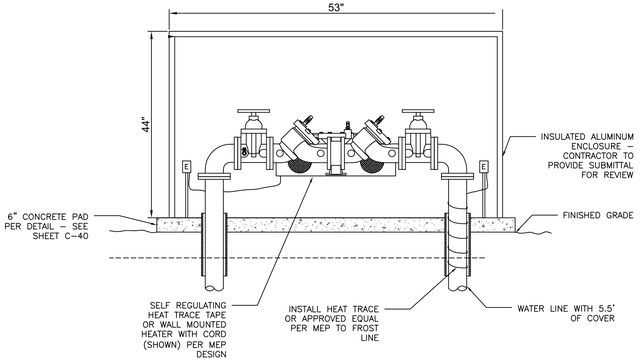
METER VAULT

VAULT SHOWN WITH 8" F2 METER AND PIPING FOR ILLUSTRATIVE PURPOSES. ACTUAL SIZE AND CONFIGURATION PER SITE SPECIFIC REQUIREMENTS



TYPICAL HYDRANT INSTALLATION DETAIL

NOT TO SCALE

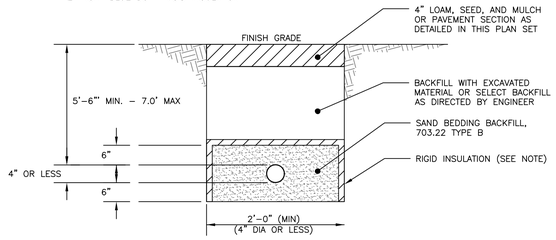


ABOVE GROUND INSULATED BACKFLOW PREVENTER

NOT TO SCALE

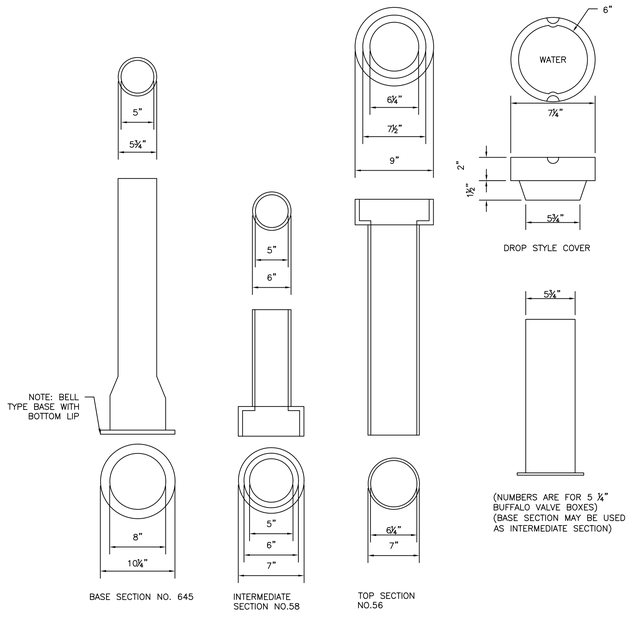
NOTES:

1. THE WATER TRENCH SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARD DETAILS & SPECIFICATIONS.
2. IF LESS THAN 5'–6" OF COVER IS POSSIBLE ADD TWO LAYERS OF 2–INCH "BLUE DOW" RIGID INSULATION.



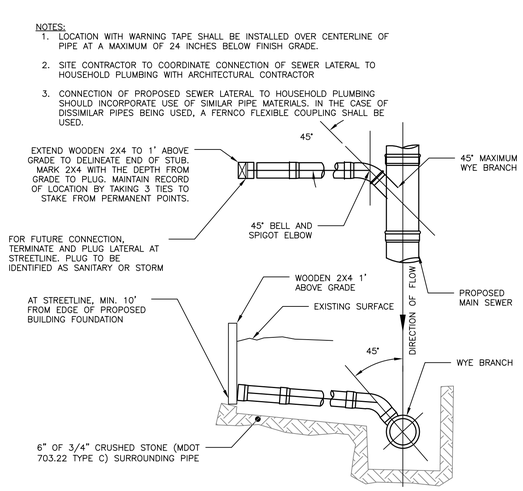
WATER SERVICE TRENCH SECTION DETAIL

NOT TO SCALE



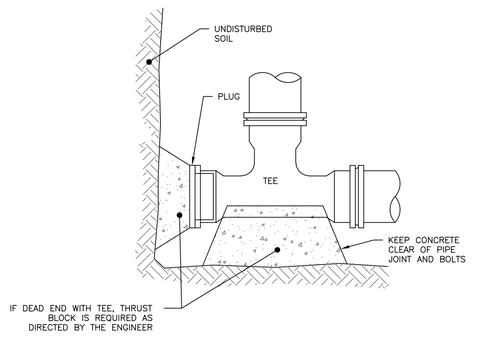
VALVE BOX & COVER

NOT TO SCALE

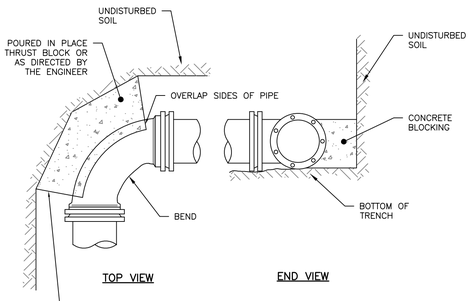


SEWER TEE/WYE CONNECTION DETAIL

NOT TO SCALE



END SECTION



TOP VIEW

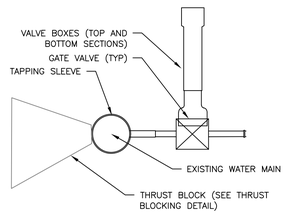
END VIEW

NOTE:
SEE THRUST/RETAINER GLAND SCHEDULE FOR TYPE OF BLOCKING TO BE USED ON BENDS

REGULAR BEND

THRUST BLOCKING

NOT TO SCALE



SIDE VIEW

TAPPING SLEEVE AND VALVE

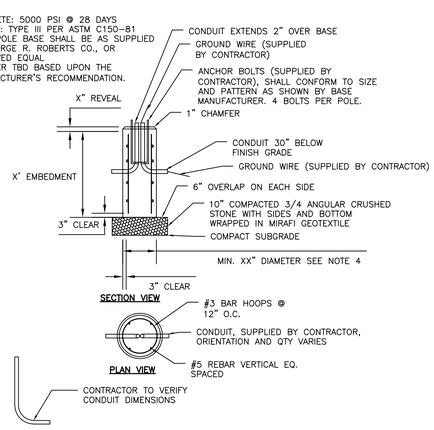
NOT TO SCALE

NOTES:

1. CONCRETE: 5000 PSI @ 28 DAYS
2. CEMENT: TYPE III PER ASTM C150–81
3. LIGHT POLE BASE SHALL BE AS SUPPLIED BY GEORGE R. ROBERTS CO., OR APPROVED EQUAL
4. DIAMETER TBD BASED UPON THE MANUFACTURER'S RECOMMENDATION.

SCHEDULE		
HEIGHT OF POLE	MIN DIAMETER	MIN EMBEDMENT
<20'	1.5'	5'
20'–40'	2'	6'
>40'	3'	8'

REVEALS	
APPLICATIONS	REVEAL
STREET/SIDEWALK	4"
OTHER PED HARDSCAPE	FLUSH
PEDESTRIAN LAWN/MULCH	4"
PARKING AREAS (OPEN TRAFFIC)	24–36"



LIGHT POLE BASE

NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
SITE/SUB	SJL 5/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: UTILITY DETAILS – 2

PROJECT NAME/ADDRESS: 165 LAMBERT ST CO–OP, PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS, PORTLAND, MAINE

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775–2625

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FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

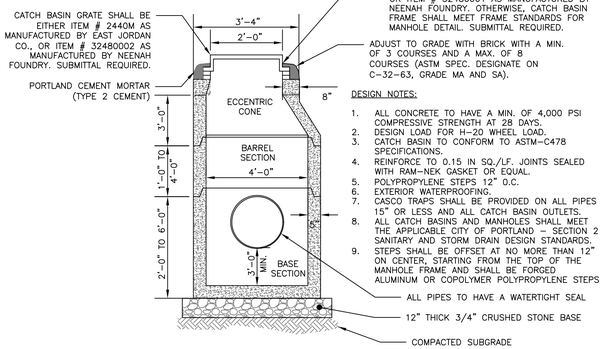
STATE OF MAINE · SAMUEL J. LEBEL · 12505 · LICENSED PROFESSIONAL ENGINEER · 2/1/23

DRAWING NO.

C-45

1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 lbs. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. MANHOLES MAY BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
3. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
4. ALL STORM AND SEWER MANHOLE COVERS SHALL BE SOLD AND SHALL HAVE ONE ⅞" DIAMETER DRILLED PICK HOLE LOCATED 8" FROM THE CENTER OF THE COVER.
5. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
6. ALL MANHOLE RISERS SHALL BE ETHERIDGE 24" OR APPROVAL EQUAL.
7. SEWER BRICK SHALL CONFORM TO ASTM SPEC. DESIGNATE ON C-32-63, GRADE MA AND SA.
8. ALL SANITARY MANHOLES SHALL HAVE A WATERPROOFING COATING APPLIED TO THE EXTERIOR SURFACE.
9. CATCH BASIN FRAMES FOR TYPE A4 CATCH BASIN CURB INLETS SHALL BE ETHERIDGE DR5A OR APPROVED EQUAL.
10. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48-CLASS 35.
11. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
12. ALL CATCH BASIN OUTLETS SHALL BE INSTALLED WITH A CASCO TRAP PER DETAIL.

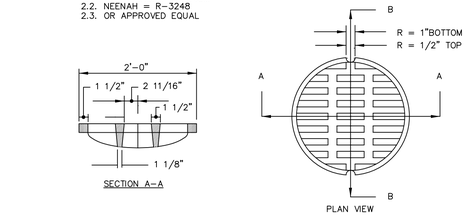
GENERAL NOTES FOR MANHOLES AND CATCH BASINS



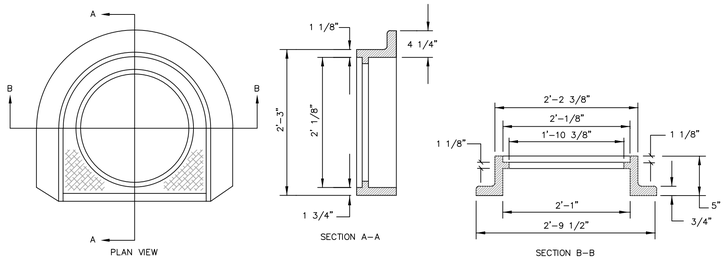
DESIGN NOTES:
1. ALL CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. DESIGN LOAD FOR H-20 WHEEL LOAD.
3. CATCH BASIN TO CONFORM TO ASTM-C478 SPECIFICATIONS.
4. REINFORCE TO 0.15 IN SQ./LF. JOINTS SEALED WITH RAM-NEK GASKET OR EQUAL.
5. POLYPROPYLENE STEPS 12" O.C.
6. EXTERIOR WATERPROOFING.
7. CASCO TRAPS SHALL BE PROVIDED ON ALL PIPES 15" OR LESS AND ALL CATCH BASIN OUTLETS.
8. ALL CATCH BASINS AND MANHOLES SHALL MEET THE APPLICABLE CITY OF PORTLAND - SECTION 2 SANITARY AND STORM DRAIN DESIGN STANDARDS.
9. STEPS SHALL BE OFFSET AT NO MORE THAN 12" ON CENTER, STARTING FROM THE TOP OF THE MANHOLE FRAME AND SHALL BE FORGED ALUMINUM OR COPOLYMER POLYPROPYLENE STEPS

4'-0" DIAMETER PRECAST CATCH BASIN/MANHOLE
NOT TO SCALE

NOTES:
1. 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

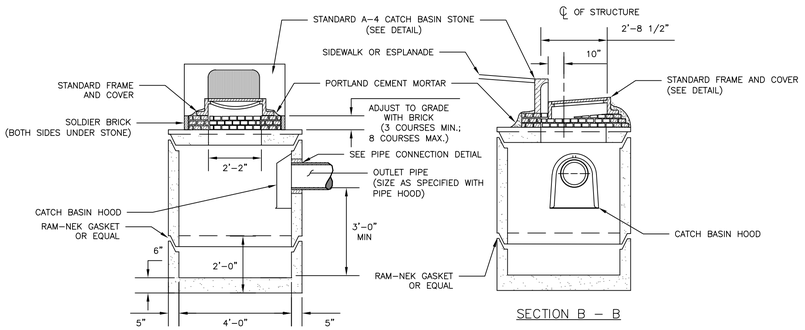


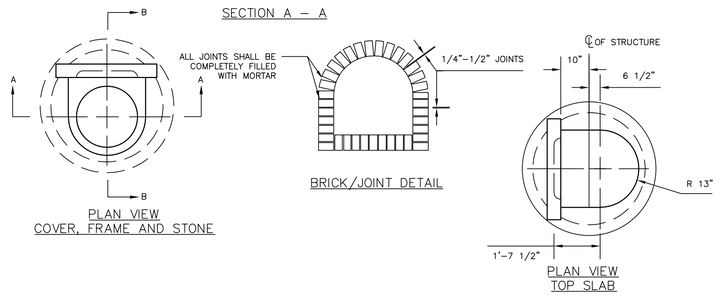
GRATE DETAIL



FRAME DETAIL

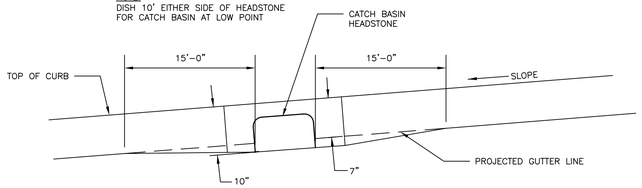
CATCH BASIN FRAME & GRATE
NOT TO SCALE





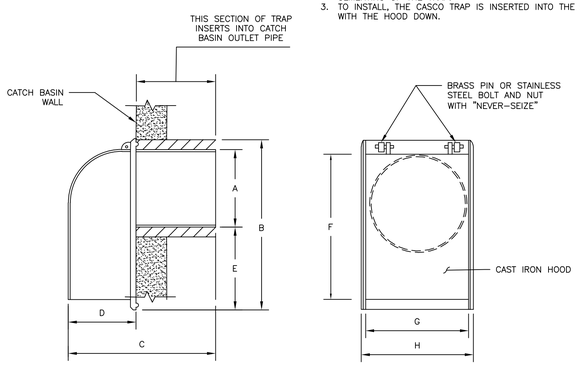
CITY OF PORTLAND PRECAST CONCRETE CATCH BASIN
NOT TO SCALE

NOTE:
DISH 10' EITHER SIDE OF HEADSTONE FOR CATCH BASIN AT LOW POINT



PAVEMENT GRADING ON SLOPES FOR CATCH BASIN AND INLET
NOT TO SCALE

NOTES:
1. INSTALL "CASCO TRAP" AS MANUFACTURED BY THE ETHERIDGE FOUNDRY, OR APPROVED EQUIVALENT AS SUPPLIED BY THE LEBARON FOUNDRY, MODEL #L, 202 "STANDARD CATCH BASIN TRAP". INSTALL TRAP IN ALL CATCH BASINS WITH A 12" OR 15" OUTLET PIPE.
2. THE CASCO TRAP IS AN ETHERIDGE STYLE DESIGNED TO ELIMINATE CEMENTING OF THE TRAP.
3. TO INSTALL, THE CASCO TRAP IS INSERTED INTO THE SEWER PIPE WITH THE HOOD DOWN.

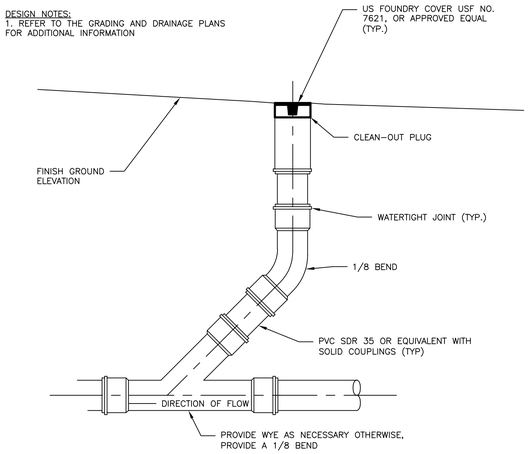


SIZE	A	B	C	D	E	F	G	H
6"	5 1/2	13 3/8	13 3/4	5 3/8	5 7/8	11 5/8	6 1/2	7 1/4
8"	7 1/2	15	15 3/8	5 1/2	5 3/8	13 3/4	8 3/4	9 3/8
10"	9 1/2	16	16 1/4	6	4 1/2	14 1/8	11 1/2	12 3/8
12"	11 1/2	17	22	8	3 1/2	17	12 1/2	13 3/8

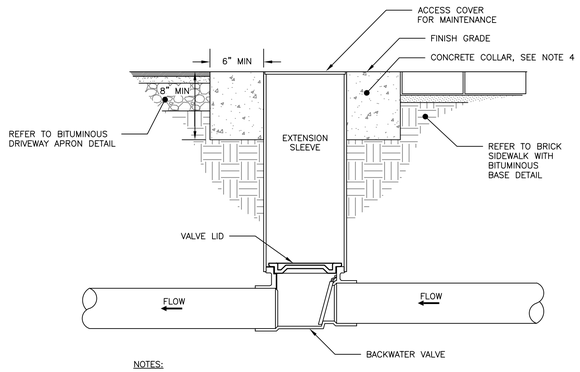
(AS MANUFACTURED BY THE ETHERIDGE FOUNDRY IN PORTLAND, ME)

CASCO TRAP DETAIL
NOT TO SCALE

DESIGN NOTES:
1. REFER TO THE GRADING AND DRAINAGE PLANS FOR ADDITIONAL INFORMATION



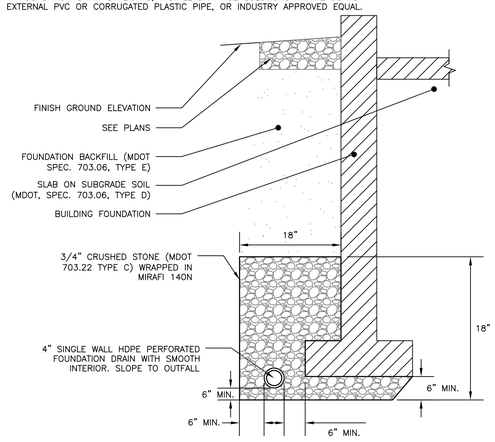
CLEANOUT DETAIL
NOT TO SCALE



NOTES:
1. BACKFLOW VALVE TO BE PROVIDED BY AGRI DRAIN CORPORATION OR AN APPROVED EQUAL.
2. VALVE TO BE INSTALLED TO MANUFACTURER'S SPECIFICATIONS AND COMPLY WITH RULES AND REGULATIONS AS OUTLINED IN SECTION 2 OF THE CITY OF PORTLAND TECHNICAL MANUAL.
3. VALVE SHALL BE INSTALLED WITH A VALVE BOX AND COVER TO PROVIDE EASY ACCESS AND MAINTENANCE; VALVE COVER SHALL STATE 'SEWER' ON LID FLUSH TO SURFACE. REFER TO VALVE & BOX COVER DETAIL FOR ADDITIONAL INFORMATION.
4. CONCRETE COLLAR AT A MINIMUM 24-HOUR COMPRESSIVE STRENGTH OF 3,000 PSI.
5. STRUCTURE TO BE APPLIED WITH DAMP PROOF COATING

BACKFLOW VALVE ASSEMBLY
NOT TO SCALE

NOTES:
1. REFER TO THE BUILDING ARCHITECTS PLANS FOR THE BUILDING FOUNDATION, BACKFILL, ROOF DRAIN, SIDEWALK AND OTHER DETAILS.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.
3. INSTALL STONE DRIP EDGE IN A LOCATIONS SUBJECT TO ROOF RUNOFF. WIDTH SHALL BE A MIN. 12" BEYOND THE PROJECTION OF THE ROOF EVE.
4. FOUNDATION WALL FOOTINGS SHALL BE CONSTRUCTED TO A MIN. DEPTH OF 4 FT BELOW ADJACENT FINISH GRADE. REFER TO STRUCTURAL ENGINEERS PLANS FOR ADDITIONAL INFORMATION AND MIN. REQUIREMENTS.
5. IF FOUNDATION DRAIN DAYLIGHTS, INSTALL DRAINAGE SOLUTIONS ANIMAL GUARD 4" EXTERNAL PVC OR CORRUGATED PLASTIC PIPE, OR INDUSTRY APPROVED EQUAL.



FOUNDATION DRAIN DETAIL
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 5/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: **DRAINAGE DETAILS - 1**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP** PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS PORTLAND, MAINE

ACORN ENGINEERING, INC.

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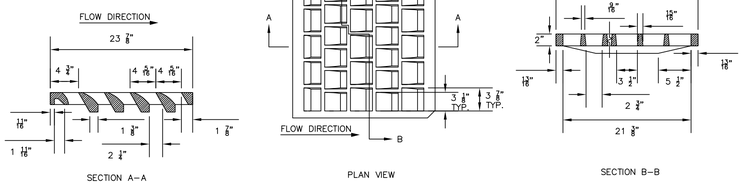
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

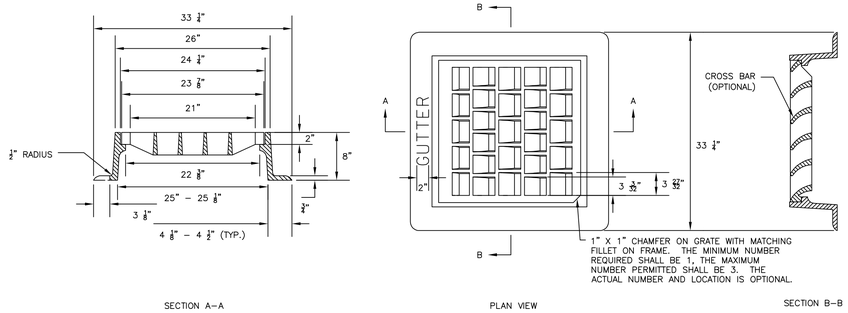
STATE OF MAINE — SAMUEL J. LEBEL — 16509 — LICENSED PROFESSIONAL ENGINEER — 2/1/23

DRAWING NO.
C-46

NOTES:
1. TYPE "A" FRAMES ARE TO HAVE 3 FLANGES.
2. TYPE "B" FRAMES ARE TO HAVE 4 FLANGES.
3. THE WORD "GUTTER" IS TO BE MOLDED INTO THE BACK FLANGE – TYPE "B" ONLY.
4. FRAMES AND GRATES ARE TO BE GRAY CAST IRON OR DUCTILE IRON CONFORMING TO AASHTO M306.
5. DIMENSIONS ARE NOMINAL.

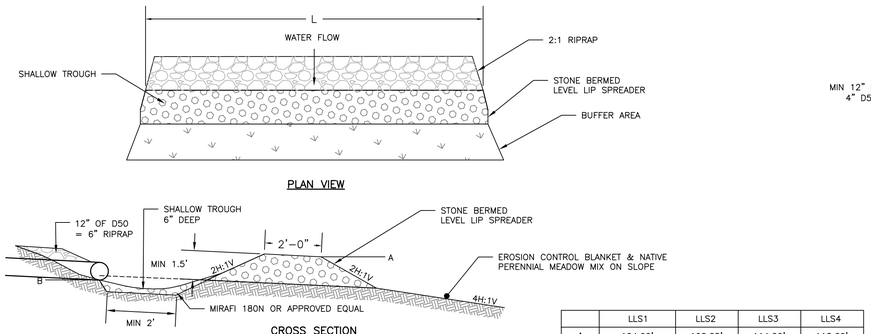


GRATE DETAIL



FRAME DETAIL

CATCH BASIN FRAME & GRATE – SQUARE
NOT TO SCALE

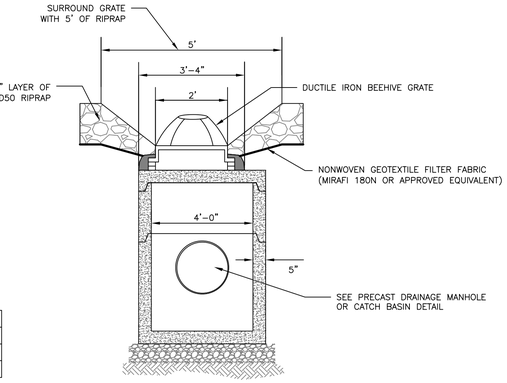


BERM STONE SIZE	
SIEVE SIZE	% PASSING BY WEIGHT
12"	100
6"	84–100
3"	63–83
1"	42–55
#4	8–12

NOTES:
1. FIELDSTONE, ROUGH QUARRIED STONE, BLASTED LEDGE ROCK OR TAILINGS ARE ACCEPTABLE BERM MATERIALS.
2. MEDIAN STONE SIZE TO BE APPROX 3 INCHES AT A MAXIMUM SIZE OF 6 INCHES. SEE TABLE.

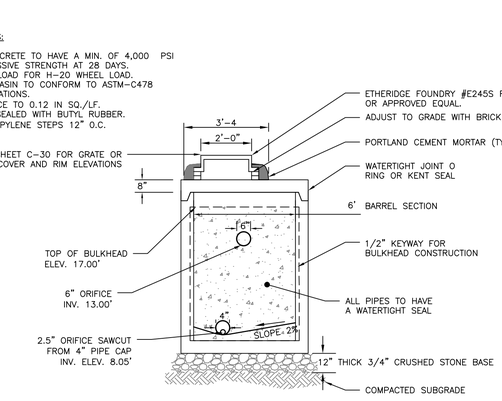
LEVEL LIP SPREADER DETAIL
NOT TO SCALE

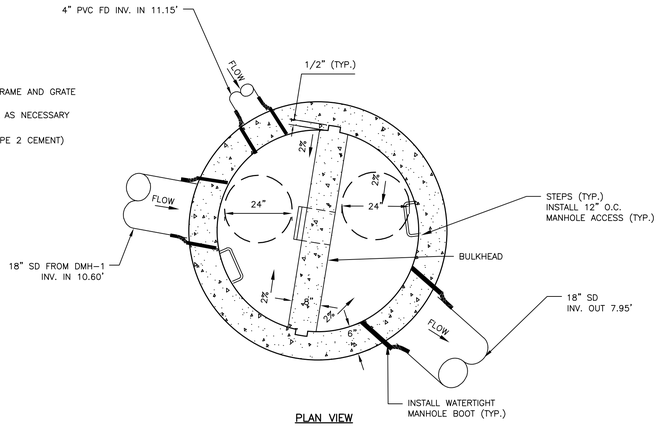
	LLS1	LLS2	LLS3	LLS4
A	104.00'	108.25'	114.20'	118.60'
B	102.50'	106.75'	112.70'	117.10'
LENGTH	25.00'	25.00'	10.00'	10.00'



WASHINGTON AVE NORTHERN DITCH – TERMINAL CATCH BASIN DETAIL
NOT TO SCALE

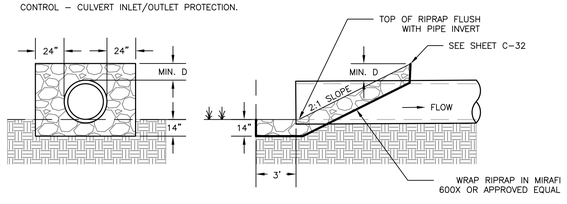
DESIGN NOTES:
1. ALL CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. DESIGN LOAD FOR H–20 WHEEL LOAD.
3. CATCH BASIN TO CONFORM TO ASTM–C478 SPECIFICATIONS.
4. REINFORCE TO 0.12 IN SQ./LF.
5. JOINTS SEALED WITH BUTYL RUBBER.
6. POLYPROPYLENE STEPS 12" O.C.





OUTLET CONTROL STRUCTURE
NOT TO SCALE

NOTES:
1. RIPRAP SHALL BE DESCRIBED BY M.D.O.T. 703.26 EXCEPT SIZE SHALL BE AS SHOWN.
2. REFERENCE FOR ADDITIONAL INFORMATION: BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL – CULVERT INLET/OUTLET PROTECTION.



RIPRAP INLET APRON DETAIL
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 5/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: **DRAINAGE DETAILS – 2**
PROJECT NAME/ADDRESS: **165 LAMBERT ST CO–OP** PORTLAND, MAINE 04103
CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS PORTLAND, MAINE

ACORN ENGINEERING, INC.

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DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
SAMUEL J. LEBEL
10509
LICENSED PROFESSIONAL ENGINEER
2/1/23

DRAWING NO.
C-47

NOTES:
1. THE SIDESLOPES SHALL BE STABILIZED WITH A MIN. OF 4" LOAM, EROSION CONTROL BLANKETS SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL AND A CONSERVATION SEED MIX.

2. LIGHT COMPACTION SOIL FILTER AND PIPE BEDDING MATERIAL. (90 TO 92% STANDARD PROCTOR). TESTING SHALL BE PERFORMED BY A QUALIFIED MATERIAL TESTING FIRM.

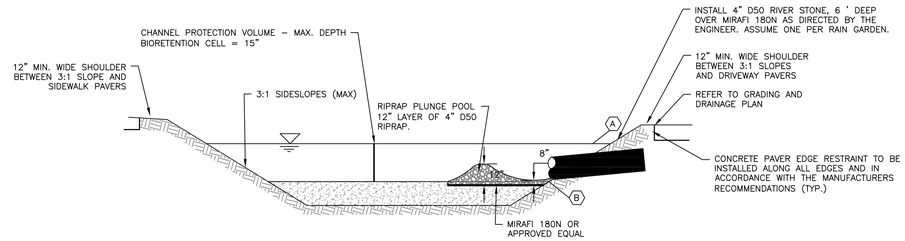
3. THE SOIL FILTER MEDIA SHALL NOT BE CONSTRUCTED UNTIL THE AREA DRAINING TO THE BASIN HAS BEEN PERMANENTLY STABILIZED.

4. A LANDSCAPE DESIGNER OR ARCHITECT SHALL SELECT THE APPROPRIATE PLANTS FOR THE BIORETENTION CELL FOR THE SITE CONDITIONS. PLANTING PLAN BY OTHERS.

5. MINIMUM UNDERDRAIN SLOPE 0.0025.

6. TESTING: SIEVE ANALYSIS INCLUDING HYDROMETER TESTING FOR CLAY CONTENT FOR EACH LAYER SHALL BE PERFORMED BY A QUALIFIED SOIL TESTING LABORATORY AND SUBMITTED TO THE PROJECT ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO CONSTRUCTION. ALL TESTING AND SUBMITTALS SHALL BE IN ACCORDANCE WITH THE MOST RECENT VERSION OF THE MAINE DEP – TECHNICAL DESIGN MANUAL SECTION 7.2.5 TESTING AND SUBMITTALS.

7. ACORN ENGINEERING, INC., RECOMMENDS THE SOIL FILTER LAYER BE SUPPLIED BY JONES ASSOCIATES, INC., AUBURN, ME.

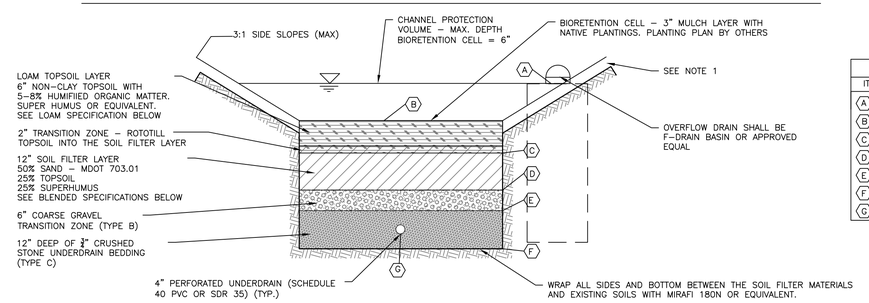


SOIL FILTER CROSS SECTION

6" LOAM TOPSOIL LAYER SPECIFICATION	
SIEVE SIZE	% PASSING BY WEIGHT
#4	75–95
#10	60–90
#40	35–85
#200	20–70
1. CLAY FRACTION <10% PASSING THE #200 SIEVE.* 2. LOAM SHALL BE LOOSE AND FRIABLE AND SHALL BE FREE FROM ADMIXTURE OF SUBSOIL, REFUSE, LARGE STONES, CLODS OR ROOTS OR RHIZOMES OR "WITCH GRASS" OR OTHER UNDESIRABLE GRASSES.	

*<10% CLAY PASSING THE #200 SIEVE ALLOWED PER EMAIL FROM MARIANNE HUBERT – MDEP TO WILL SAVAGE DATED 9/20/13

SOIL FILTER BED – SUPERHUMUS OR EQUIV. SPECIFICATION	
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
#200	0–5
MINIMAL CLAY CONTENT, NO MORE THAN 3–5% PASSING #200 SIEVE	



SOIL FILTER SIDE VIEW

SCHEDULE		
ITEM	BIOCELL 1	BIOCELL 2
(A) PROPOSED OVERFLOW RIM	109.50'	104.25'
(B) TOP OF LOAM TOPSOIL LAYER	108.00'	103.00'
(C) TOP OF SOIL FILTER	107.50'	102.50'
(D) TOP OF GRAVEL	106.50'	101.50'
(E) TOP OF STONE	106.00'	101.00'
(F) BOTTOM OF STONE	105.00'	100.00'
(G) UNDERDRAIN INVERT	105.50'	100.00'

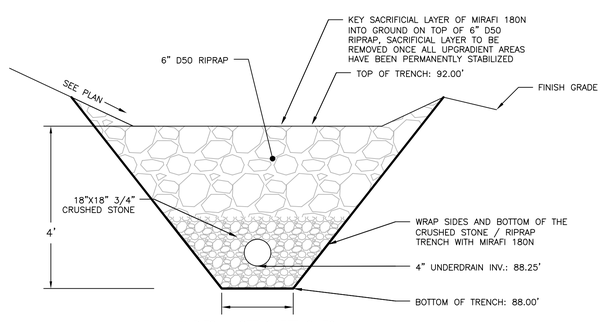
12" SOIL FILTER BED – BLENDED SAND, LOAM, SUPERHUMUS SIEVE ANALYSIS	
SIEVE SIZE	% PASSING BY WEIGHT
#10	85–100
#20	70–100
#60	15–40
#200	8–15
1. CLAY FRACTION <2% PASSING THE #200 SIEVE. 2. SUPERHUMUS OR EQUIVALENT	

SOIL FILTER BED – TRANSISTION ZONE (TYPE B)	
SIEVE SIZE	% PASSING BY WEIGHT
1"	90–100
1/2"	75–100
#4	50–100
#20	15–80
#50	0–15
#200	0–5

SOIL FILTER BED – UNDERDRAIN BEDDING (TYPE C)	
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90–100
3/8"	0–75
#4	0–25
#10	0–5

RAIN GARDEN OR BIORETENTION CELL DETAIL

NOT TO SCALE



SWALED STONE TRENCH PROFILE – VIEW LOOKING EAST

NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 5/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: **DRAINAGE DETAILS – 3**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP** PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS PORTLAND, MAINE

ACORN ENGINEERING, INC.

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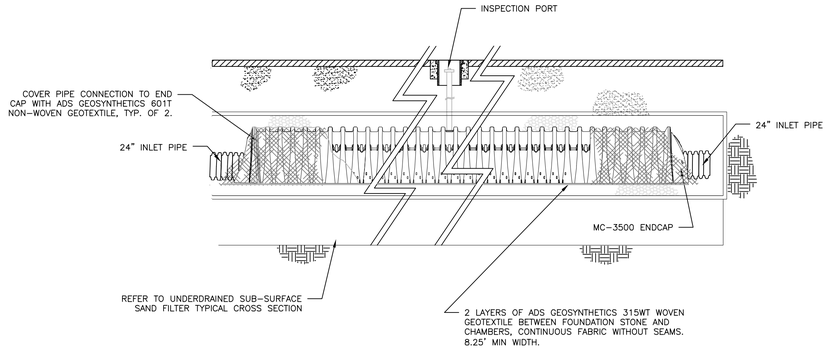
CHECKED BY:	WHS

STATE OF MAINE SAMUEL J. LEBEL 12505 LICENSED PROFESSIONAL ENGINEER 1/31/23

DRAWING NO.

C-48



ISOLATOR ROW – PROFILE VIEW

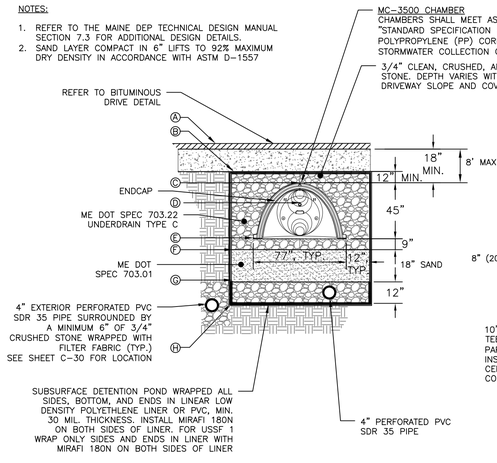
NOT TO SCALE

MANUFACTURER'S NOTES:

1. ALL DESIGN SPECIFICATIONS FOR STORMTECH MC-3500 CHAMBERS SHALL BE IN ACCORDANCE WITH THE STORMTECH DESIGN MANUAL.
2. THE INSTALLATION OF STORMTECH MC-3500 CHAMBERS SHALL BE IN ACCORDANCE WITH THE LATEST STORMTECH INSTALLATION INSTRUCTIONS.
3. THE CONTRACTOR IS ADVISED TO REVIEW AND UNDERSTAND THE INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION. CALL 1-888-892-2694 OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF THE LATEST STORMTECH INSTALLATION INSTRUCTIONS.
4. CHAMBERS SHALL MEET THE DESIGN REQUIREMENTS AND LOAD FACTORS SPECIFIED IN SECTION 12.12 OF THE LATEST EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

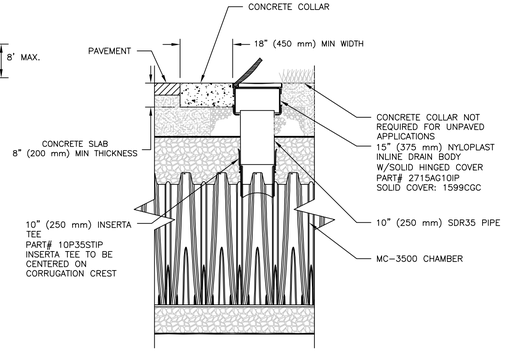
ENGINEER'S NOTES:

1. THE LAYOUT AND DIMENSION OF THE SUBSURFACE DETENTION MAY BE MODIFIED WITH AN ENGINEER APPROVED EQUIVALENT WHICH PROVIDES EQUAL DETENTION STORAGE AND WATER QUALITY TREATMENT.
2. PER CITY OF PORTLAND REQUIREMENT, THE SUBSURFACE DETENTION SHALL BE INSPECTED BY THE DESIGN ENGINEER AT THE FOLLOWING INTERVALS:
   - AFTER PRELIMINARY CONSTRUCTION OF THE SUBSURFACE DETENTION GRADES
   - ONE SITE VISIT DURING THE INSTALLATION OF THE IMPERVIOUS LINER
   - ONE SITE VISIT AFTER THE UNDERDRAINS ARE INSTALLED BUT BEFORE THEY ARE BACKFILLED
   - DURING THE CONSTRUCTION OF THE SAND FILTER LAYER
   - DURING THE INSTALLATION OF THE STORMTECH ISOLATOR ROW
   - BEFORE BACKFILLING THE STORMTECH UNITS
3. CONTRACTOR TO PROVIDE A MINIMUM 24 HOUR NOTICE BEFORE EACH MILESTONE INSPECTION LISTED UNDER NOTE 2.
4. THE FIRST YEAR OF MAINTENANCE SHALL BE PERFORMED BY THE MANUFACTURER TO ENSURE THAT THE SYSTEM IS OPERATING ACCORDING TO THE ESTABLISHED SPECIFICATIONS.
5. REFERENCE THE MANUFACTURER'S GUIDE FOR THE OPERATION AND MAINTENANCE PLAN.



UNDERDRAINED SUB-SURFACE SAND FILTER TYPICAL CROSS SECTION

NOT TO SCALE



MC-3500 10" (250 mm) INSPECTION PORT DETAIL

NTS

SCHEDULE			
	ITEM	USSF 1	USSF 2
A	FINISHED GRADE	PER C-30	PER C-30
B	TOP OF CRUSHED STONE	110.00'	106.50'
C	TOP OF CHAMBER	109.00'	105.50'
D	OVERFLOW INV.	108.02'	104.52'
E	BOTTOM OF CHAMBER	105.25'	101.75'
F	TOP OF SAND	104.50'	101.00'
G	BOTTOM OF SAND	103.00'	99.50'
H	BOTTOM OF SYSTEM	102.00'	98.50'
	ORIFICE DIAMETER *	1.2"	2.1"

* PROVIDE CAP WITH DRILLED HOLE BONDED AT CONNECTION POINT TO DOWNSTREAM DMH. HOLE TO BE DRILLED AT BOTTOM OF PIPE TO MAINTAIN INVERT SLOPE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
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COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: **DRAINAGE DETAILS – 4**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP** PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS PORTLAND, MAINE

ACORN ENGINEERING, INC.

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DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE · SAMUEL J. LEBEL · 15509 · LICENSED PROFESSIONAL ENGINEER · 1/31/23

DRAWING NO.

C-49

1.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

AS PART OF THE SITE DEVELOPMENT, THE FOLLOWING TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE IMPLEMENTED. DEVICES SHALL BE INSTALLED AS DESCRIBED IN THIS REPORT OR WITHIN THE PLAN SET. SEE THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES FOR FURTHER REFERENCE.

1.1 TEMPORARY EROSION CONTROL MEASURES

THE FOLLOWING TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ARE PLANNED FOR THE PROJECT'S CONSTRUCTION PERIOD:

1.1.1 CRUSHED STONE STABILIZED CONSTRUCTION ENTRANCES SHALL BE PLACED AT ALL ACCESS POINTS TO THE PROJECT SITE WHERE THERE ARE DISTURBED AREAS. THE FOLLOWING SPECIFICATIONS SHALL BE FOLLOWED AT A MINIMUM:
- STONE SIZE SHALL BE 2–3 INCHES, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- THE THICKNESS OF THE ENTRANCE STONE LAYER SHALL BE NO LESS THAN 6 INCHES.
- THE ENTRANCE SHALL NOT BE LESS THAN 20 FEET WIDE, HOWEVER NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS. THE LENGTH SHALL NOT BE LESS THAN 50 FEET IN LENGTH.
- GEOTEXTILE FABRIC (WOVEN OR NON–WOVEN) SHALL BE PLACED OVER THE ENTIRE ENTRANCE AREA.
- THE ENTRANCE/EXIT SHALL BE MAINTAINED TO THE EXTENT THAT IT WILL PREVENT THE TRACKING OF SEDIMENT ONTO PUBLIC ROAD WAYS.

1.1.2 SILTATION FENCE OR EROSION CONTROL BERM SHALL BE INSTALLED DOWN GRADIENT OF ANY DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL PERMANENT STABILIZATION IS ACHIEVED. THE SILT FENCE OR EROSION CONTROL BERM SHALL BE INSTALLED PER THE DETAILS PROVIDED IN THE PLAN SET AND INSPECTED BEFORE AND IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIRS SHALL BE MADE IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE LINE OR BERM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THE FENCE OR BERM, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM.

1.1.3 HAY MULCH INCLUDING HYDRO SEEDING IS INTENDED TO PROVIDE COVER FOR DENUDED OR SEEDED AREAS UNTIL REVEGETATION IS ESTABLISHED. MULCH PLACED BETWEEN APRIL 15TH AND NOVEMBER 1ST ON SLOPES OF LESS THAN 15 PERCENT SHALL BE COVERED BY FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. MULCH PLACED BETWEEN NOVEMBER 1ST AND APRIL 15TH ON SLOPES EQUAL TO OR STEEPER THAN 8 PERCENT AND EQUAL TO OR FLATTER THAN 2:1 SHALL USE MATS OR FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

1.1.4 AT ANY TIME OF THE YEAR, ALL SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED WITH DOUBLE NET EROSION CONTROL BLANKET BIONET SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL OR EROSION CONTROL MIX SLOPE PROTECTION AS DETAILED WITHIN THE PLANS.

1.1.5 LAMBERT STREET, WASHINGTON AVE, AND AUBURN STREET SHALL BE SWEPT TO CONTROL MUD AND DUST FROM THE CONSTRUCTION SITE AS NECESSARY. ADD ADDITIONAL STONE TO THE STABILIZED CONSTRUCTION ENTRANCE TO MINIMIZE THE TRACKING OF MATERIAL OFF THE SITE AND ONTO THE SURROUNDING ROADWAYS.

1.1.6 DURING DEMOLITION, CLEARING AND GRUBBING OPERATIONS, STONE CHECK DAMS SHALL BE INSTALLED AT ANY AREAS OF CONCENTRATED FLOW. THE MAXIMUM HEIGHT OF THE CHECK DAM SHALL NOT EXCEED 2 FEET. THE CENTER OF THE CHECK DAM SHALL BE 6 INCHES BELOW THE OUTER EDGES OF THE DAM. THE CONTRACTOR SHALL MULCH THE SIDE SLOPES AND INSTALL STONE CHECK DAMS FOR ALL NEWLY EXCAVATED DITCH LINES WITHIN 24 HOURS OF THEIR CREATION.

1.1.7 SILT FENCE STAKE SPACING SHALL NOT EXCEED 6 FEET UNLESS THE FENCE IS SUPPORTED WITH 14 GAUGE WIRE IN WHICH CASE THE MAXIMUM SPACING SHALL NOT EXCEED 10 FEET. THE SILT FENCE SHALL BE "TOED" INTO THE GROUND.

1.1.8 STORMDRAIN INLET PROTECTION SHALL BE PROVIDED TO STORMDRAINS THROUGH THE USE OF ANY OF THE FOLLOWING: HAY BALE DROP INLET STRUCTURES, SILT FENCE DROP INLET SEDIMENT FILTER, GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER, OR CURB INLET SEDIMENT FILTER. BARRIERS SHALL BE INSPECTED AFTER EVERY RAINFALL EVENT AND REPAIRED AS NECESSARY. SEDIMENTS SHALL BE REMOVED WHEN ACCUMULATION HAS REACHED ½ THE DESIGN HEIGHT.

1.1.9 DUST CONTROL SHALL BE ACCOMPLISHED BY THE USE OF ANY OF THE FOLLOWING: WATER, CALCIUM CHLORIDE, STONE, OR AN APPROVED MDEP PRODUCT. DUST CONTROL SHALL BE APPLIED AS NEEDED TO ACCOMPLISH DUST CONTROL.

1.1.10 TEMPORARY LOAM, SEED, AND MULCHING SHALL BE USED IN AREAS WHERE NO OTHER EROSION CONTROL MEASURE IS USED. APPLICATION RATES FOR SEEDING ARE PROVIDED AT THE END OF THIS REPORT.

1.1.11 STOCKPILES SHALL BE STABILIZED WITHIN 7 DAYS OF FORMATION UNLESS A SCHEDULED RAIN EVENT OCCURS PRIOR TO THE 7 DAY WINDOW, IN WHICH CASE THE STOCKPILE SHALL BE STABILIZED PRIOR TO THE RAIN EVENT. METHODS OF STABILIZATION SHALL BE MULCH, EROSION CONTROL MIX, OR EROSION CONTROL BLANKETS/MATS. SILT FENCE OR A WOOD WASTE COMPOST FILTER BERM SHALL BE PLACED DOWNHILL OF ANY SOIL STOCKPILE LOCATION.

1.1.12 FOR DISTURBANCE BETWEEN NOVEMBER 1 AND APRIL 15, PLEASE REFER TO WINTER STABILIZATION PLAN IN THIS REPORT AND THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR FURTHER INFORMATION.

1.1.13 IT IS OF THE UTMOST IMPORTANCE THAT STORMWATER RUNOFF AND POTENTIAL SEDIMENT FROM THE CONSTRUCTION SITE BE DIVERTED AROUND THE PROPOSED UNDERDRAINS UNTIL THE TRENCH IS BACKFILLED.

1.2 PERMANENT EROSION CONTROL MEASURES

THE FOLLOWING PERMANENT EROSION CONTROL MEASURES ARE INTENDED FOR POST DISTURBANCE AREAS OF THE PROJECT.

1.2.1 ALL DISTURBED AREAS DURING CONSTRUCTION, NOT SUBJECT TO OTHER PROPOSED CONDITIONS, SHALL RECEIVE A MINIMUM 4" OF LOAM AND SHALL BE LIMED, AND MULCHED.

EROSION CONTROL BLANKETS OR MATS SHALL BE PLACED OVER THE MULCH IN AREAS NOTED IN PARAGRAPH 4.2 OF THIS REPORT.

1.2.2 ALL STORMWATER DEVICES SHALL BE INSTALLED AND TRIBUTARY AREAS STABILIZED PRIOR RECEIVING STORMWATER.

1.2.3 REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

2.0 EROSION AND SEDIMENTATION CONTROL PLAN

2.1 THE EROSION AND SEDIMENTATION CONTROL PLAN IS INCLUDED WITHIN THE PLAN SET.

3.0 DETAILS AND SPECIFICATIONS

3.1 EROSION CONTROL DETAILS AND SPECIFICATIONS ARE INCLUDED IN THE PLAN SET.

4.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

WINTER CONSTRUCTION CONSISTS OF EARTHWORK DISTURBANCE BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15. IF A CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 75% MATURE VEGETATION COVER OR RIPRAP BY NOVEMBER 15, THEN THE SITE SHALL BE PROTECTED WITH OVER–WINTER STABILIZATION. ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MIX, EROSION CONTROL MATS, RIPRAP, OR GRAVEL BASE ON A ROAD SHALL BE CONSIDERED OPEN.

THE CONTRACTOR SHALL LIMIT THE WORK AREA TO AREAS THAT WORK WILL OCCUR IN DURING THE SUBSEQUENT 15 DAYS AND SO THAT IT CAN BE MULCHED ONE DAY PRIOR TO A SNOW EVENT. THE CONTRACTOR SHALL STABILIZE WORK AREAS PRIOR TO OPENING ADDITIONAL WORK AREAS TO MINIMIZE AREAS WITHOUT EROSION CONTROL MEASURES.

THE FOLLOWING MEASURES SHALL BE IMPLEMENTED DURING WINTER CONSTRUCTION PERIODS:

4.1 SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS OR ANY OTHER RECOGNIZED SEDIMENT BARRIERS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES OR SILT FENCES.

4.2 MULCHING

ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LB. PER 1,000 SQUARE FEET OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE OF 75–LBS./1,000 S.F. OR 1.5 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED. EROSION CONTROL MIX MUST BE APPLIED WITH A MINIMUM 4 INCH THICKNESS. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. THE SNOW SHALL BE REMOVED DOWN TO A ONE–INCH DEPTH OR LESS PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA SHALL BE PROPERLY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED OR ADEQUATELY ANCHORED SO THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, TRACKING OR WOOD CELLULOSE FIBER. THE COVER WILL BE CONSIDERED SUFFICIENT WHEN THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. AFTER NOVEMBER 1ST, MULCHING AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

4.3 SOIL STOCKPILING

STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A FOUR–INCH LAYER OF EROSION CONTROL MIX. THIS SHALL BE DONE WITHIN 24 HOURS OF STOCKING AND RE–ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL.

4.4 SEEDING

BETWEEN THE DATES OF OCTOBER 15TH AND APRIL 1ST, LOAM OR SEED SHALL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS NOT BEEN LOAMED, FINAL GRADING WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED.

DORMANT SEEDING MAY BE PLACED PRIOR TO THE PLACEMENT OF MULCH OR EROSION CONTROL BLANKETS. IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4" OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS./1,000 S.F. ALL AREAS SEEDED DURING THE WINTER SHALL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 75% CATCH) SHALL BE REVEGETATED BY REPLACING LOAM, SEED AND MULCH. IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE REVEGETATED IN THE SPRING.

4.5 OVER WINTER STABILIZATION OF DISTURBED SOILS

BY SEPTEMBER 15TH, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% SHALL BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN ONE OF THE FOLLOWING ACTIONS SHALL BE TAKEN TO STABILIZE THE SOIL FOR LATE FALL AND WINTER:

- STABILIZE THE SOIL WITH TEMPORARY VEGETATION – BY OCTOBER 1ST, SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3LBS PER 1,000 S.F., LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 LBS PER 1,000 S.F., AND ANCHOR THE MULCH WITH PLASTIC NETTING. MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 1ST, THEN MULCH THE AREA FOR OVER–WINTER PROTECTION.
- STABILIZE THE SOIL WITH SOD – STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
- STABILIZE THE SOIL WITH MULCH – BY NOVEMBER 15TH, MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 LBS PER 1,000 S.F. ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

4.6 OVER WINTER STABILIZATION OF DISTURBED SLOPES

ALL STONE–COVERED SLOPES SHALL BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15TH. ALL SLOPES TO BE VEGETATED SHALL BE SEEDED AND MULCHED BY SEPTEMBER 1ST. A SLOPE IS CONSIDERED A GRADE GREATER THAN 15%. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1ST, THEN ONE OF THE FOLLOWING ACTION SHALL BE TAKEN TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER:

- STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS – BY OCTOBER 1ST THE DISTURBED SLOPE SHALL BE SEEDED WITH WINTER RYE AT A SEEDING RATE OF 3 LBS PER 1,000 S.F. AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED MULCH OVER THE SEEDING. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE SLOPE BY NOVEMBER 1ST, THEN THE CONTRACTOR SHALL COVER THE SLOPE WITH A LAYER OF EROSION CONTROL MIX OR WITH STONE RIPRAP.
- STABILIZE THE SOIL WITH SOD – THE DISTURBED SLOPE SHALL BE STABILIZED WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE CONTRACTOR SHALL NOT USE LATE–SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 3H:1V OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
- STABILIZE THE SOIL WITH EROSION CONTROL MIX – EROSION CONTROL MIX SHALL BE PROPERLY INSTALLED BY NOVEMBER 15TH. THE CONTRACTOR SHALL NOT USE EROSION CONTROL MIX TO STABILIZE SLOPES HAVING GRADES GREATER THAN 2H:1V OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
- STABILIZE THE SOIL WITH STONE RIPRAP – PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15TH. A REGISTERED PROFESSIONAL ENGINEER SHALL BE HIRED TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

5.0 INSPECTION AND MAINTENANCE

A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT PERIODIC VISUAL INSPECTIONS OF INSTALLED EROSION CONTROL MEASURES. THE FREQUENCY OF INSPECTION SHALL OCCUR AT LEAST ONCE EVERY TWO WEEKS, AS WELL AS AFTER A "STORM EVENT". A "STORM EVENT" SHALL CONSIST 0.5 INCHES OF RAIN WITHIN A 24 HOUR PERIOD. THE FOLLOWING EROSION AND SEDIMENT CONTROL – BEST MANAGEMENT PRACTICES (BMP'S) SHALL INSPECTED IN THE MANNER AS DESCRIBED.

5.1 SEDIMENT BARRIERS

HAY BALE BARRIERS, SILT FENCES AND FILTER BERMS SHALL BE INSPECTED AND REPAIRED FOR THE FOLLOWING IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE–HALF THE HEIGHT OF THE BARRIER. FILTER BERMS SHOULD BE RESHAPED AS NEEDED. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

5.2 STABILIZED STONE CONSTRUCTION ENTRANCES

THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHALL BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL AND REDISTRIBUTED ON SITE IN A STABLE MANNER. THE ENTRANCE SHOULD THEN BE RECONSTRUCTED. THE CONTRACTOR SHALL SWEEP OR WASH PAVEMENT AT EXITS, WHICH HAVE EXPERIENCED MUD–TRACKING ON TO THE PAVEMENT OR TRAVELED WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

5.3 MULCHED AREAS

ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGE OCCUR, RE–INSTALL THE NETS AS NECESSARY AFTER REPAIRING DAMAGE TO THE SLOPE. WHERE MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE. REPAIR AS NEEDED.

5.4 DUST CONTROL

WHEN TEMPORARY DUST CONTROL MEASURES ARE USED, REPETITIVE TREATMENT SHALL BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.

5.5 STORMWATER APPURTENANCES

ALL UNDERDRAINS, STORM DRAINS, AND CATCH BASINS NEED TO BE OPERATING EFFECTIVELY AND FREE OF DEBRIS.

5.6 EROSION AND SEDIMENTATION CONTROL INSPECTIONS:

ACORN ENGINEERING HAS PERSONNEL QUALIFIED TO CONDUCT EROSION AND SEDIMENTATION CONTROL INSPECTIONS. FOR FURTHER INFORMATION CONTACT:

CONTACT: WILL SAVAGE, PE
TELEPHONE: (207) 775–2655

QUALIFICATIONS:

Ø MAINE PROFESSIONAL ENGINEERING LICENSE #11419
Ø MAINE DEP – CERTIFIED IN MAINTENANCE & INSPECTION OF STORMWATER BMP'S CERT #14
Ø CERTIFIED EROSION, SEDIMENT AND STORM WATER INSPECTOR (CESSWI) CERT #0293
Ø CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC) CERT. #4620

THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR COMPLYING WITH THE EROSION AND SEDIMENTATION REPORT/PLAN, INCLUDING CONTROL OF FUGITIVE DUST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MONETARY PENALTIES RESULTING FROM FAILURE TO COMPLY WITH THESE STANDARDS.

6.0 IMPLEMENTATION SCHEDULE

THE FOLLOWING IMPLEMENTATION SEQUENCE IS INTENDED TO MAXIMIZE THE EFFECTIVENESS OF THE ABOVE DESCRIBED EROSION CONTROL MEASURES. CONTRACTORS SHOULD AVOID OVEREXPOSING DISTURBED AREAS AND LIMIT THE AMOUNT OF STABILIZATION AREA.

1. INSTALL A STABILIZED CONSTRUCTION ENTRANCE IN ALL LOCATIONS WHERE CONSTRUCTION TRAFFIC WILL ENTER AND EXIT THE SITE.
2. INSTALL PERIMETER SILT FENCE OR EROSION CONTROL BERM.
3. INSTALL ALL OTHER EROSION CONTROL DEVICES AS NECESSARY THROUGHOUT THE REMAINDER OF THIS SCHEDULE.
4. COMMENCE INSTALLATION OF DRAINAGE INFRASTRUCTURE.
5. PRIORITIZE THE DOWNHILL SIDE TO CONTAIN RUNOFF WITHIN THE SITE WHILE PROVIDING AN ENGINEERED OUTLET WITH SILTATION BARRIER TO THE MUNICIPAL STORMWATER SYSTEM WITHIN SPRING STREET.
6. COMMENCE EARTHWORK OPERATIONS, WALL AND FOUNDATION INSTALLATION.
7. COMMENCE INSTALLATION OF UTILITIES.
8. CONTINUE EARTHWORK AND GRADING TO SUBGRADE AS NECESSARY FOR CONSTRUCTION.
9. COMPLETE INSTALLATION OF DRAINAGE INFRASTRUCTURE, AS WELL AS OTHER UTILITY WORK.
10. COMPLETE REMAINING EARTHWORK OPERATIONS.
11. INSTALL SUB–BASE AND BASE GRAVELS IN PAVED AREAS.
12. INSTALL PAVING, CURBING AND BRICKWORK.
13. LOAM, LIME, FERTILIZE, SEED AND MULCH DISTURBED AREAS AND COMPLETE ALL LANDSCAPING.
14. ONCE THE SITE IS STABILIZED, 90% CATCH OF GRASS HAS BEEN OBTAINED, OR MULCHING OF LANDSCAPE AREAS IS COMPLETE REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
15. TOUCH UP AREAS WITHOUT A VIGOROUS CATCH OF GRASS WITH LOAM AND SEED.
16. COMPLETE SITE SIGNAGE AND STRIPING.
17. EXECUTE PROPER MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES THROUGHOUT THE PROJECT.

THE ABOVE IMPLEMENTATION SEQUENCE SHOULD BE GENERALLY FOLLOWED BY THE SITE CONTRACTOR. HOWEVER, THE CONTRACTOR MAY CONSTRUCT SEVERAL ITEMS SIMULTANEOUSLY. THE CONTRACTOR SHALL SUBMIT TO THE OWNER A SCHEDULE OF THE COMPLETION OF THE WORK. IF THE CONTRACTOR IS TO COMMENCE THE CONSTRUCTION OF MORE THAN ONE ITEM ABOVE, THEY SHALL LIMIT THE AMOUNT OF EXPOSED AREAS TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDERTAKEN DURING THE FOLLOWING 30 DAYS.

THE CONTRACTOR SHALL RE–VEGETATE DISTURBED AREAS AS RAPIDLY AS POSSIBLE. ALL AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING OR BEFORE A STORM EVENT. THE CONTRACTOR SHALL INCORPORATE PLANNED INLETS AND DRAINAGE SYSTEMS AS EARLY AS POSSIBLE INTO THE CONSTRUCTION PHASE.

7.0 SEEDING PLAN

7.1 SITE PREPARATION

THE SEEDED AREAS SHALL BE FEASIBLY GRADED OUT TO PROVIDE THE USE OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. IF NECESSARY, THE SITE MAY REQUIRE ADDITIONAL TEMPORARY EROSION CONTROL MEASURES OUTLINED IN THE EROSION CONTROL REPORT.

7.2 SEEDBED PREPARATION

FERTILIZER SHALL BE APPLIED TO THE SITE AT A RATE OF 13.8 POUNDS PER 1,000 SQUARE FEET. THE COMPOSITION OF THE FERTILIZER SHALL BE 10–10–10 (N–P205–K20) OR EQUIVALENT.

LIMESTONE SHALL BE APPLIED TO THE SITE AT A RATE OF 138 POUNDS PER 1,000 SQUARE FEET.

7.3 SEEDING

THE COMPOSITION AND AMOUNT OF TEMPORARY SEED APPLIED TO A SITE SHALL BE DETERMINED BY THE FOLLOWING TABLE:

TEMPORARY SEED APPLICATION RATES

SEED	LBS / ACRE	RECOMMENDED SEEDING DATES
WINTER RYE	2.57	8/15 TO 10/1
OATS	1.84	4/1 TO 7/1 8/15 TO 9/15
ANNUAL RYGRASS	0.92	4/1 TO 7/1
SUDANGRASS	0.92	5/15 TO 8/15
PERENNIAL	0.92	8/15 TO 9/15
TOTAL	7.17 LBS/ACRE	

PERMANENT SEED APPLICATION RATES

SEED	LBS / ACRE
KENTUCKY BLUEGRASS	20.00
CREEPING RED FESCUE	20.00
PERENNIAL RYEGRASS	4.80
TOTAL	44.8 LBS/ACRE

7.4 MULCHING

MULCH SHALL BE HARDWOOD AND APPLIED AT A RATE OF 70 LBS – 90 LBS PER 1,000 SQUARE FEET. THE MULCH SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 INCHES. THE SEEDED AREA SHALL BE MULCHED IMMEDIATELY AFTER SEED IS APPLIED. MULCHING DURING THE WINTER SEASON SHALL BE DOUBLE THE NORMAL AMOUNT. REFER TO DETAIL FOR MORE INFORMATION.

8.0 CONCLUSION

THE ABOVE EROSION CONTROL NARRATIVE IS INTENDED TO MINIMIZE THE DEVELOPMENT IMPACT BY IMPLEMENTING TEMPORARY AND PERMANENT EROSION CONTROL MEASURES. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 5/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: EROSION & SEDIMENTATION CONTROL NOTES
PROJECT NAME/ADDRESS: 165 LAMBERT ST CO–OP, PORTLAND, MAINE 04103
CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS, PORTLAND, MAINE

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR UNAUTHORIZED, MUST BE NOTED. ANY USE OF THIS PLAN AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775–2655

FILE: 1145_CIVIL
JN: 1145
SCALE: AS NOTED
DESIGNED BY: SJL
DRAWN BY: NPH
CHECKED BY: WHS

STATE OF MAINE · SAMUEL J. LEBEL · 12509 · LICENSED PROFESSIONAL ENGINEER · 1/31/23

DRAWING NO.
C-50

NOTES:

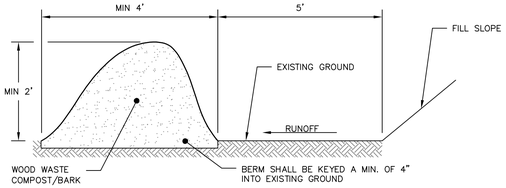
1. THE EROSION CONTROL MIX SHALL CONFORM TO THE FOLLOWING STANDARDS AND IN ACCORDANCE WITH THE MAINE DOT CHAPTER 700, SECTION 717.04(D):

1.1. pH BETWEEN 5.0 – 8.0
1.2. PARTICLE SIZE (BY WEIGHT):
1.2.1. 100% PASSING A 150 MM (6 IN) SCREEN
1.2.2. 75 TO 85% PASSING A 19 MM (0.75 IN) SCREEN
1.3. SOLUBLE SALTS CONTENT < 4.0 MMHOS/CM
1.4. ORGANIC MATTER 20 TO 100% , DRY WEIGHT BASIS

2. THE BERM SHOULD BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR, WHEN NECESSARY THE BERM MAY BE PLACED PERPENDICULAR TO THE SLOPE ALONG THE PROPERTY LINE TO CONTAIN THE SEDIMENT PROVIDED A BERM IS LOCATED AT THE BASE OF THE SLOPE.

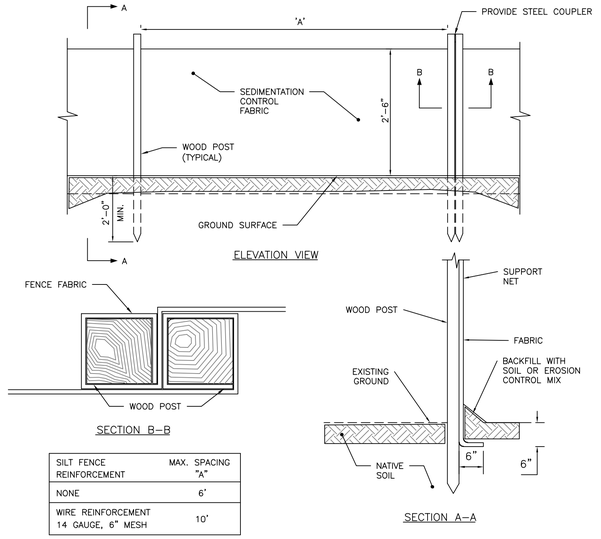
3. BERMS SHALL REMAIN IN PLACE UNTIL UPSTREAM AREA IS STABILIZED OR 90% CATCH OF VEGETATION IS ATTAINED. BERMS SHALL BE REMOVED OFFSITE OR BY SPREADING SUCH THAT NATIVE EARTH CAN BE SEEN BELOW.

4. DURING PERIODS OF WINTER CONSTRUCTION (NOV. 15 THROUGH APRIL 15), THE CONTRACTOR SHALL INSTALL EROSION CONTROL MIX BERMS IN LIEU OF SILT FENCE.



EROSION CONTROL MIX BERM DETAIL

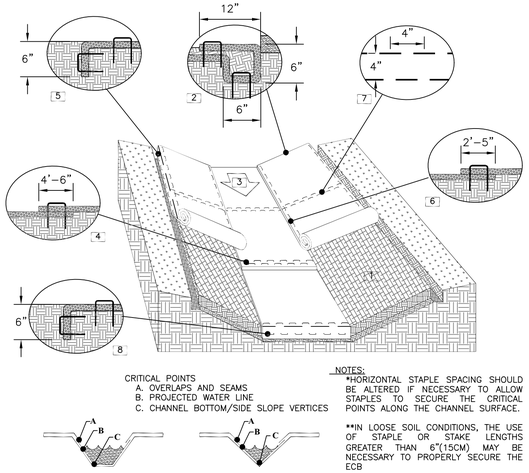
NOT TO SCALE



SILT FENCE REINFORCEMENT	MAX. SPACING "A"
NONE	6'
WIRE REINFORCEMENT 14 GAUGE, 6" MESH	10'

SILTATION FENCE DETAIL

NOT TO SCALE



CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTES:
*HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

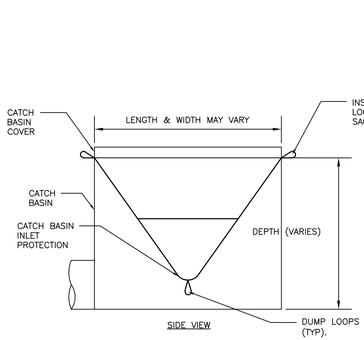
**IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6"(15CM) MAY BE NECESSARY TO PROPERLY SECURE THE ECB

EROSION CONTROL BLANKET CHANNEL INSTALLATION

NOT TO SCALE

CHANNEL INSTALLATION DETAIL

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL BLANKET (ECB), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE ECB IN A 6"(15CM) DEEP X 6"(15CM) WIDE TRENCH WITH APPROXIMATELY 12"(30CM) OF ECB EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. USE SHOREMAX MAT AT THE CHANNEL/CULVERT OUTLET AS SUPPLEMENTAL SCOUR PROTECTION AS NEEDED. ANCHOR THE ECB WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12"(30CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO THE COMPACTED SOIL AND FOLD THE REMAINING 12"(30CM) PORTION OF ECB BACK OVER THE SEED AND COMPACTED SOIL. SECURE ECB OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE ECB.
3. ROLL CENTER ECB IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. ECB WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL ECB MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. PLACE CONSECUTIVE ECB END-OVER-END (SHINGLE STYLE) WITH A 4"-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE ECB. THE TOP LAYER SHALL GO OVER THE DOWNSTREAM LAYER.
5. FULL LENGTH EDGE OF ECB AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12"(30CM) APART IN A 6"(15CM) DEEP X 6"(15CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT ECB MUST BE OVERLAPPED APPROXIMATELY 2"-5" (5-12.5CM) (DEPENDING ON ECB TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 -12M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4"(10CM) APART AND 4"(10CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE ECB MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30CM) APART IN A 6"(15CM) DEEP X 6"(15CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.



NOTES:

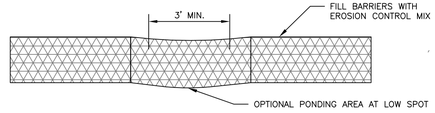
1. CATCH BASIN INLET PROTECTION SHALL BE INSTALLED DOWNGRADIENT OF PROPOSED PROJECT AND ROUTINELY MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS
2. CATCH BASIN SIZE VARIES. CONTRACTOR TO ENSURE CATCH BASIN INLET PROTECTION MATCHES CATCH BASIN DIMENSIONS.
3. SILT SACK SHALL BE ACF ENVIRONMENTAL SILT SACK, TYPE A, OR APPROVED EQUAL.

CATCH BASIN INLET PROTECTION

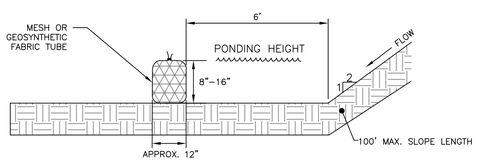
NOT TO SCALE

NOTES:

1. FULL CONTACT WITH THE GROUND IS CRITICAL TO PREVENT SHORT CIRCUITING UNDER THE TUBE – THE GROUND SURFACE SHOULD BE SMOOTH AND LEVEL. IN WOODED AREAS, PROTRUDING ROOTS AND DEBRIS MAY NEED TO BE REMOVED. IN GRASSED AREAS, THE GRASS NEEDS TO BE EITHER MOWED OR COMPRESSED DOWN.
2. STAKING MAY BE NECESSARY ON STEEP SLOPES.
3. UPON FINAL STABILIZATION, THE TUBE CAN BE CUT OPEN AND THE MATERIAL SPREAD OUT ONTO THE GROUND. THE MESH MATERIAL SHOULD BE REMOVE.
4. LOOSE COMPOST MAY BE BACKFILLED ALONG THE UPSLOPE SIDE OF THE COMPOST FILTER SOCK, FILLING THE SEAM BETWEEN THE SOIL SURFACE AND THE DEVICE, IMPROVING FILTRATION AND SEDIMENT RETENTION.



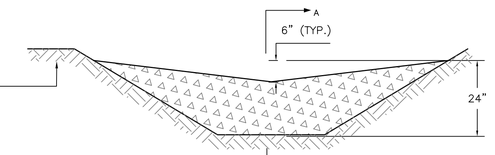
FRONT VIEW



SIDE VIEW

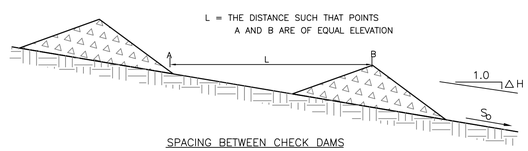
FILTER SOCK DETAIL

NOT TO SCALE



NOTES:

1. CHECK DAMS SHOULD BE INSTALLED BEFORE RUNOFF IS DIRECTED TO THE SWALE.
2. THE AREA AROUND EACH CHECK DAM SHOULD BE FREE OF DEBRIS.
3. A STONE CHECK DAM SHOULD BE COMPRISED OF WELL-GRADED CRUSHED ROCK WITH A MAXIMUM SIZE OF 6 INCHES AND A MINIMUM STONE SIZE OF 1 INCH. LARGER STONES MAY BE USED ON STEEP SLOPES.
4. THE MAXIMUM HEIGHT OF A STONE CHECK DAM SHOULD BE 2 FEET WITH A 6-INCH DEPRESSION AT ITS CENTER FOR OVERFLOW. THE EDGES OF THE DAM SHOULD BE KEYED ONTO THE EMBANKMENTS TO PREVENT SIDE EROSION.
5. MECHANICAL PLACEMENT FOLLOWED BY HAND PLACEMENT WILL BE NECESSARY TO ACHIEVE A TIGHT MASS WITHIN THE CHANNEL AND TO ENSURE THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES.
6. ANY EROSION DOWNGRADIENT OR AROUND THE EDGES OF STONE CHECK DAMS SHOULD BE CORRECTED IMMEDIATELY.
7. THE CHECK DAMS MAY BE REMOVED WHEN THE SWALE IS STABILIZED WITH VEGETATION (90% COVERAGE)

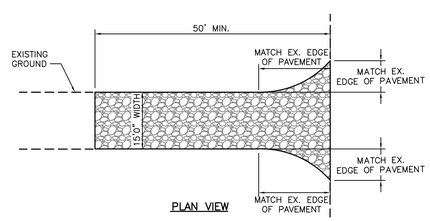


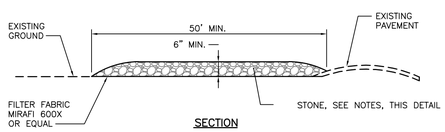
SPACING BETWEEN CHECK DAMS

S_O (FT./FT.)	L (FT.)
0.020	75
0.030	50
0.040	40
0.050	30
0.080	20
0.100	10

STONE CHECK DAM

NOT TO SCALE



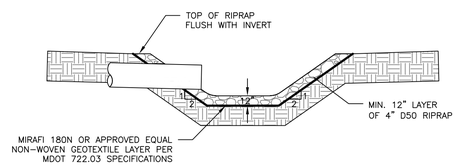


NOTES:

1. CONTRACTOR SHALL ADD STONE TO ENTRANCE AS MUD/SILT MATERIAL ACCUMULATES
2. STONE SHALL BE 2"-3" COARSE AGGREGATE
3. CONSTRUCTION ENTRANCE SHALL BE GRADED TO NOT ALLOW ANY STORMWATER TO BE CONVEYED OFF SITE. IN SITUATIONS WHERE THIS IS NOT POSSIBLE, ANY STORMWATER CONVEYED OFFSITE SHALL BE TREATED OR RETAINED IN A MANNER APPROVED BY ENGINEER.
4. WHEN NECESSARY, ON-SITE VEHICLES SHALL HAVE THEIR WHEELS CLEANED PRIOR TO LEAVING SITE.
5. CONSTRUCTION ENTRANCE SHALL BE GRADED IN A MANNER THAT PREVENTS TRACKING OF SEDIMENTS ONTO PUBLIC RIGHT-OF-WAY

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



NOTES:

1. RIPRAP AND NON-WOVEN GEOTEXTILE LAYER TO EXTEND AT LEAST 6" BEYOND CULVERT INVERT.
2. EMBANKMENT FOUNDATION AREA SHALL BE CLEARED OF STUMPS, ROOTS, BRUSH, ETC. TO PROVIDE GOOD CONTACT.

RIPRAP APRON AND PLUNGE POOL

NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE/SUB	SJL 5/17/22
COMMENT RESPONSE	SJL 9/26/22
COMMENT RESPONSE II	SJL 12/23/22
COMMENT RESPONSE III	SJL 1/31/23

DRAWING NAME: **EROSION & SEDIMENTATION CONTROL DETAILS**

PROJECT NAME/ADDRESS: **165 LAMBERT ST CO-OP** PORTLAND, MAINE 04103

CLIENT/OWNER OF RECORD: MAINE COOPERATIVE DEVELOPMENT PARTNERS PORTLAND, MAINE

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR UNAUTHORIZED, MUST BE NOTED ON THE PLAN AND SIGNED WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2655

FILE:	1145_CIVIL
JN:	1145
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE · SAMUEL J. LEBEL · 16505 · LICENSED PROFESSIONAL ENGINEER · 1/31/23

DRAWING NO.

C-51

Base Building Design

Project Information

CLIENTS	Maine Community Development Partners
ARCHITECT	Kaplan Thompson Architects
CONTRACTOR	Penobscot General Contractors

Proposed Structure

PROPOSED OCCUPANCY:	Multi-Family
PROPOSED STRUCTURES:	2-Story Townhome 3-Story Rowhome 3-Story Community Flats

DRAWING INDEX

GENERAL		
		COVER SHEET
ARCHITECTURAL		
	A-0.1	WALL TYPES
	A-0.2	FLOOR TYPES / ROOF TYPES
	A-1.1	PLANS: COMMUNITY FLATS
	A-1.2	PLANS: TOWNHOMES
	A-1.3	PLANS: ROWHOMES
	A-1.4	ENLARGED GROUND FLOOR PLAN: COMMUNITY FLATS
	A-1.5	ENLARGED UPPER LEVELS FLOOR PLAN: COMMUNITY FLATS
	A-1.6	ENLARGED GROUND FLOOR PLAN: TOWNHOMES
	A-1.7	ENLARGED UPPER LEVEL FLOOR PLAN: TOWNHOMES
	A-1.8	ENLARGED GROUND FLOOR PLAN: ROWHOMES
	A-1.9	ENLARGED 2ND FLOOR PLAN: ROWHOMES
	A-1.10	ENLARGED 3RD FLOOR PLAN: ROWHOMES
	A-2.1	ELEVATIONS: COMMUNITY FLATS
	A-2.2	ELEVATIONS: TOWNHOMES
	A-2.3	ELEVATIONS: ROWHOMES
	A-3.1	BUILDING SECTIONS
	A-4.1	WALL SECTIONS
STRUCTURAL		
	S-1.1	FRAMING PLAN COMM. FLATS
	S-1.2	FRAMING PLAN ROWHOUSE
	S-1.3	FRAMING PLAN TOWNHOUSE

Kaplan Thompson Architects
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PROJECT
Base Building Design

Portland, ME

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Acorn Engineering, Inc.
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LANDSCAPE ARCHITECTURE
Aceto Landscape Architects
565 Congress Street
Portland, ME 04101
p: 207 221-3390

STRUCTURAL
Trillium Engineering
189 Main Street, Suite 200
Yarmouth, ME 04096
p: 207 307-0872

ELECTRICAL
MEGA Engineering
p: 207 749-4514

NOT FOR CONSTRUCTION

PROJECT	MCP
DATE	6/13/22
REVISED 1	
REVISED 2	
DRAWN BY	AW, SS, CB
PHASE	Schematic Design

COVER SHEET

FIRE-RATED
EXTERIOR WALLS

EXTERIOR SIDING - FIBER CEMENT AND WOOD (TYPE 1, TYPE 2)

ON RAINSCREEN WOOD STRAPPING (COR-A-VENT @ TOP AND BOTTOM OF CAVITY)

ON BLUESKIN VP100 WRB

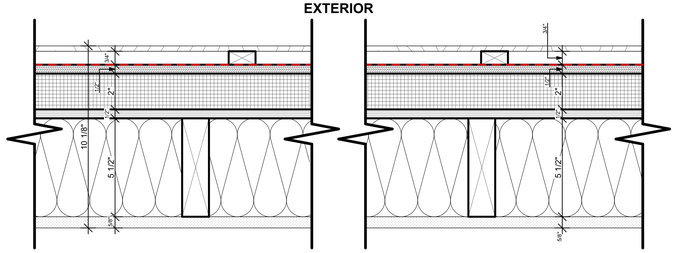
ON 2 1/2" NAILBASE INSULATION - REFER TO STRUCTURAL FOR FASTENER SIZE, SPACING AND BLOCKING REQUIREMENTS

ON 1/2" LP FLAMEBLOCK OSB SHEATHING - REFER TO STRUCTURAL FOR FASTENER SIZE, SPACING AND BLOCKING REQUIREMENTS (ALL SEAMS TAPED, AIR BARRIER)

ON 2X6 BEARING WALL W/ FULL DEPTH D.P. CELLULOSE - REFER TO STRUCTURAL

ON 5/8" TYPE X GWB - AIR SEALED AT ALL EDGES AND PENETRATIONS

EXTERIOR



INTERIOR

TOTAL: R-±33

0 HR FIRE RATED
W-0A

1 HR FIRE RATED
W-1A

FIRE PARTITION:
INTERIOR STAIR WALLS/UNIT DEMISING WALLS

5/8" TYPE X GWB - AIR SEALED AT ALL EDGES AND PENETRATIONS

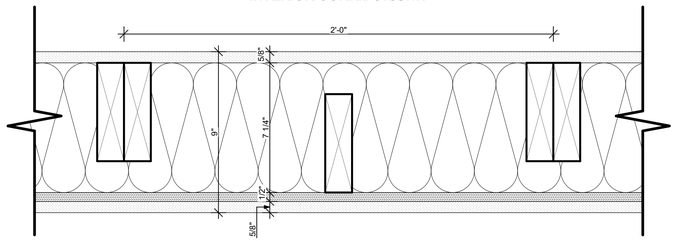
ON 2X6 KD STUD W/ FULL DEPTH D.P. CELLULOSE OR MINERAL WOOL BATT, STAGGERED

ON 2X6 KD STUD W/FULL DEPTH D.P. CELLULOSE OR MINERAL WOOL BATT, STAGGERED

ON CDX PLYWOOD SHEATHING - REFER TO STRUCTURAL

ON 5/8" TYPE X GWB - AIR SEALED AT ALL EDGES AND PENETRATIONS

INTERIOR CORRIDOR/UNIT



INTERIOR STAIR/UNIT

INSTALL STRICTLY PER UL U340 OR ANSI / UL 263
STC - 51
1 HOUR

W-1B

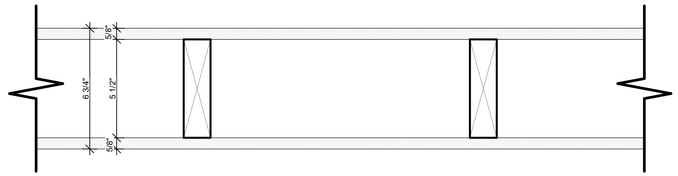
NON-RATED
INTERIOR WALLS (TYP.)

5/8" TYPE X GWB - AIR SEALED AT ALL EDGES AND PENETRATIONS

ON 2X6 KD STUD @ 16" O.C./ OR LIGHT GA STEEL STUDS

ON 5/8" TYPE X GWB - AIR SEALED AT ALL EDGES AND PENETRATIONS

INTERIOR



INTERIOR

0 HOUR

W-0B

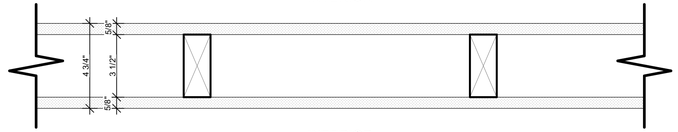
NON-RATED
INTERIOR WALLS (TYP.)

5/8" TYPE X GWB - AIR SEALED AT ALL EDGES AND PENETRATIONS

ON 2X4 KD STUD @ 16" O.C./ OR LIGHT GA STEEL STUDS

ON 5/8" TYPE X GWB - AIR SEALED AT ALL EDGES AND PENETRATIONS

INTERIOR



INTERIOR

0 HOUR

W-0C

FIRE PARTITION:
INTERIOR CORRIDOR WALLS

5/8" TYPE X GWB - AIR SEALED AT ALL EDGES AND PENETRATIONS

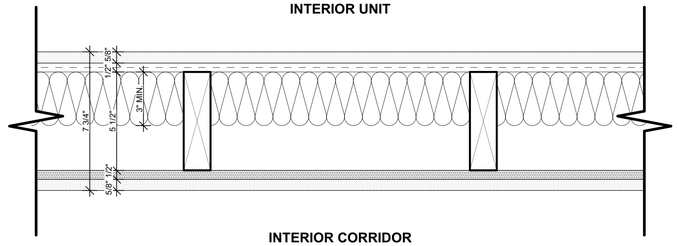
ON RESILIENT CHANNEL, RC-1 PRO (RCUR)

ON 2X6 KD STUD W/ MINERAL WOOL BATT

ON CDX PLYWOOD SHEATHING - REFER TO STRUCTURAL

ON 5/8" TYPE X GWB - AIR SEALED AT ALL EDGES AND PENETRATIONS

INTERIOR UNIT



INTERIOR CORRIDOR

INSTALL STRICTLY PER UL U305
STC - 51
0.5 HOUR

W-.5A

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500 Washington Ave., Suite 202
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LANDSCAPE ARCHITECTURE
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565 Congress Street
Portland, ME 04101
p: 207 221-3390

STRUCTURAL
Trillium Engineering
189 Main Street, Suite 200
Yarmouth, ME 04096
p: 207 307-0872

ELECTRICAL
MEGA Engineering
p: 207 749-4514

ISSUE NO.	DESCRIPTION	CH ID	CHANGE NAME	DATE
A	Schematic Design			6/6/22

NOT FOR CONSTRUCTION

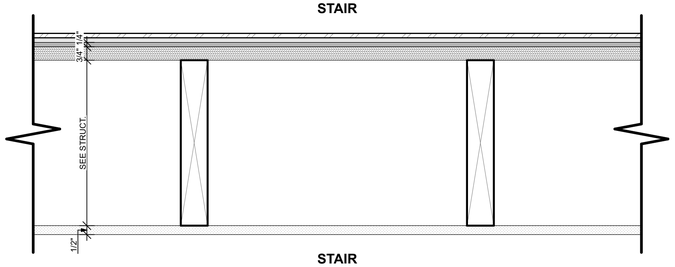
PROJECT	MCP
DATE	6/13/22
REVISED 1	
REVISED 2	
DRAWN BY	AW, SS, CB
PHASE	Schematic Design

WALL TYPES
A-0.1

NON-RATED
STAIR LANDING

FINISH FLOOR, SEE FINISH SCHEDULE,
ON FLOORING UNDERLAYMENT, SEE SPEC,
ON 3/4" SUBFLOOR, SEE SPEC,
ON 2X'S, SEE STRUCTURAL
ON (1) LAYERS GYP. BOARD TYPE C

STAIR



STAIR

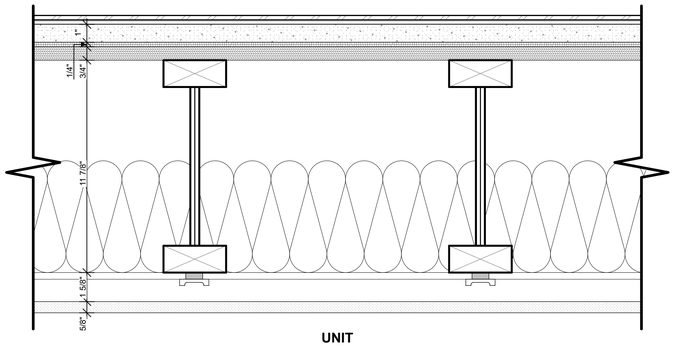
0 HOUR

H-0D

UNIT FLOORS

FINISH FLOOR, SEE FINISH SCHEDULE,
ON FLOORING UNDERLAYMENT, SEE SPEC,
ON 1" GYPCRETE OR LEVELROCK,
ON 1/4" ACOUSTIMAT
ON 3/4" SUBFLOOR, SEE SPEC,
ON 2X FRAMED FLOOR, 16 O.C. W/ 6 1/4" MIN. BATT INSULATION
ON HAT CHANNEL W/ SOUND ISOLATION CLIPS 24" O.C.
ON (1) LAYERS 5/8" TYPE X GWB - AIR SEALED AT ALL EDGES AND PENETRATIONS

UNIT



UNIT

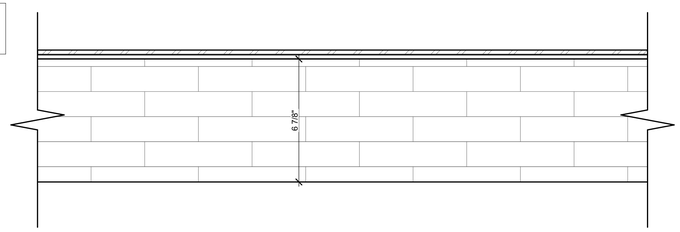
INSTALL STRICTLY PER UL GA FILE NO. FC 5120
1 HOUR

H-1A

UNPROTECTED CLT FLOOR

FINISH FLOOR, SEE FINISH SCHEDULE,
ON FLOORING UNDERLAYMENT, SEE SPEC,
ON CLT (SEE STRUCTURAL)

INTERIOR



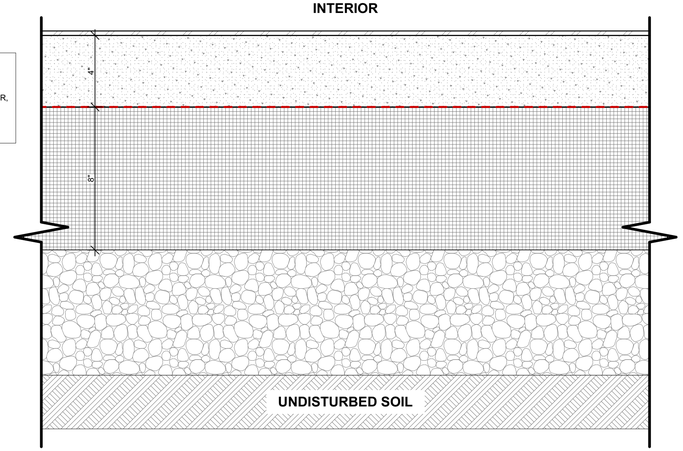
INTERIOR

H-1B

NON-RATED
SLAB ON GRADE

FINISH FLOOR, SEE FINISH SCHEDULE,
ON CONCRETE SLAB, SEE STRUCTURAL,
ON HEAVY DUTY SUB-SLAB VAPOR AND AIR BARRIER,
ON 8" EPS RIGID INSULATION,
ON COMPACTED STRUCTURAL FILL, SEE STRUCT.

INTERIOR



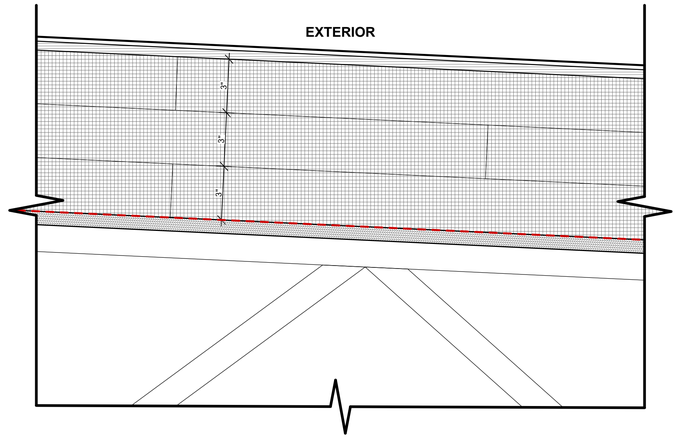
TOTAL: R-32
0 HOUR

H-0A

NON-RATED
ROOF (LOW SLOPE)

EPDM ROOM MEMBRANE,
ON COVERBOARD,
ON (3) 3" POLYISOCYANURATE INSULATION,
ON PLYWOOD SHEATHING, SEE STRUCTURAL,
ON SELF ADHERED AIR BARRIER
ON TRUSS, SEE STRUCTURAL

EXTERIOR



CONDITIONED ATTIC

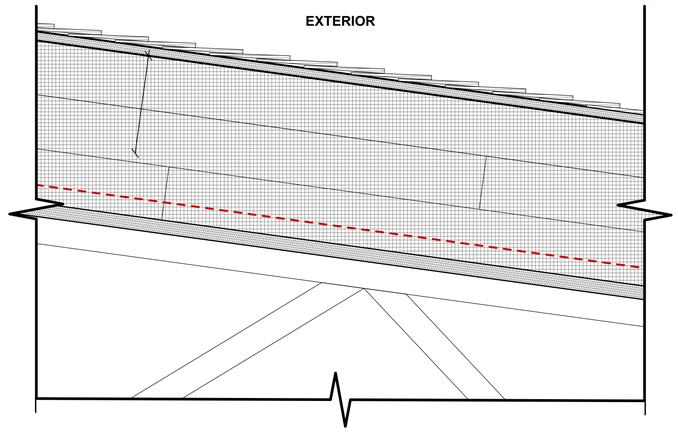
TOTAL: R-51
0 HOUR

H-0B

NON-RATED
ROOF (PITCHED)

ASPHALT SHINGLES
ON COVERBOARD
ON 3 1/2" NAILBASE
ON (2) 3" POLYISOCYANURATE INSULATION
ON PLYWOOD SHEATHING, SEE STRUCTURAL,
ON SELF ADHERED AIR BARRIER
ON 2X TRUSS, SEE STRUCTURAL

EXTERIOR



CONDITIONED ATTIC

TOTAL: R-51
0 HOUR

H-0C

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PROJECT
Base Building Design

Portland, ME 04101

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LANDSCAPE ARCHITECTURE
Aceto Landscape Architects
565 Congress Street
Portland, ME 04101
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STRUCTURAL
Trillium Engineering
189 Main Street, Suite 200
Yarmouth, ME 04096
p: 207 307-0872

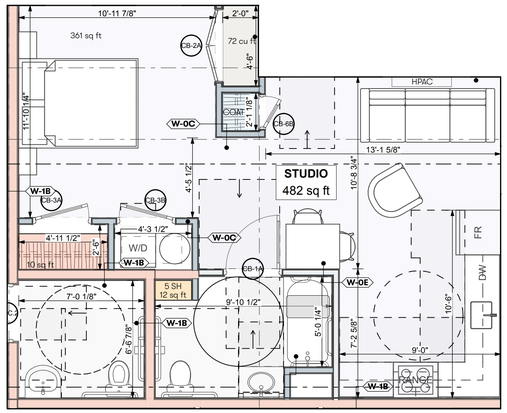
ELECTRICAL
MEGA Engineering
p: 207 749-4514

ISSUE NO.	DESCRIPTION	CHANGE NAME	CH ID	DATE
A	Schematic Design			6/6/22

NOT FOR CONSTRUCTION

PROJECT	MCP
DATE	6/13/22
REVISED 1	
REVISED 2	
DRAWN BY	AW, SS, CB
PHASE	Schematic Design

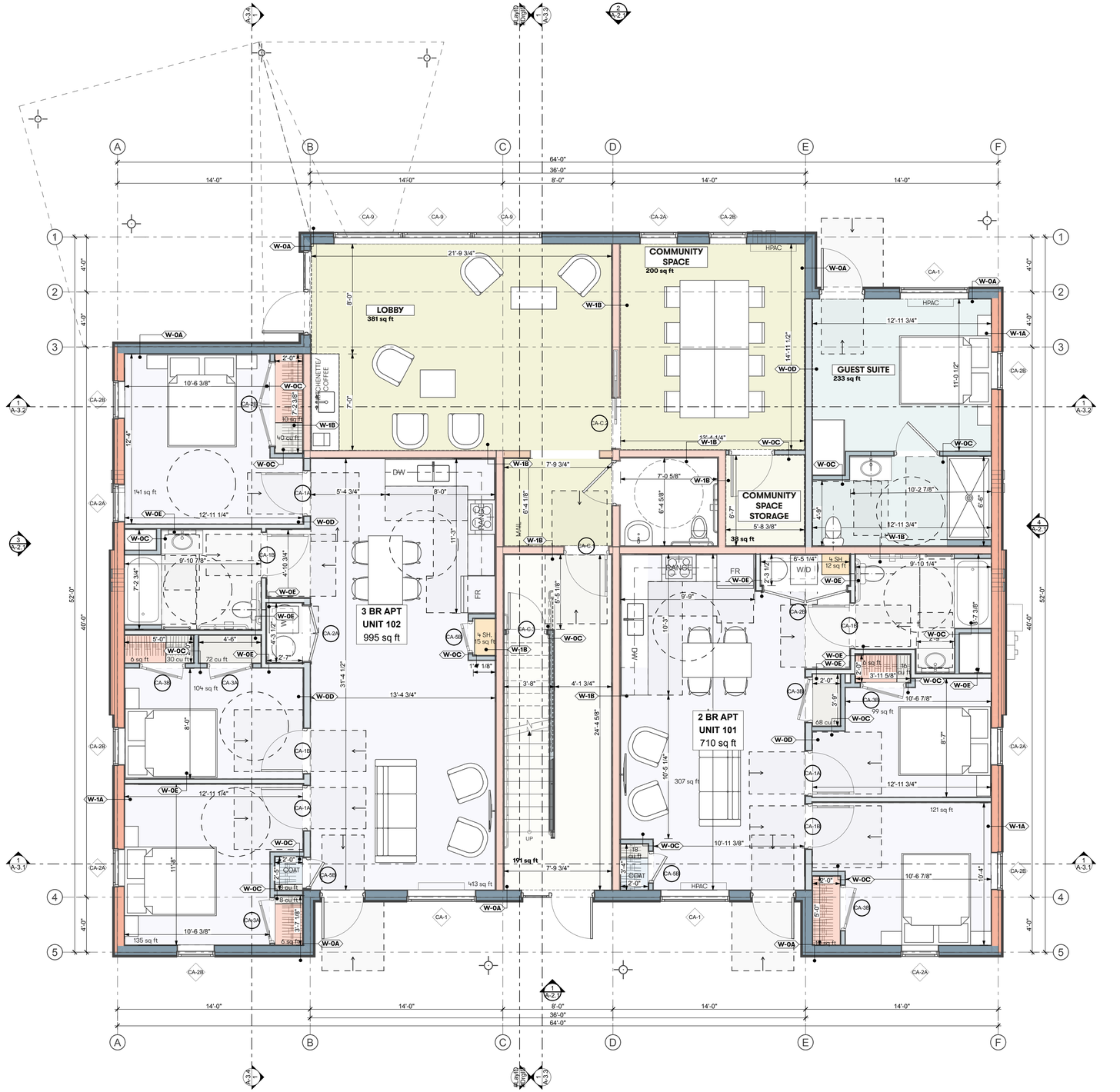
FLOOR TYPES / ROOF TYPES
A-0.2



2 ALTERNATE GROUND FLOOR PLAN

SCALE: 1/4" = 1'-0"

0 2' 4' 8'



1 GROUND FLOOR: GUEST SUITE

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

Kaplan Thompson Architects
102 Exchange Street
Portland, ME 04101
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PROJECT
Lambert North

Portland, ME 04101

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Acorn Engineering, Inc.
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Portland, ME 04101
p: 207 221-3390

STRUCTURAL
Trillium Engineering
189 Main Street, Suite 200
Yarmouth, ME 04096
p: 207 307-0872

ELECTRICAL
MEGA Engineering
p: 207 749-4514

MECHANICAL & PLUMBING
Fuss & O'Neill, Inc.
5 Fletcher Street, Suite 1
Kennebunk, ME 04043
p: 617 282-4675

ISSUE NO.	DESCRIPTION	CHANGE NAME	CH ID	DATE
A	Schematic Design			6/6/22
D	Lambert South HUD Rev. 1			10/20/22
E	Lambert North			10/20/22
G	Pricing Set			11/18/22
H	MEHA 50%			12/15/22

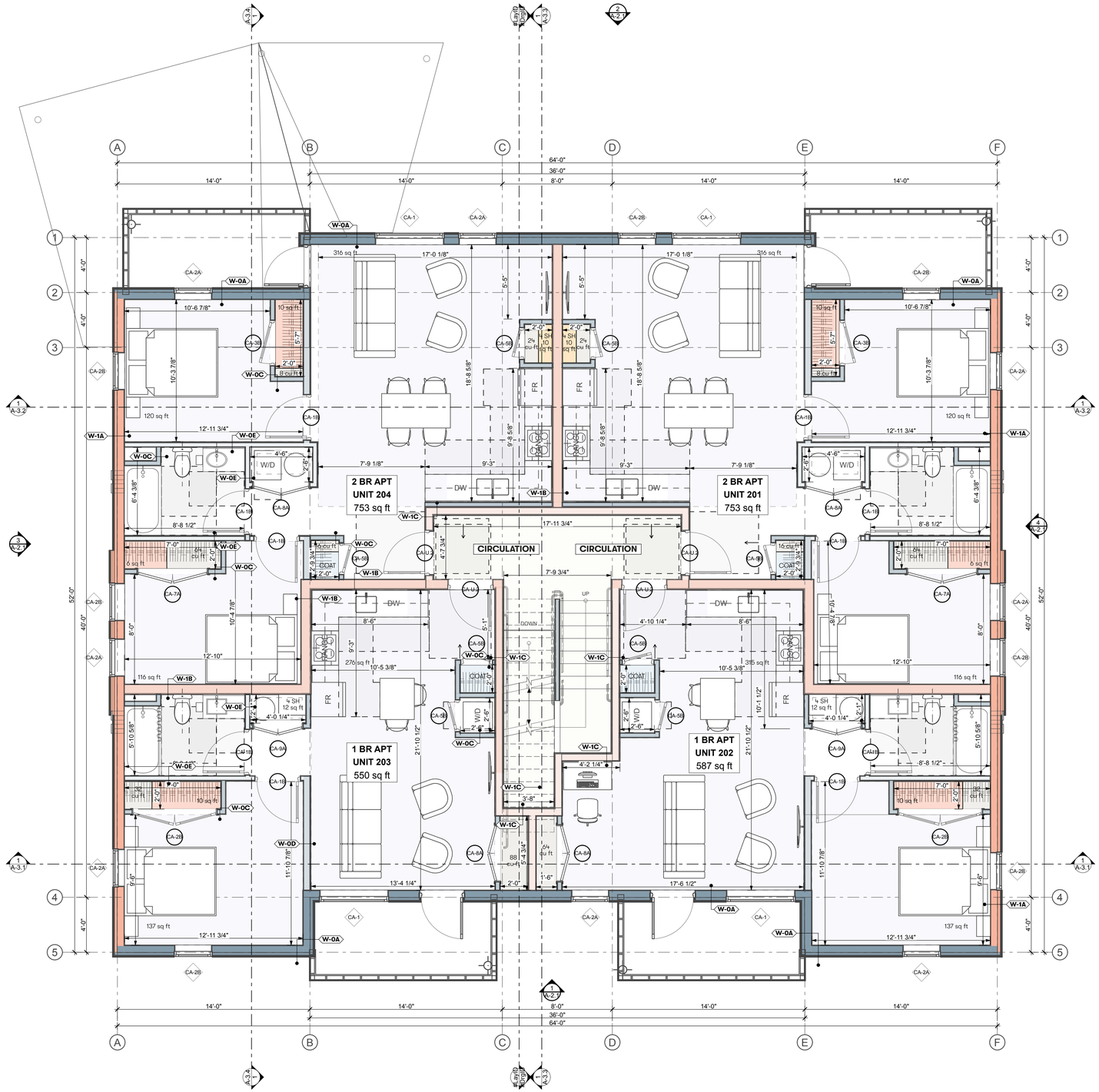
NOT FOR CONSTRUCTION

PROJECT	MCP
DATE	12/20/22
REVISED 1	
REVISED 2	
DRAWN BY	AW, SS, CB, SN, MB
PHASE	Design Development

ENLARGED GROUND FLOOR PLAN: COMMUNITY FLATS, 10-UNIT

A-1.2

BUILDINGS: N.1, N.2



1 2ND FLOOR
SCALE: 1/4" = 1'-0"

0 2' 4' 8'

Kaplan Thompson Architects
102 Exchange Street
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PROJECT
Lambert North

Portland, ME 04101

CIVIL
Acorn Engineering, Inc.
500 Washington Ave., Suite 202
Portland, ME 04103
p: 207 775-2655

LANDSCAPE ARCHITECTURE
Aceto Landscape Architects
565 Congress Street
Portland, ME 04101
p: 207 221-3390

STRUCTURAL
Trillium Engineering
189 Main Street, Suite 200
Yarmouth, ME 04096
p: 207 307-0872

ELECTRICAL
MEGA Engineering
p: 207 749-4514

MECHANICAL & PLUMBING
Fuss & O'Neill, Inc.
5 Fletcher Street, Suite 1
Kennebunk, ME 04043
p: 617 282-4675

ISSUE NO	DESCRIPTION	CH ID	CHANGE NAME	DATE
A	Schematic Design			6/6/22
D	Lambert South HUD Rev. 1			10/20/22
E	Lambert North			10/20/22
G	Pricing Set			11/18/22
H	MSHA 50%			12/15/22

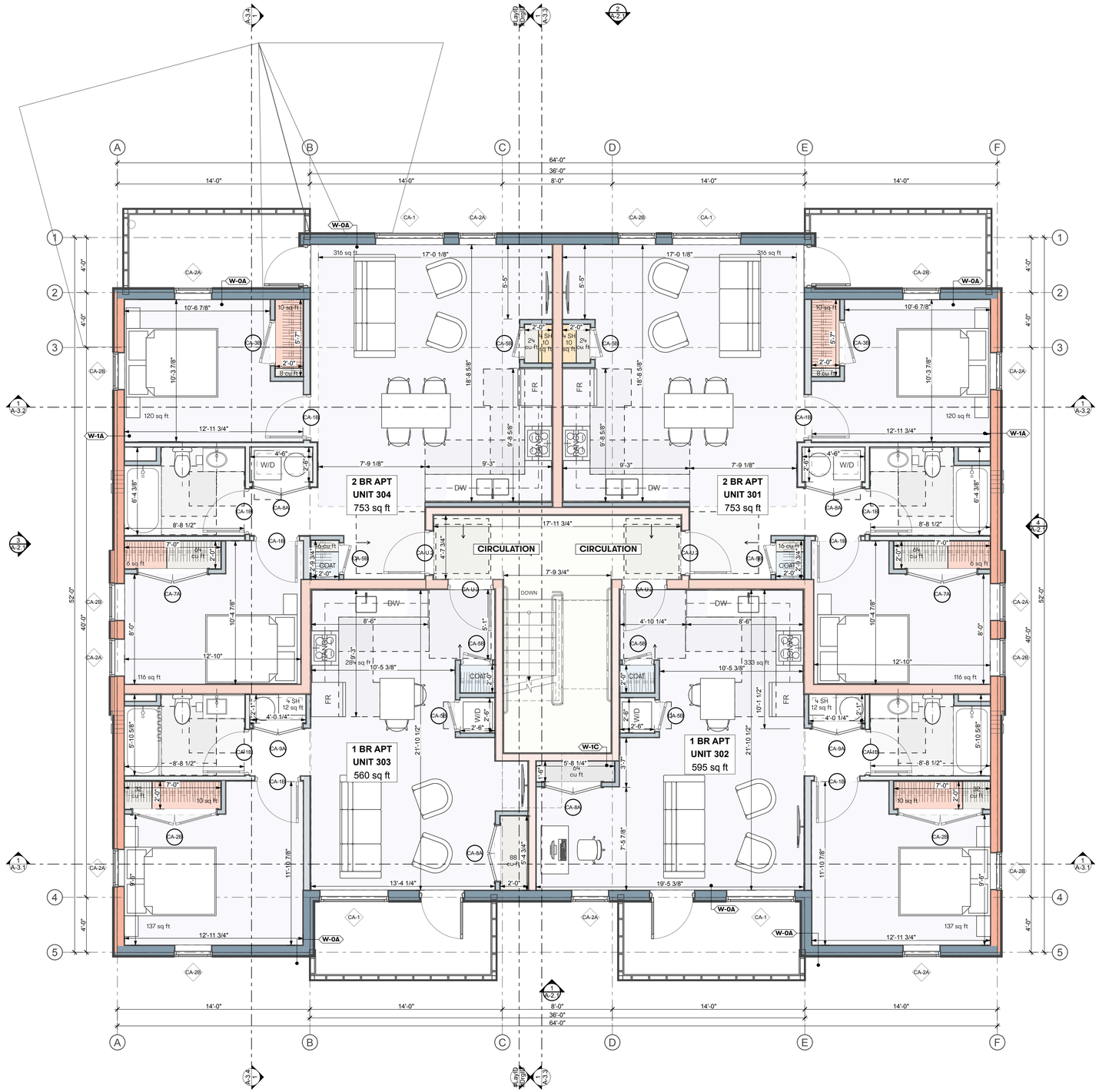
NOT FOR CONSTRUCTION

PROJECT	MCP
DATE	12/20/22
REVISED 1	
REVISED 2	
DRAWN BY	AW, SS, CB, SN, MB
PHASE	Design Development

ENLARGED 2ND FLOOR PLAN: COMMUNITY FLATS, 10-UNIT

A-1.4

BUILDINGS: N.1, N.2



1 3RD FLOOR
SCALE: 1/4" = 1'-0"

0 2' 4' 8'

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ISSUE NO	DESCRIPTION	CH ID	CHANGE NAME	DATE
B	Planning Board Workshop #2			9/16/22
D	Lambert South HUD Rev. 1			10/20/22
E	Lambert North			10/20/22
G	Pricing Set			11/18/22
H	MSHA 50%			12/15/22

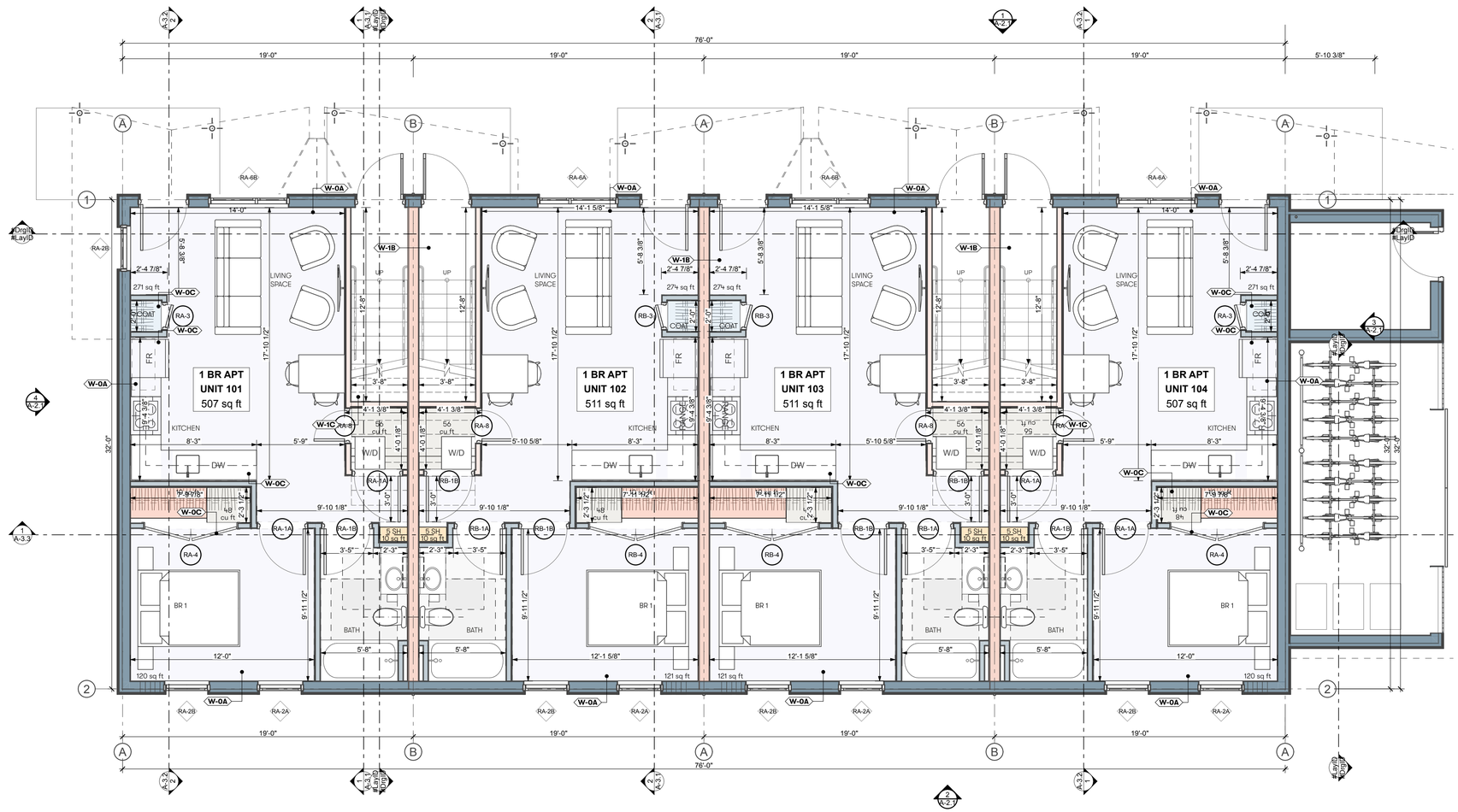
NOT FOR CONSTRUCTION

PROJECT	MCP
DATE	12/20/22
REVISED 1	
REVISED 2	
DRAWN BY	AW, SS, CB, SN, MB
PHASE	Design Development

ENLARGED 3RD FLOOR PLAN: COMMUNITY FLATS, 10-UNIT

A-1.5

BUILDINGS: N.7



1 GROUND FLOOR

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

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ISSUE NO	DESCRIPTION	CH ID	CHANGE NAME	DATE
C	Lambert South HUD			10/5/22
D	Lambert South HUD Rev. 1			10/20/22
E	Lambert North			11/18/22
G	Pricing Set			12/15/22
H	MSHA 50%			

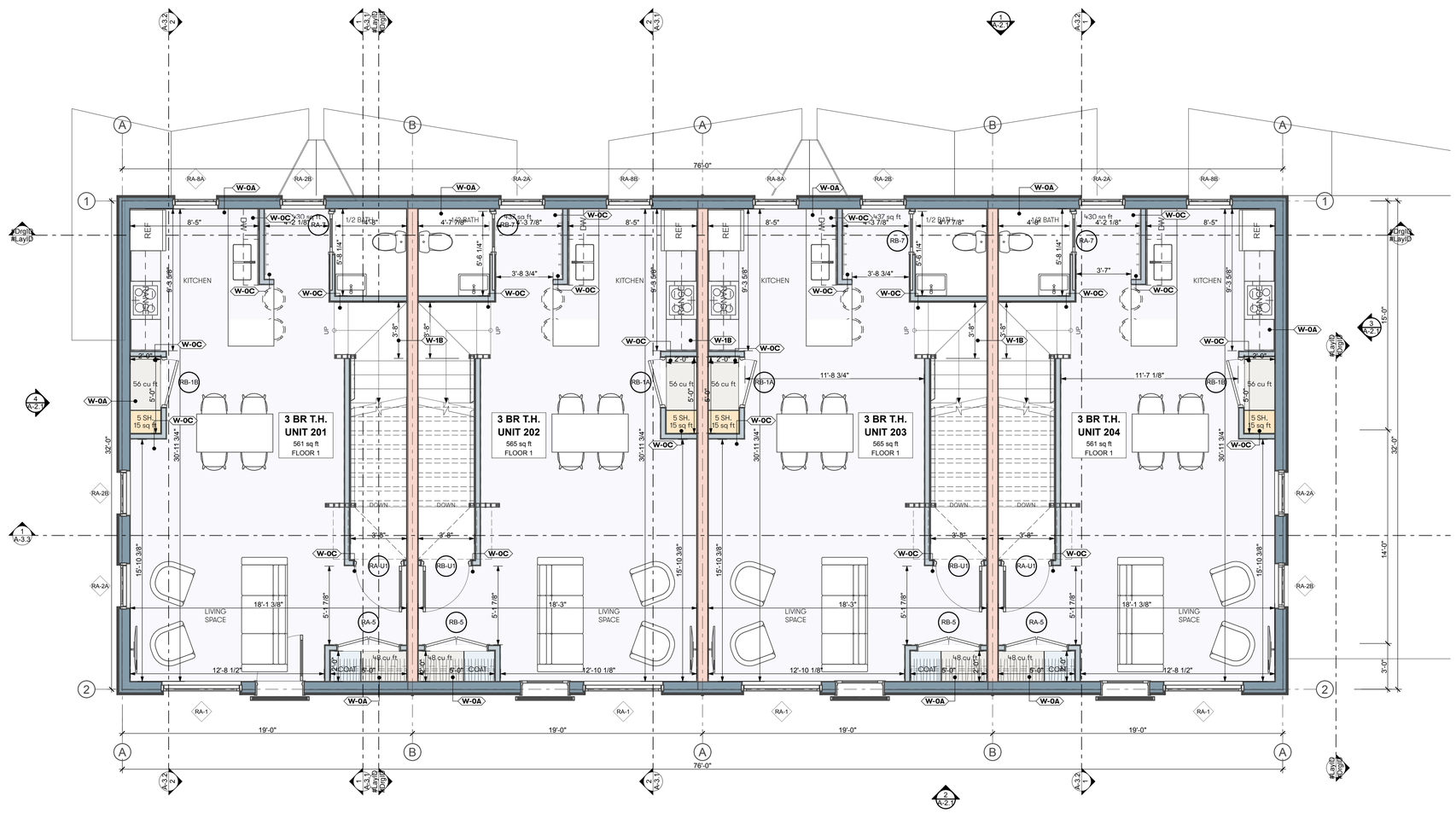
NOT FOR CONSTRUCTION

PROJECT	MCP
DATE	12/20/22
REVISED 1	
REVISED 2	
DRAWN BY	AW, SS, CB, SN, MB
PHASE	Design Development

ENLARGED GROUND FLOOR PLAN: ROWHOMES, 8-UNIT

A-1.2

BUILDINGS: N.7



1 2ND FLOOR

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

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ISSUE NO.	DESCRIPTION	CHKD	CHANGE NAME	DATE
C	Lambert South HUD			10/5/22
D	Lambert South HUD Rev. 1			10/20/22
E	Lambert North			10/20/22
G	Pricing Set			11/15/22
H	MEMA 50%			12/15/22

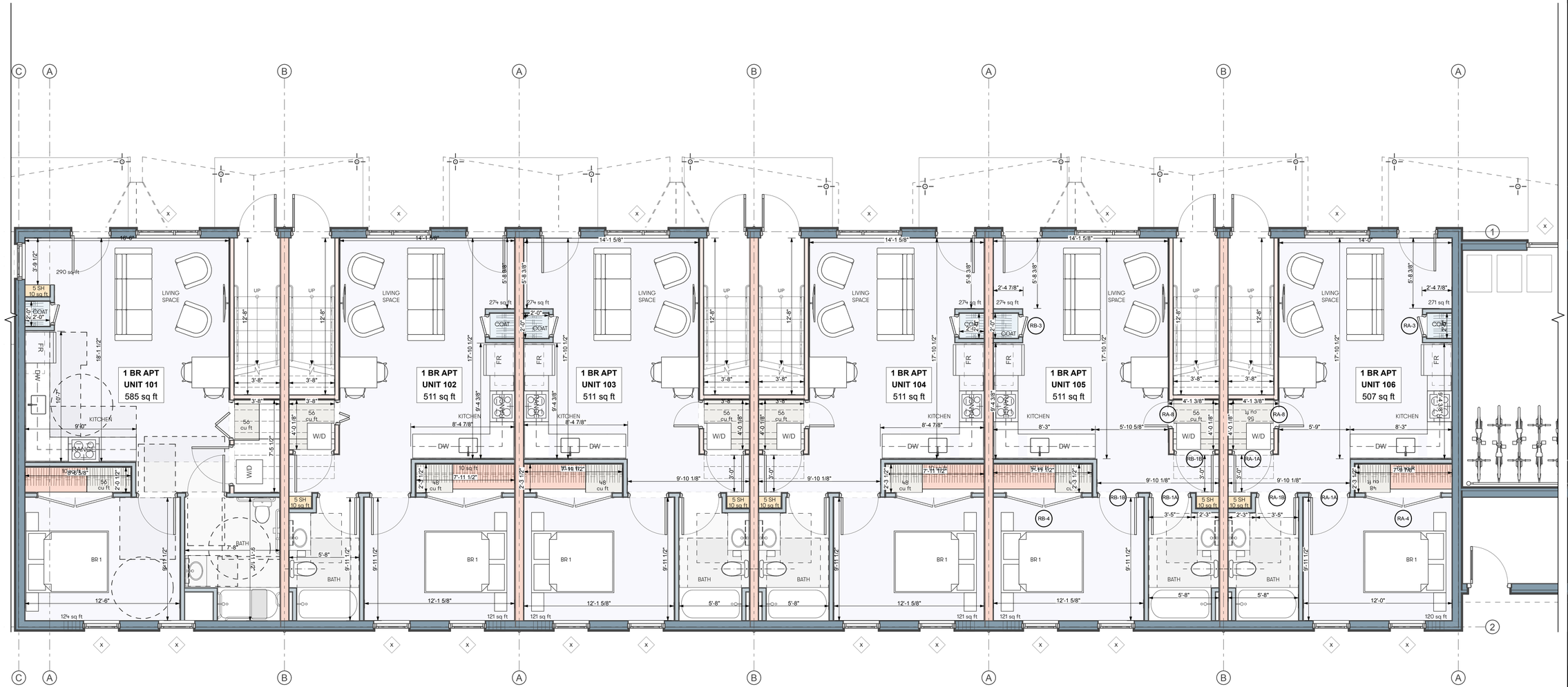
NOT FOR CONSTRUCTION

PROJECT	MCP
DATE	12/20/22
REVISED 1	
REVISED 2	
DRAWN BY	AW, SS, CB, SN, MB
PHASE	Design Development

ENLARGED 2ND FLOOR PLAN: ROWHOMES, 8-UNIT

A-1.3

BUILDINGS: N.6



1 GROUND FLOOR

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

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MECHANICAL & PLUMBING
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ISSUE NO	DESCRIPTION	CH ID	CHANGE NAME	DATE
B	Planning Board Workshop #2			9/16/22
D	Lambert South HUD Rev. 1			10/20/22
E	Lambert North			10/20/22
G	Pricing Set			11/18/22
H	MSHA 50%			12/15/22

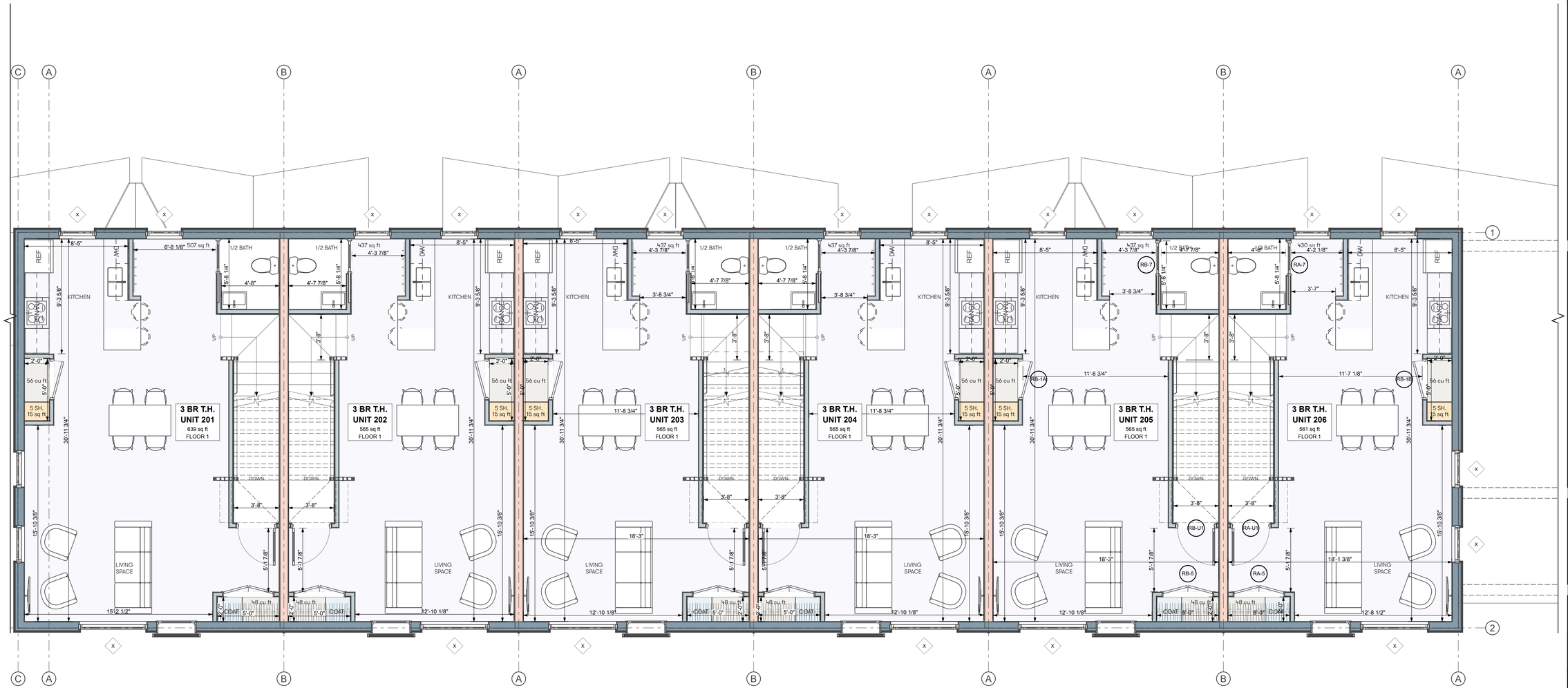
NOT FOR CONSTRUCTION

PROJECT	MCP
DATE	12/20/22
REVISED 1	
REVISED 2	
DRAWN BY	AW, SS, CB, SN, MB
PHASE	Design Development

ENLARGED GROUND FLOOR PLAN: ROWHOMES, 12-UNIT

A-1.2

BUILDINGS: N.6



1 2ND FLOOR

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

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ELECTRICAL
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ISSUE NO.	DESCRIPTION	CH ID	CHANGE NAME	DATE
B	Planning Board Workshop #2			9/16/22
D	Lambert South HuD Rev. 1			10/20/22
E	Lambert North			10/20/22
G	Pricing Set			11/18/22
H	MSHA 90%			12/15/22

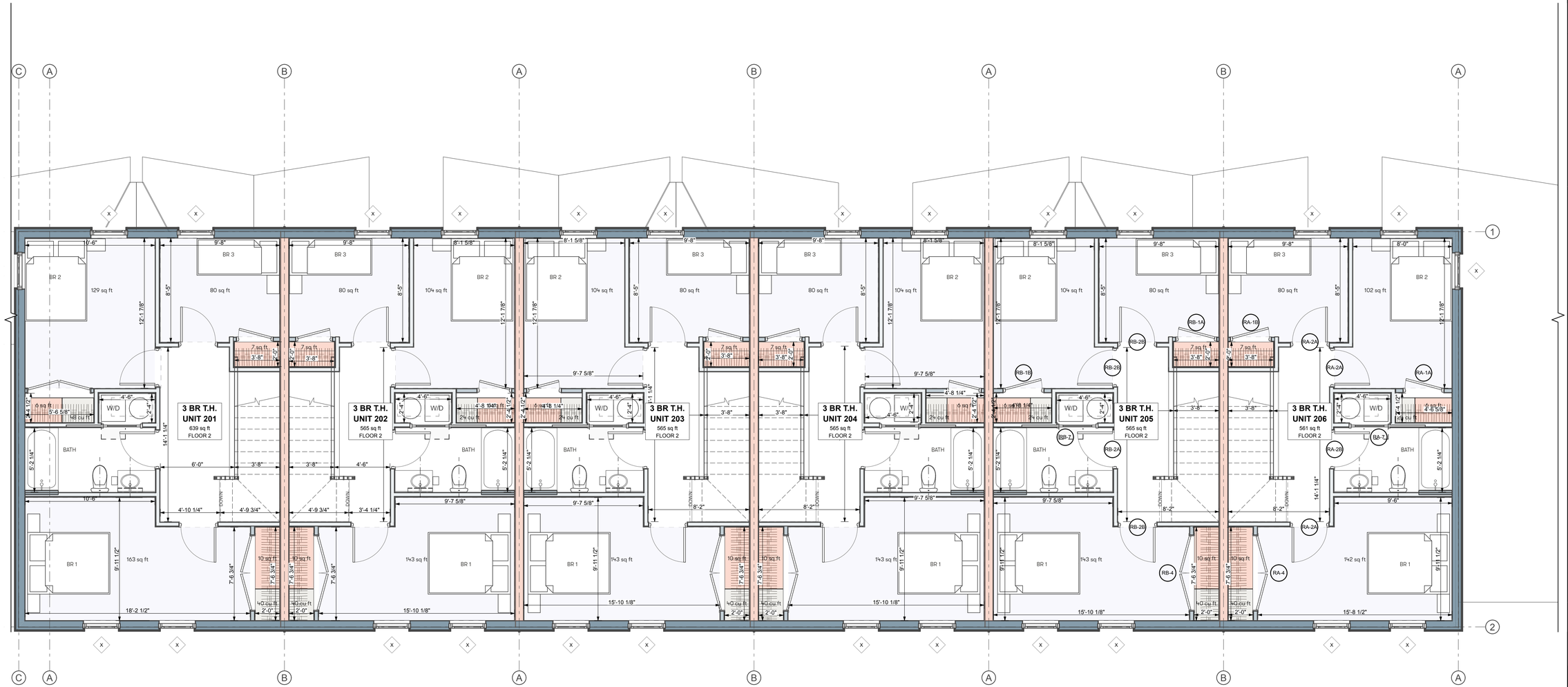
NOT FOR CONSTRUCTION

PROJECT	MCP
DATE	12/20/22
REVISED 1	
REVISED 2	
DRAWN BY	AW, SS, CB, SN, MB
PHASE	Design Development

ENLARGED 2ND FLOOR PLAN: ROWHOMES, 12-UNIT

A-1.3

BUILDINGS: N.6



1 3RD FLOOR
SCALE: 1/4" = 1'-0"

0 2' 4' 8'

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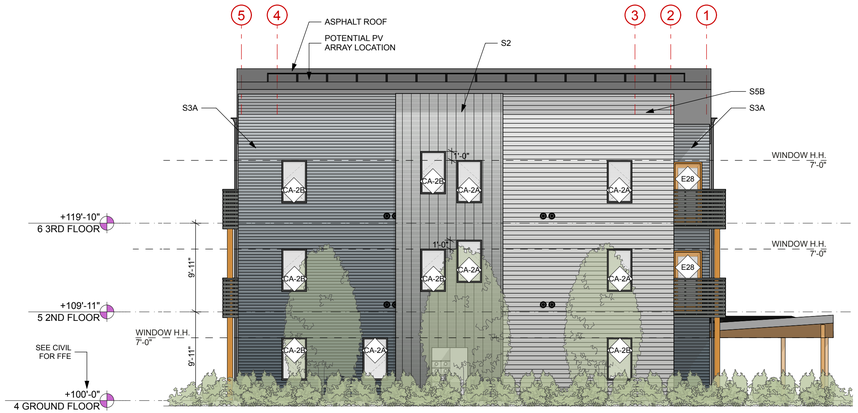
ISSUE NO	DESCRIPTION	CH ID	CHANGE NAME	DATE
B	Planning Board Workshop #2			8/16/22
D	Lambert South HUD Rev. 1			10/20/22
E	Lambert North			10/20/22
G	Pricing Set			11/18/22
H	MEMA 60%			12/16/22

NOT FOR CONSTRUCTION

PROJECT	MCP
DATE	12/20/22
REVISED 1	
REVISED 2	
DRAWN BY	AW, SS, CB, SN, MB
PHASE	Design Development

ENLARGED 3RD FLOOR PLAN: ROWHOMES, 12-UNIT
A-1.4

SIDING KEY			
S1	CEDAR SHIPLAP SIDING	**S4B**	TRADITIONAL LAP SIDING 5" REVEAL (COLOR B)
S2	BOARD AND BATTEN SIDING	**S4C**	TRADITIONAL LAP SIDING 8" REVEAL (COLOR B)
S3A	TRADITIONAL LAP SIDING 3" REVEAL (COLOR A)	**S5A**	TRADITIONAL LAP SIDING 3" REVEAL (COLOR C)
S3B	TRADITIONAL LAP SIDING 5" REVEAL (COLOR A)	**S5B**	TRADITIONAL LAP SIDING 5" REVEAL (COLOR C)
S3C	TRADITIONAL LAP SIDING 8" REVEAL (COLOR A)	**S5C**	TRADITIONAL LAP SIDING 8" REVEAL (COLOR C)
S4A	TRADITIONAL LAP SIDING 3" REVEAL (COLOR B)		



4 COMMUNITY FLATS, SIDE ELEVATION

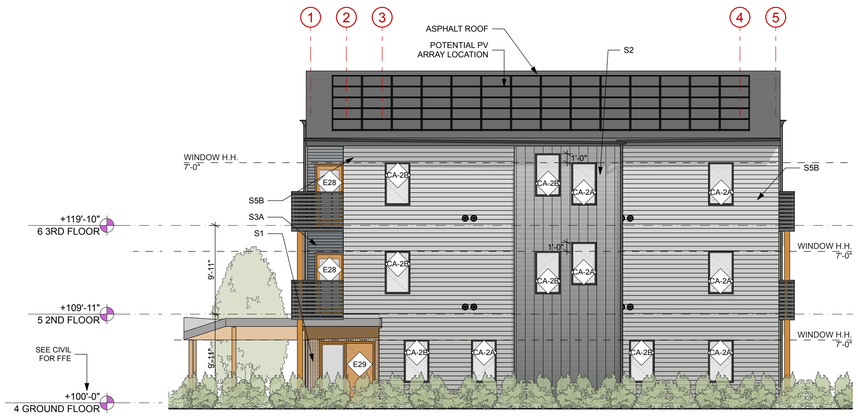
SCALE: 1/8" = 1'-0"

0 4' 8' 16'

2 COMMUNITY FLATS, ENTRY ELEVATION

SCALE: 1/8" = 1'-0"

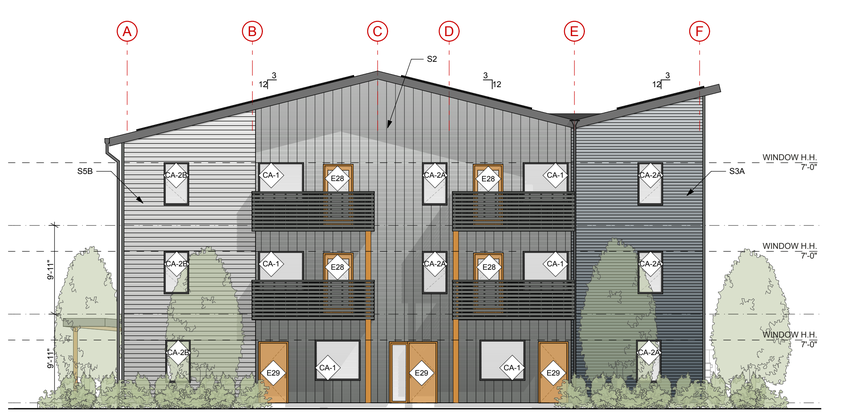
0 4' 8' 16'



3 COMMUNITY FLATS, SIDE ELEVATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'



1 COMMUNITY FLATS, PATIO ELEVATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

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PROJECT

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Kennebunk, ME 04043
p: 617 282-4675

ISSUE NO.	DESCRIPTION	CHANGE NAME	CH ID	DATE
A	Schematic Design			6/6/22
D	Lambert South HUD Rev. 1			10/20/22
E	Lambert North			10/20/22
G	Pricing Set			11/18/22
H	MEHA 90%			12/16/22

NOT FOR CONSTRUCTION

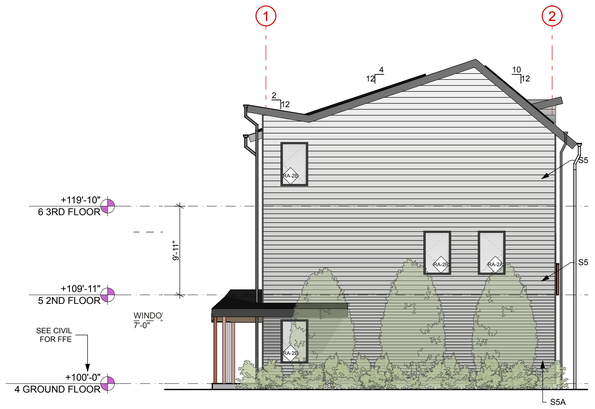
PROJECT	MCP
DATE	12/20/22
REVISED 1	
REVISED 2	
DRAWN BY	AW, SS, CB, SN, MB
PHASE	Design Development

ELEVATIONS: COMMUNITY FLATS, 10-UNIT

A-2.1

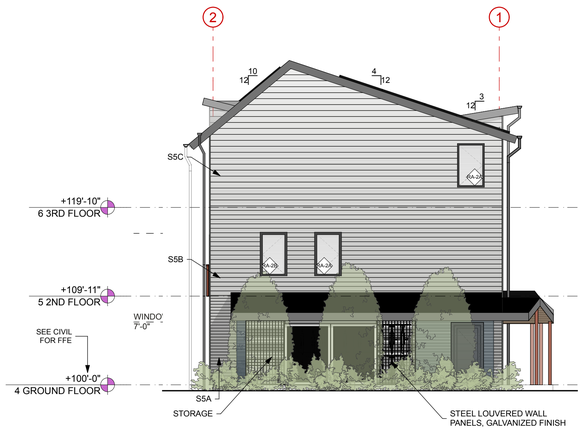
SIDING KEY			
S1	CEDAR SHIPLAP SIDING	**S4B**	TRADITIONAL LAP SIDING 5" REVEAL (COLOR B)
S2	BOARD AND BATTEN SIDING	**S4C**	TRADITIONAL LAP SIDING 8" REVEAL (COLOR B)
S3A	TRADITIONAL LAP SIDING 3" REVEAL (COLOR A)	**S5A**	TRADITIONAL LAP SIDING 3" REVEAL (COLOR C)
S3B	TRADITIONAL LAP SIDING 5" REVEAL (COLOR A)	**S5B**	TRADITIONAL LAP SIDING 5" REVEAL (COLOR C)
S3C	TRADITIONAL LAP SIDING 8" REVEAL (COLOR A)	**S5C**	TRADITIONAL LAP SIDING 8" REVEAL (COLOR C)
S4A	TRADITIONAL LAP SIDING 3" REVEAL (COLOR B)		

BUILDINGS: N.7



4 ROWHOME, SIDE ELEVATION
SCALE: 1/8" = 1'-0"

2 ROWHOME, BACK ELEVATION
SCALE: 1/8" = 1'-0"



3 ROWHOME, SIDE ELEVATION
SCALE: 1/8" = 1'-0"

1 ROWHOME, ENTRY ELEVATION
SCALE: 1/8" = 1'-0"

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ISSUE NO.	DESCRIPTION	CH ID	CHANGE NAME	DATE
B	Planning Board Workshop #2			9/15/22
D	Lambert South HUD Rev. 1			10/20/22
E	Lambert North			10/20/22
G	Pricing Set			11/18/22
H	MEHA 90%			12/15/22

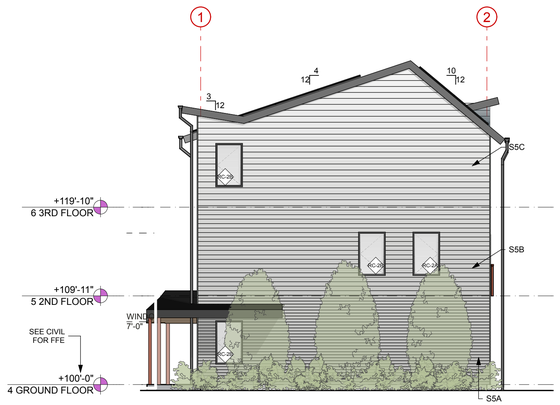
NOT FOR CONSTRUCTION

PROJECT	MCP
DATE	12/20/22
REVISED 1	
REVISED 2	
DRAWN BY	AW, SS, CB, SN, MB
PHASE	Design Development

ELEVATIONS:
ROWHOMES, 8-UNIT
A-2.1

BUILDINGS: N.3, N.5

SIDING KEY			
S1	CEDAR SHIPLAP SIDING	**S4B**	TRADITIONAL LAP SIDING 5" REVEAL (COLOR B)
S2	BOARD AND BATTEN SIDING	**S4C**	TRADITIONAL LAP SIDING 8" REVEAL (COLOR B)
S3A	TRADITIONAL LAP SIDING 3" REVEAL (COLOR A)	**S5A**	TRADITIONAL LAP SIDING 3" REVEAL (COLOR C)
S3B	TRADITIONAL LAP SIDING 5" REVEAL (COLOR A)	**S5B**	TRADITIONAL LAP SIDING 5" REVEAL (COLOR C)
S3C	TRADITIONAL LAP SIDING 8" REVEAL (COLOR A)	**S5C**	TRADITIONAL LAP SIDING 8" REVEAL (COLOR C)
S4A	TRADITIONAL LAP SIDING 3" REVEAL (COLOR B)		



4 ROWHOME, SIDE ELEVATION

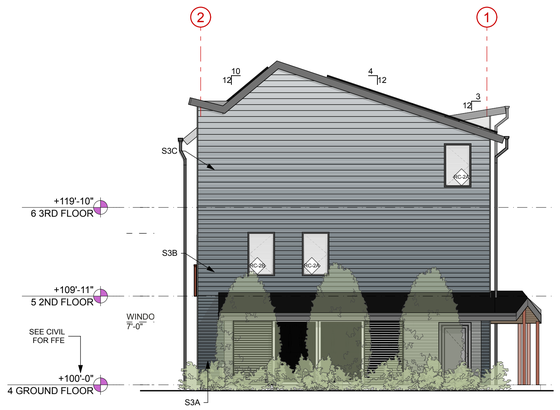
SCALE: 1/8" = 1'-0"

0 4' 8' 16'

2 ROWHOME, BACK ELEVATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'



3 ROWHOME, SIDE ELEVATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

1 ROWHOME, ENTRY ELEVATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

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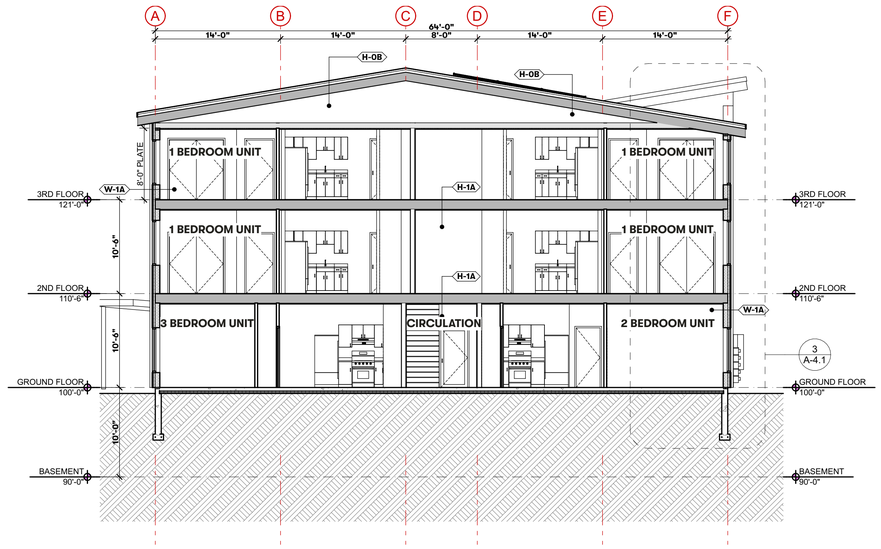
E	Lambert North			10/20/22
G	Pricing Set			11/18/22
H	MEHA 50%			12/15/22

NOT FOR CONSTRUCTION

PROJECT	MCP
DATE	12/20/22
REVISED 1	
REVISED 2	
DRAWN BY	AW, SS, CB, SN, MB
PHASE	Design Development

ELEVATIONS: ROWHOMES, 16-UNIT

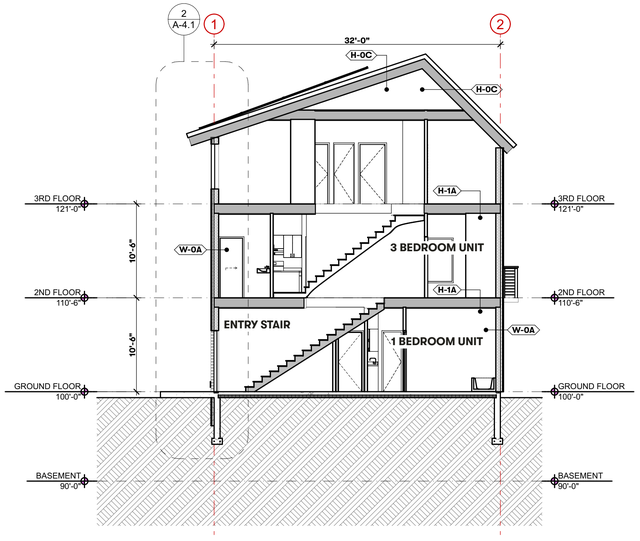
A-2.1



1 SECTION:COMMUNITY FLATS

SCALE: 1/8" = 1'-0"

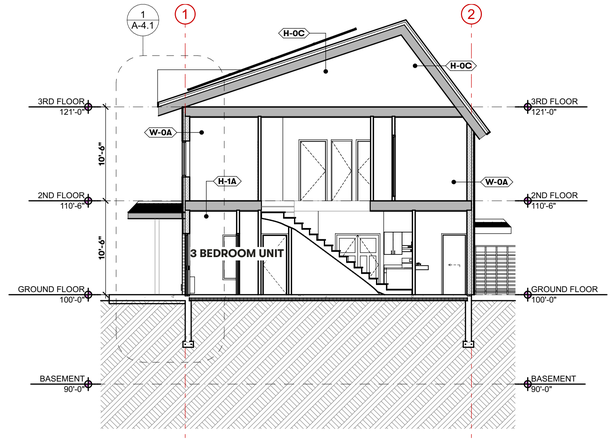
0 4' 8' 16'



3 SECTION: ROWHOME

SCALE: 1/8" = 1'-0"

0 4' 8' 16'



2 SECTION:TOWNHOME

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

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PROJECT

Base Building Design

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LANDSCAPE ARCHITECTURE
Aceto Landscape Architects
565 Congress Street
Portland, ME 04101
p: 207 221-3390

STRUCTURAL
Trillium Engineering
189 Main Street, Suite 200
Yarmouth, ME 04096
p: 207 307-0872

ELECTRICAL
MEGA Engineering
p: 207 749-4514

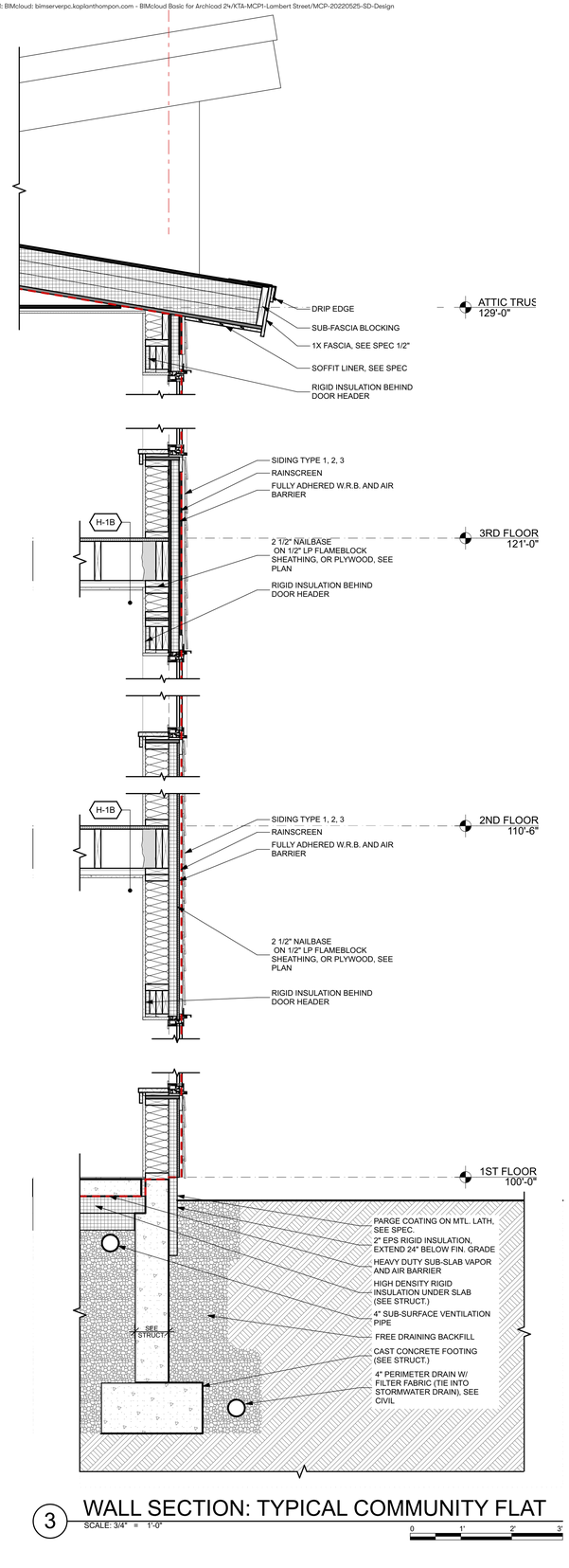
ISSUE NO	DESCRIPTION	CH ID	CHANGE NAME	DATE
A	Schematic Design			6/6/22

NOT FOR CONSTRUCTION

PROJECT	MCP
DATE	6/13/22
REVISED 1	
REVISED 2	
DRAWN BY	AW, SS, CB
PHASE	Schematic Design

BUILDING SECTIONS

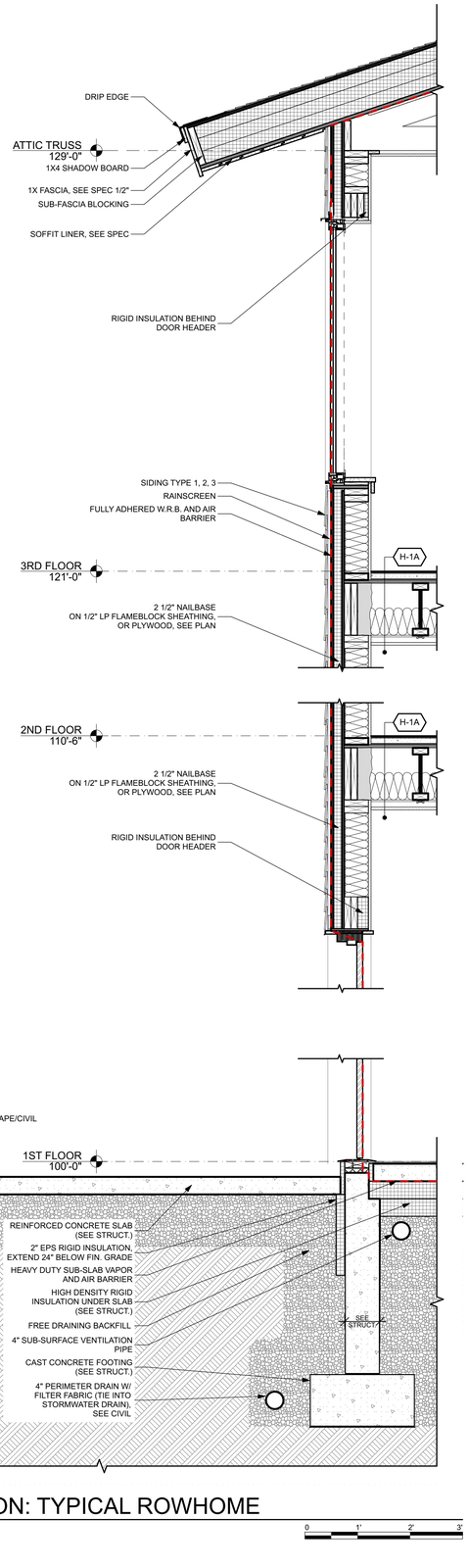
A-3.1



3 WALL SECTION: TYPICAL COMMUNITY FLAT

SCALE: 3/4" = 1'-0"

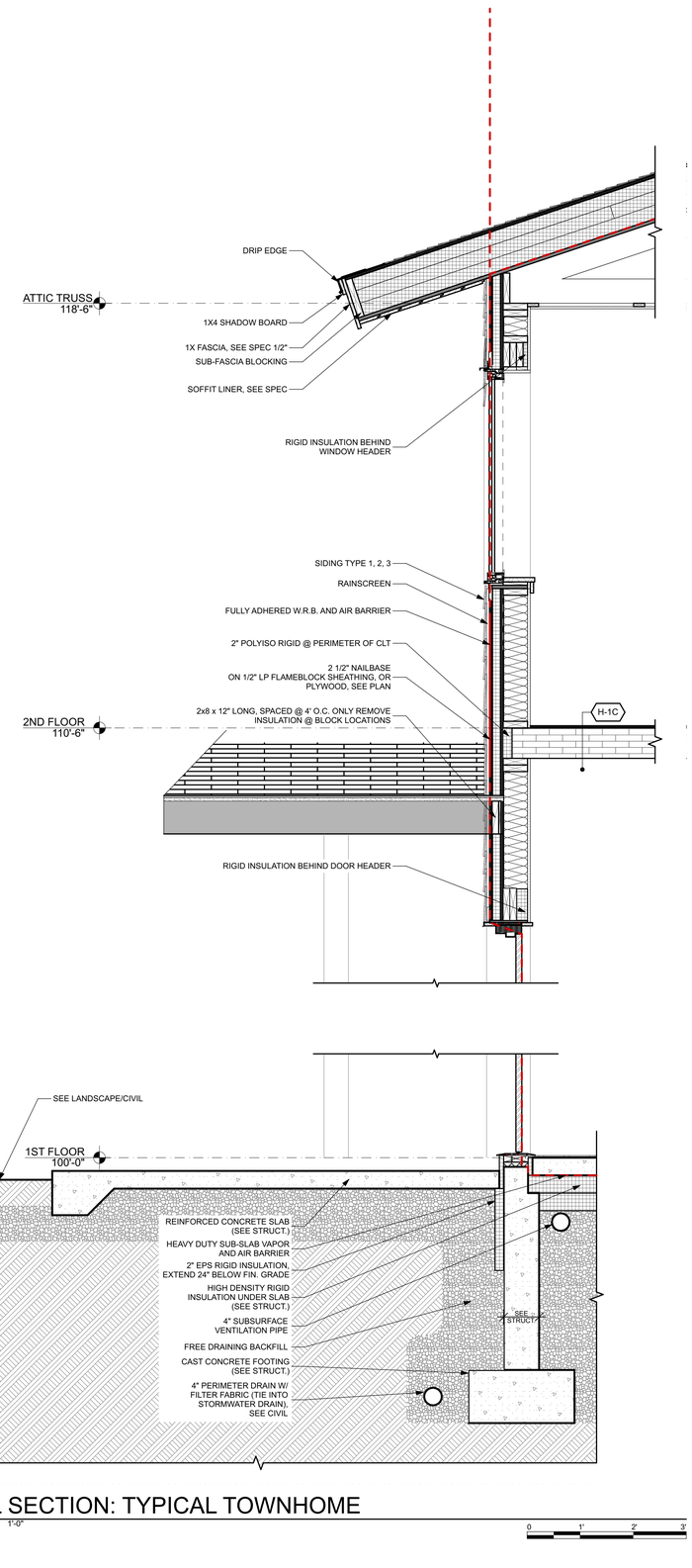
0 1' 2' 3'



2 WALL SECTION: TYPICAL ROWHOME

SCALE: 3/4" = 1'-0"

0 1' 2' 3'



1 WALL SECTION: TYPICAL TOWNHOME

SCALE: 3/4" = 1'-0"

0 1' 2' 3'

Kaplan Thompson Architects
102 Exchange Street
Portland, ME 04101
(207) 842-2888
kaplanthompson.com

PROJECT

Base Building Design

Portland, ME 04101

CIVIL
Acorn Engineering, Inc.
500 Washington Ave., Suite 202
Portland, ME 04103
p: 207 775-2655

LANDSCAPE ARCHITECTURE
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ELECTRICAL
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ISSUE NO.	DESCRIPTION	CH'D	CHANGE NAME	DATE
A	Schematic Design			6/6/22

NOT FOR CONSTRUCTION

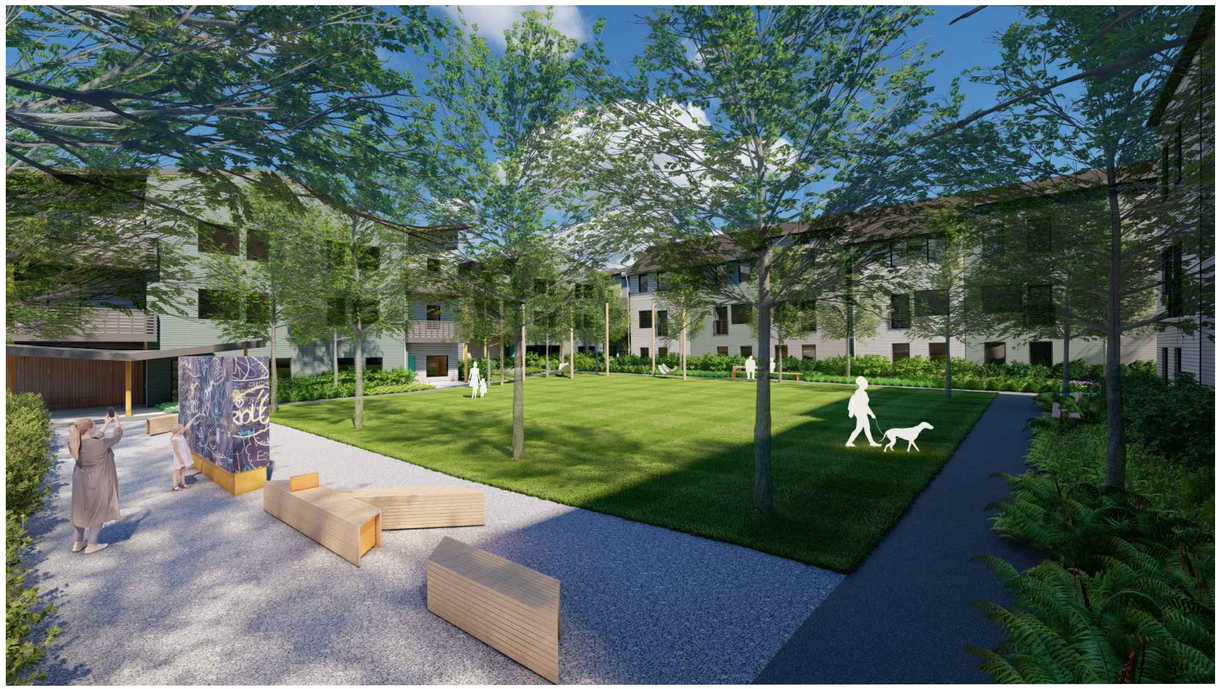
PROJECT	MCP
DATE	6/13/22
REVISED 1	
REVISED 2	
DRAWN BY	AW, SS, CB
PHASE	Schematic Design

WALL SECTIONS
A-4.1

LAMBERT WOODS
MAJOR SITE PLAN

CONCEPTUAL RENDERING OF COMMON SPACE

CONCEPTUAL RENDERING OF COMMON SPACE



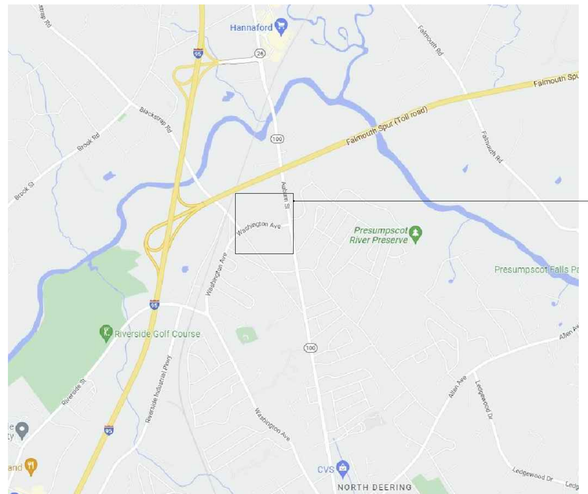
CONCEPTUAL RENDERING OF COMMON SPACE

01.31.2023 MAJOR SITE PLAN SUBMITTAL
09.20.2022 MAJOR SITE PLAN SUBMITTAL
06.17.2022 MAJOR SITE PLAN SUBMITTAL

SHEET INDEX
LANDSCAPE DRAWINGS

▪	▪	▪	L0-00	COVER SHEET
▪	▪	▪	L0-01	NOTES
▪	▪	▪	L1-00	OVERALL MATERIALS PLAN
▪	▪	▪	L2-00	OVERALL PLANTING PLAN
▪	▪	▪	L2-01	ENLARGED NORTH PLANTING PLAN
▪	▪	▪	L2-02	ENLARGED SOUTH PLANTING PLAN
▪	▪	▪	L2-03	ENLARGED ROW PLANTING PLANS
▪	▪	▪	L3-00	DETAILS
▪	▪	▪	L3-01	DETAILS
▪			L3-02	DETAILS
▪			L3-03	DETAILS

VICINITY MAP:



LANDSCAPE ARCHITECT

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ca@acetola.com

ARCHITECT

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CIVIL ENGINEER

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SAM LEBEL
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slebel@acorn-engineering.com

ACETO LANDSCAPE ARCHITECTS
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SEAL

PROJECT TITLE

LAMBERT WOODS
PORTLAND, ME

PREPARED FOR

MAINE COOPERATIVE DEVELOPMENT PARTNERS

REVISIONS | DATE

ISSUE DATE

MAJOR SITE PLAN
JANUARY 31, 2023

SHEET TITLE

COVER

SHEET INFORMATION

L 0-00

NOT FOR CONSTRUCTION

LAYOUT AND MATERIALS NOTES

1. REVIEW CONTRACT DOCUMENTS AND FIELD CONDITIONS BEFORE COMMENCING WORK. REPORT ERRORS, OMISSIONS, OR INCONSISTENCIES PROMPTLY TO THE LANDSCAPE ARCHITECT.
2. CONTACT UTILITY COMPANIES AS REQUIRED BY STATE AND LOCAL REGULATIONS BEFORE DIGGING. LOCATE AND MARK EXISTING UTILITIES.
3. THE CONTRACTOR SHALL OBTAIN ALL PERMITS WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK.
4. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
5. DIMENSIONS REFERRED TO AS "EQUAL" INDICATE SPACING WHICH IS EQUIDISTANT MEASURED TO THE CENTERLINES.
6. MEASUREMENTS ARE TO THE FINISHED FACE OF BUILDINGS, WALLS, OR OTHER FIXED SITE IMPROVEMENTS. DIMENSIONS TO CENTERLINES ARE IDENTIFIED.
7. INSTALL INTERSECTING ELEMENTS AT 90-DEGREE ANGLES, UNLESS OTHERWISE NOTED.
8. PROVIDE EXPANSION JOINTS WHERE FLATWORK MEETS VERTICAL STRUCTURES, SUCH AS WALLS, CURBS, STEPS, AND OTHER HARDSCAPE.
9. CONTROL JOINTS SHOULD BE SPACED NO GREATER THAN TEN (10) LINEAR FEET MAXIMUM, UNLESS OTHERWISE SPECIFIED.
10. CONTROL JOINT RECOMMENDATIONS TO MINIMIZE CRACKING SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL.
11. ALL TOP OF WALLS AND FENCES ARE TO BE HELD LEVEL, UNLESS OTHERWISE SPECIFIED.
12. SAMPLES OF SPECIFIED MATERIALS SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO ORDERING.
13. THE CONTRACTOR SHALL PROVIDE A FULL-SCALE MOCKUP AND RECEIVE APPROVAL FROM THE LANDSCAPE ARCHITECT BEFORE BEGINNING CONSTRUCTION OF PAVEMENT.
14. ALL SITE FURNITURE LOCATIONS ARE TO BE STAKED BY CONTRACTOR AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

PLANTING NOTES

1. CONTACT UTILITY COMPANIES AS REQUIRED BY STATE AND LOCAL REGULATIONS BEFORE DIGGING. LOCATE AND MARK EXISTING UTILITIES.
2. REFER TO CIVIL ENGINEER'S GRADING PLANS FOR FINAL GRADING AND UTILITY LOCATIONS.
3. THE CONTRACTOR SHALL OBTAIN ALL PERMITS WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK.
4. LANDSCAPE ARCHITECT TO REVIEW PLANT MATERIALS AT SOURCE OR BY PHOTOGRAPHS PRIOR TO DIGGING OR SHIPPING OF PLANT MATERIAL.
5. CONTRACTOR IS TO VERIFY ALL QUANTITIES. IF QUANTITIES ON PLANT LIST DIFFER FROM GRAPHIC INDICATIONS, GRAPHICS SHALL PREVAIL.
6. EXACT LOCATIONS OF TREES AND B&B SHRUBS ARE TO BE STAKED BY THE CONTRACTOR FOR LANDSCAPE ARCHITECT REVIEW AND APPROVAL PRIOR TO INSTALLATION. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO ADJUST PLANTS TO EXACT LOCATION IN THE FIELD.
7. PLANT MATERIAL NOT MEETING THE STANDARDS CONTAINED WITHIN CONTRACT DOCUMENTS SHALL BE REPLACED AT NO COST TO THE OWNER.
8. PROVIDE MATCHING SIZES AND FORMS FOR EACH PLANT OF THE SAME SPECIES DESIGNATED ON THE DRAWINGS UNLESS OTHERWISE INDICATED.
9. ALL PLANT MATERIAL IS TO BE INSTALLED PLUMB/PER THE SPECIFICATIONS CONTAINED WITHIN THE CONTRACT DOCUMENTS.
10. PRUNE EXISTING AND/OR NEWLY PLANTED TREES ONLY AS DIRECTED BY THE LANDSCAPE ARCHITECT.
11. PLANT MATERIAL SHALL HAVE ALL WIRE, TWINE, BASKETS, BURLAP, AND ALL OTHER NON-BIODEGRADABLE CONTAINMENT MATERIAL REMOVED FROM THE TRUNK AND/OR ROOT BALL OF THE PLANT PRIOR TO PLANTING. ROOT BALLS SHALL BE FREE OF WEEDS.
12. FINISH GRADE OF PLANTING BEDS SHALL BE ONE (1) INCH BELOW ADJACENT PAVER OR HEADER, UNLESS OTHERWISE SPECIFIED.
13. MULCH OR PLANTING BED DRESSING SHALL BE PLACED IN ALL PLANTING AREAS AS SPECIFIED. MULCH OR PLANTING BED DRESSING SHALL NOT BE PLACED WITHIN SIX (6) INCHES OF TREE TRUNKS. MULCHING SHOULD BE REPEATED ANNUALLY DURING THE AUTUMN TO A 3" DEPTH, SOIL PEP MULCH SHALL BE USED UNLESS OTHERWISE SPECIFIED..
14. ALL PLANT MATERIAL SHOULD RECEIVE AN ORGANIC FERTILIZER IN LIMITED APPLICATION FOLLOWING INSTALLATION. TYPE AND APPLICATION RATE AND METHOD OF APPLICATION TO BE SPECIFIED BY THE CONTRACTOR & APPROVED BY THE LANDSCAPE ARCHITECT.
15. STOCKPILED PLANT MATERIAL TO BE PLACED IN THE SHADE AND PROPERLY HAND-WATERED UNTIL PLANTED.
16. PRESERVE & PROTECT ALL EXISTING VEGETATION INDICATED TO REMAIN AT ALL TIMES.
17. TO THE GREATEST EXTENT POSSIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION SHALL BE STOCKPILED FOR LATER USE IN AREAS REQUIRING REVEGETATION/PLANTING.
18. ALL MATERIALS USED SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARDS FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
19. ALL DISTURBED AREAS ARE TO BE REVEGETATED

SEEDING NOTES

1. REVEGETATED AREAS ARE TO BE HYRO-SEEDED, FOLLOWED BY THE APPLICATION OF STRAW MULCH.
2. APPLY STRAW MULCH AT A MINIMUM RATE OF 1.5 TONS PER ACRE OF AIR DRY MATERIAL. SPREAD STRAW MULCH UNIFORMLY OVER THE AREA WITH MECHANICAL MULCH SPREADER/CRIMPER. DO NOT MULCH WHEN WIND VELOCITY EXCEEDS 10 MPH.
3. IMMEDIATELY UPON COMPLETION OF THE MULCHING AND BINDING OPERATION, THE SEEDED AREAS SHALL BE IRRIGATED, KEEPING THE TOP 2 INCHES OF SOIL EVENLY MOIST UNTIL SEED HAS UNIFORMLY GERMINATED AND GROWN TO A HEIGHT OF 2 INCHES.
4. WATERING APPLICATION SHALL BE DONE IN A MANNER WHICH WILL PROVIDE UNIFORM COVERAGE BUT WHICH WILL NOT CAUSE EROSION, MOVEMENT, OR DAMAGE TO THE FINISHED SURFACE.

GRADING AND DRAINAGE NOTES

1. MATERIALS/WASTE CREATED BY REMOVAL PROCEDURES SHALL BE LEGALLY DISPOSED OF AWAY FROM THE JOB SITE.
2. NOTIFY LOCAL UNDERGROUND SERVICE COMPANIES FOR UTILITY FINDS 48 HOURS PRIOR TO ANY EXCAVATION.
3. THE CONTRACTOR IS TO REVIEW ARCHITECTURAL DRAWINGS FOR THE VERIFICATION OF CONNECTIONS TO DRAINS OVER STRUCTURE.
4. THE CONTRACTOR IS TO REVIEW ARCHITECTURAL DRAWINGS FOR THE VERIFICATION OF WATERPROOFING OF SLAB PENETRATIONS.
5. THE CONTRACTOR IS TO REVIEW CIVIL ENGINEER'S DRAWINGS FOR THE VERIFICATION OF CONNECTIONS TO DRAINS.
6. GRADING AND EXCAVATION WORK SHALL BE COMPLETED DURING DRY AND NON-FREEZING CONDITIONS.
7. POSITIVE DRAINAGE SHALL BE PROVIDED AWAY FROM ALL STRUCTURES.
8. SOIL COMPACTION SHALL BE 95% PROCTOR DENSITY MINIMUM BENEATH PAVEMENTS, STEPS, WALLS AND LIGHT FOUNDATIONS, UNLESS OTHERWISE SPECIFIED.

ABBREVIATIONS TABLE

APPROX	APPROXIMATE
ARCH	ARCHITECT
AVG	AVERAGE
B+B	BALED AND BURLAPPED
BF	BOTTOM OF FOOTING
BLDG	BUILDING
BM	BENCHMARK
BOC	BACK OF CURB
BR	BOTTOM OF RAMP
BS	BOTTOM OF STEP
BW	BOTTOM OF WAL
CAL	CALIPER
CAP	CAPACITY
CF	CUBIC FEET
CHAM	CHAMFER
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLR	CLEARANCE
CM	CENTIMETER
CO	CLEAN OUT
COMP	COMPACTED
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CU	CUBIC
CY	CUBIC YARD
DEMO	DEMOLISH, DEMOLITION
DIA	DIAMETER
DIM	DIMENSION
DTL	DETAIL
DWG	DRAWING
E	EAST
EA	EACH
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ENG	ENGINEER
EQ	EQUAL
EQUIP	EQUIPMENT
EST	ESTIMATE
E.W.	EACH WAY
EXIST	EXISTING
EXP	EXPANSION, EXPOSED
FFE	FINISHED FLOOR ELEVATION
FG	FINISHED GRADE
FIN	FINISH
FL	FLOW LINE
FOW	FACE OF WAL
FT	FOOT (FEET)
FTG	FOOTING
GA	GAUGE
GAL	GALVANIZED
GEN	GENERAL
HORIZ	HORIZONTAL
HP	HIGH POINT
HT	HEIGHT
ID	INSIDE DIAMETER
INV	INVERT ELEVATION
IN	INCH(ES)
INCL	INCLUDE(D)
IRR	IRRIGATION
JT	JOINT
LIN	LINEAR
LF	LINEAR FEET
LP	LOW POINT
LT	LIGHT
MATL	MATERIAL
MAX	MAXIMUM
MEMB	MEMBRANE
MD	MAIN DISCONNECT SWITCH
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
N	NORTH
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPP	OPPOSITE
PAR	PARALLEL
PC	POINT OF CURVATURE
PE	POLYURETHANE
PERF	PERFORATED
PED	PEDESTRIAN
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PT	POINT, POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PVR	PAVER
QTY	QUANTITY
R	RADIUS
REF	REFERENCE
REINF	REINFORCE(D)
REQ'D	REQUIRED
REV	REVISION, REVISED
ROW	RIGHT OF WAY
RT	RIGHT
S	SOUTH
SS	SANITARY SEWER
SCH	SCHEDULE
SD	STORM DRAIN
SEC	SECTION
SF	SQUARE FOOT (FEET)
SHT	SHEET
SIM	SIMILAR
SNT	SEALANT
SPECS	SPECIFICATIONS
SQ	SQUARE
ST	STORM SEWER
SY	SQUARE YARD
STA	STATION
STD	STANDARD
STL	STEEL
STRL	STRUCTURAL
SYM	SYMMETRICAL
T&B	TOP AND BOTTOM
TBC	TOP OF BACK CURB
TC	TOP OF CURB
TF	TOP OF FOOTING
TRANS	ELECTRIC TRANSFORMER
TOC	TOP OF CONCRETE
TOPO	TOPOGRAPHY
TSL	TOP OF SLAB
TR	TOP OF RAMP
TS	TOP OF STEP
TW	TOP OF WAL
TYP	TYPICAL
VAR	VARIES
VERT	VERTICAL
VEH	VEHICLE
VOL	VOLUME
W/	WITH
W/O	WITHOUT
WT	WEIGHT
WWF	WELDED WIRE FABRIC
YD	YARD
@	AT

ACETO LANDSCAPE ARCHITECTS
207 221 3390 | ACETOLA.COM

SEAL

PROJECT TITLE

LAMBERT WOODS
PORTLAND, ME

PREPARED FOR

MAINE COOPERATIVE
DEVELOPMENT PARTNERS

REVISIONS — DATE

ISSUE DATE

MAJOR SITE PLAN
JANUARY 31, 2023

SHEET TITLE

NOTES

SHEET INFORMATION

L 0-01

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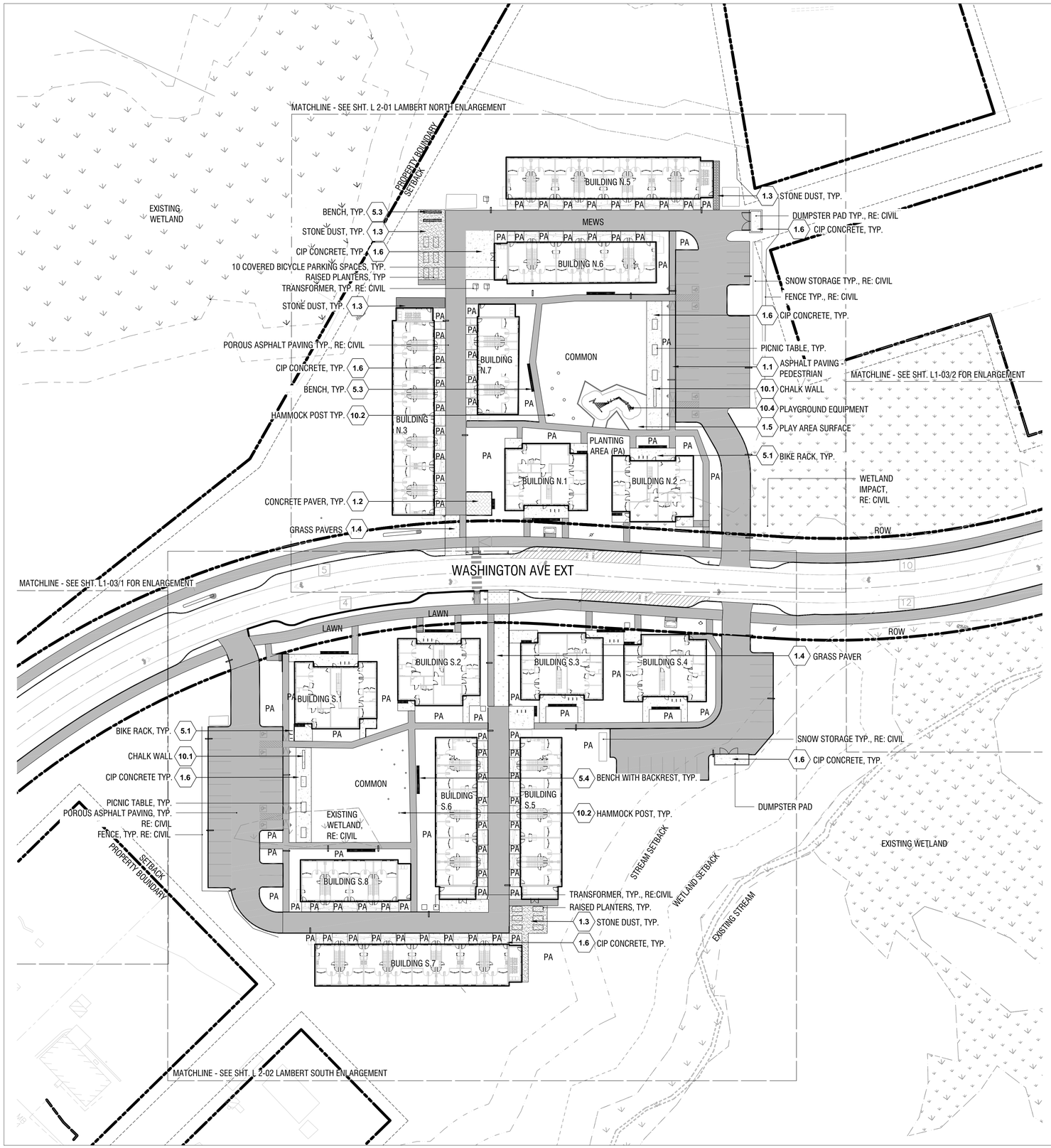

MATERIALS PALETTE

SYMBOL	TYPE	QTY
	CAST IN PLACE CONCRETE	APPROX. 13,321 SF
	CONCRETE PAVERS	APPROX. 361 SF
	GRASS PAVE	APPROX. 1,390 SF
	CRUSHED STONE	APPROX. 2,496 SF
	BITUMINOUS PAVING	APPROX. 40,914 SF
	CONCRETE CURB (FLUSH)	XX LF, RE: CIVIL
	BENCH SEATING	APPROX. XX LF
	BICYCLE RACK	
	NORTH COVERED BIKE PARKING	APPROX. 40 SPACES
	NORTH OUTDOOR BIKE PARKING	7 RACKS = 14 SPACES
	SOUTH COVERED BIKE PARKING	APPROX. 40 SPACES
	SOUTH OUTDOOR BIKE PARKING	22 RACKS = 44 SPACES
	TOTAL BIKE RACKS	APPROX. 138 SPACES

SITE DETAIL KEYNOTES:

			DETAIL / SHEET
1.0	PAVEMENTS, RAMPS, CURBS		
	1.1	ASPHALT PAVING - PEDESTRIAN	1/L3-00
	1.2	CONCRETE PAVER	2/L3-00
	1.3	STONEDUST PATH	3/L3-00
	1.4	GRASS PAVERS	8/L3-00
	1.5	PLAY AREA SURFACE	3/L3-03
	1.6	CIP CONCRETE PAVING	5/L3-00
2.0	JOINTING		
	X.X	NOT USED AT THIS TIME	X/XX-XX
3.0	STEPS		
	X.X	NOT USED AT THIS TIME	X/XX-XX
4.0	SITE WALLS/ EMBANKMENTS		
	X.X	NOT USED AT THIS TIME	X/XX-XX
5.0	SITE FURNITURE		
	5.1	BIKE RACK	6/L3-00
	5.2	BENCH	1/L3-02
	5.3	BENCH	2/L3-02
	5.4	BENCH WITH BACKREST	3/L3-02
6.0	RAILINGS, BARRIERS, FENCING		
	X.X	NOT USED AT THIS TIME	X/XX-XX
7.0	SITE LIGHTING		DETAIL / SHEET
	7.1	LIGHT POLE BASE	7/L3-00
8.0	DRAINAGE		
	X.X	NOT USED AT THIS TIME	X/XX-XX
9.0	PLANTING AND LANDSCAPE		
	9.1	DECIDUOUS TREE PLANTING	1/L3-01
	9.2	MULTI-STEM TREE PLANTING	2/L3-01
	9.3	EVERGREEN TREE PLANTING	3/L3-01
	9.4	SHRUBS PLANTING	4/L3-01
	9.5	PERENNIAL PLANTING	5/L3-01
	9.6	TREE PROTECTION	6/L3-01
	9.7	METAL EDGING	4/L3-00
10.0	MISCELLANEOUS ELEMENTS		
	10.1	CHALK WALL	4/L3-03
	10.2	HAMMOCK POST	1/L3-03
	10.3	TREE GRATE	2/L3-03
	10.4	PLAYGROUND EQUIPMENT	4/L3-03

0 20 40 80

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SEAL

PROJECT TITLE

LAMBERT WOODS
PORTLAND, ME

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MAJOR SITE PLAN
JANUARY 31, 2023

SHEET TITLE

OVERALL MATERIALS PLAN

SHEET INFORMATION

L 1-00

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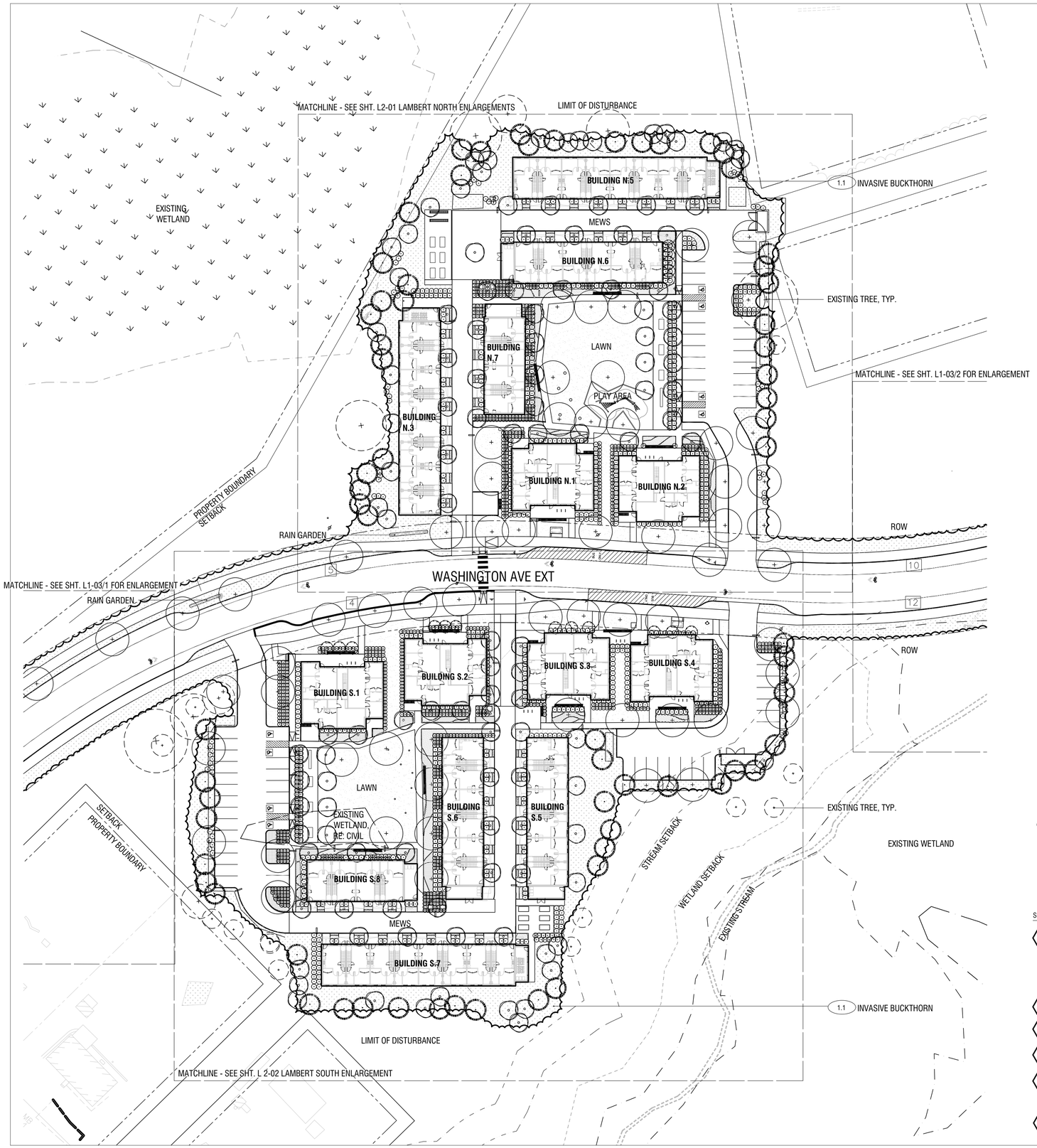

PLANT LIST

SYMB.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING
TREES					
AC	ACER x FREEMANII 'ARMSTRONG'	UPRIGHT ARMSTRONG MAPLE	32	2.5" CAL. MIN.	PER PLAN
AM	AMELANCHIER CANADENSIS	SERVICEBERRY (MULTI-STEM)	19	2.5" CAL. MIN.	PER PLAN
BE	BETULA	BIRCH	38	2.5" CAL. MIN.	PER PLAN
QA	QUERCUS ALBA	WHITE OAK	33	2.5" CAL. MIN.	PER PLAN
QR	QUERCUS ROBUR x BICOLOR 'LONG'	REGAL PRINCE OAK	51	2.5" CAL. MIN.	PER PLAN
UA	ULMUS AMERICANA	AMERICAN ELM	25	2.5" CAL. MIN.	PER PLAN
TREES - EVERGREEN					
AB	ABIES FRASERI	FRASER FIR	6	7-8'	PER PLAN
PS	PINUS STROBUS	WHITE PINE	59	7-8'	PER PLAN
SHRUBS					
CS	CORNUS SERICEA	RED-TWIG DOGWOOD	396	#5	PER PLAN
IG	ILEX GLABRA	INKBERRY	450	#2	PER PLAN
PO	PHYSOCARPUS OPULIFOLIUS	COMMON NINEBARK	392	#5	PER PLAN
RA	RHUS AROMATICA	LOW-GRO SUMAC	208	#2	PER PLAN
VD	VIBURNUM DENTATUM 'CHICAGO LUSTRE'	ARROWWOOD VIBURNUM	233	#5	PER PLAN
PERENNIALS AND ORNAMENTAL GRASSES					
AT	ASTILBE	FALSE SPIREA	85	#1	18" O.C.
AF	ATHYRIUM FILIX-FEMINA	LADY FERN	838	#1	24" O.C.
BM	BRUNNERA MACROPHYLLA	BUGLOSS	96	#1	18" O.C.
CA	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	83	#1	24" O.C.
LE	LIRIOPE	LILYTURF	347	#1	12" O.C.
PB	POLYGONATUM BIFLORUM	SOLOMON'S SEAL	78	#1	12" O.C.
PV	PANICUM VIRGATUM 'ROTSTRAHLBUSCH'	SWITCH GRASS	56	#1	48" O.C.
NE	NEPETA "WALKER'S LOW"	CATMINT	123	#1	24" O.C.
SS	SCHIZACHYRIUM SCOPARIUM 'PRAIRIE BLUES'	LITTLEBLUE STEM	288	#1	18" O.C.
SH	SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED	342	#1	18" O.C.

SEEDING

RESTORATION MIX
NEW ENGLAND CONSERVATION/WILDLIFE MIX
MFR: NEW ENGLAND WETLAND PLANTS
TOTAL AREA: 36,062 SF
APPLICATION RATE 25LBS/ACRE | 1750 SQ FT/LB
(SEEDING RATE MAY VARY DEPENDING ON TIME OF YEAR, SEE SPEC. SHEET FOR INSTRUCTIONS)

LAWN
WILDFLOWER FARM'S ECO-LAWN GRASS SEED
TOTAL AREA: 22,642 SF
ECO-LAWN IS A DROUGHT-RESISTANT GRASS THAT REQUIRES MOWING ONLY ONCE PER MONTH. EACH 5 POUND BAG OF SEED COVERS 1,000 SQUARE FEET. A THICK HEALTHY LAWN IS THE BEST DEFENCE AGAINST WEEDS, DISEASE, DROUGHT AND INSECT DAMAGE.

RAIN GARDEN
SOURCE PLUGS FROM NORTH CREEK NURSERIES
MFR: NORTH CREEK NURSERIES, TEL: (877) ECO-PLUG INFO@NORTHCREEKNURSERIES.COM
TOTAL AREA: 120 SF
PANICUM VIRGATUM 'SHENANDOAH' : 25 PLUGS
IRIS VERSICOLOR : 9 PLUGS
RUDBECKIA FULGIDA VAR. FULGIDA : 9 PLUGS
LOBELIA CARDINALIS : 9 PLUGS
NOTE: DISTRIBUTE PLUG MIX EVENLY BETWEEN THE TWO IDENTIFIED RAIN GARDENS

SITE KEYNOTES

1.0 1.1 INVASIVE BUCKTHORN ABATEMENT PROTOCOL
1. INVASIVE BUCKTHORN SHALL BE REMOVED AS FOLLOWS, WITHOUT THE USE OF HERBICIDES. THE REMOVAL PROCESS BEGINS BY CUTTING THE SHRUB DOWN TO A STUMP LESS THAN 6 INCHES OFF THE GROUND, AND THEN COVER THE STUMP WITH AN OPAQUE MATERIAL (BUCKTHORN BAGGIE, BLACK PLASTIC BAG, TIN CAN, ETC.) TO REMAIN IN PLACE FOR ONE YEAR.
2. REMOVE ALL PLANT REMNANTS AND DISPOSE OFF SITE PER CITY AND STATE REGULATIONS.
3. IF HERBICIDES ARE TO BE USED THE CONTRACTOR SHALL CONSULT WITH THE MAINE BOARD OF PESTICIDE CONTROL AND THE MAINE NATURAL AREAS PROGRAM PRIOR.

SITE DETAIL KEYNOTES:

		DETAIL / SHEET
1.0	PAVEMENTS, RAMPS, CURBS	
1.1	ASPHALT PAVING - PEDESTRIAN	1/L3-00
1.2	CONCRETE PAVER	2/L3-00
1.3	STONEDUST PATH	3/L3-00
1.4	GRASS PAVERS	8/L3-00
1.5	PLAY AREA SURFACE	3/L3-03
1.6	CIP CONCRETE PAVING	5/L3-00
2.0	JOINTING	
X.X	NOT USED AT THIS TIME	X/XX-XX
3.0	STEPS	
X.X	NOT USED AT THIS TIME	X/XX-XX
4.0	SITE WALLS/ EMBANKMENTS	
X.X	NOT USED AT THIS TIME	X/XX-XX
5.0	SITE FURNITURE	
5.1	BIKE RACK	6/L3-00
5.2	BENCH	1/L3-02
5.3	BENCH	2/L3-02
5.4	BENCH WITH BACKREST	3/L3-02
6.0	RAILINGS, BARRIERS, FENCING	
X.X	NOT USED AT THIS TIME	X/XX-XX
7.0	SITE LIGHTING	
7.1	LIGHT POLE BASE	7/L3-00
8.0	DRAINAGE	
X.X	NOT USED AT THIS TIME	X/XX-XX
9.0	PLANTING AND LANDSCAPE	
9.1	DECIDUOUS TREE PLANTING	1/L3-01
9.2	MULTI-STEM TREE PLANTING	2/L3-01
9.3	EVERGREEN TREE PLANTING	3/L3-01
9.4	SHRUBS PLANTING	4/L3-01
9.5	PERENNIAL PLANTING	5/L3-01
9.6	TREE PROTECTION	6/L3-01
9.7	METAL EDGING	4/L3-00
10.0	MISCELLANEOUS ELEMENTS	
10.1	CHALK WALL	4/L3-03
10.2	HAMMOCK POST	1/L3-03
10.3	TREE GRATE	2/L3-03
10.4	PLAYGROUND EQUIPMENT	4/L3-03

0 20 40 80

ACETO LANDSCAPE ARCHITECTS
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SEAL

PROJECT TITLE

LAMBERT WOODS
PORTLAND, ME

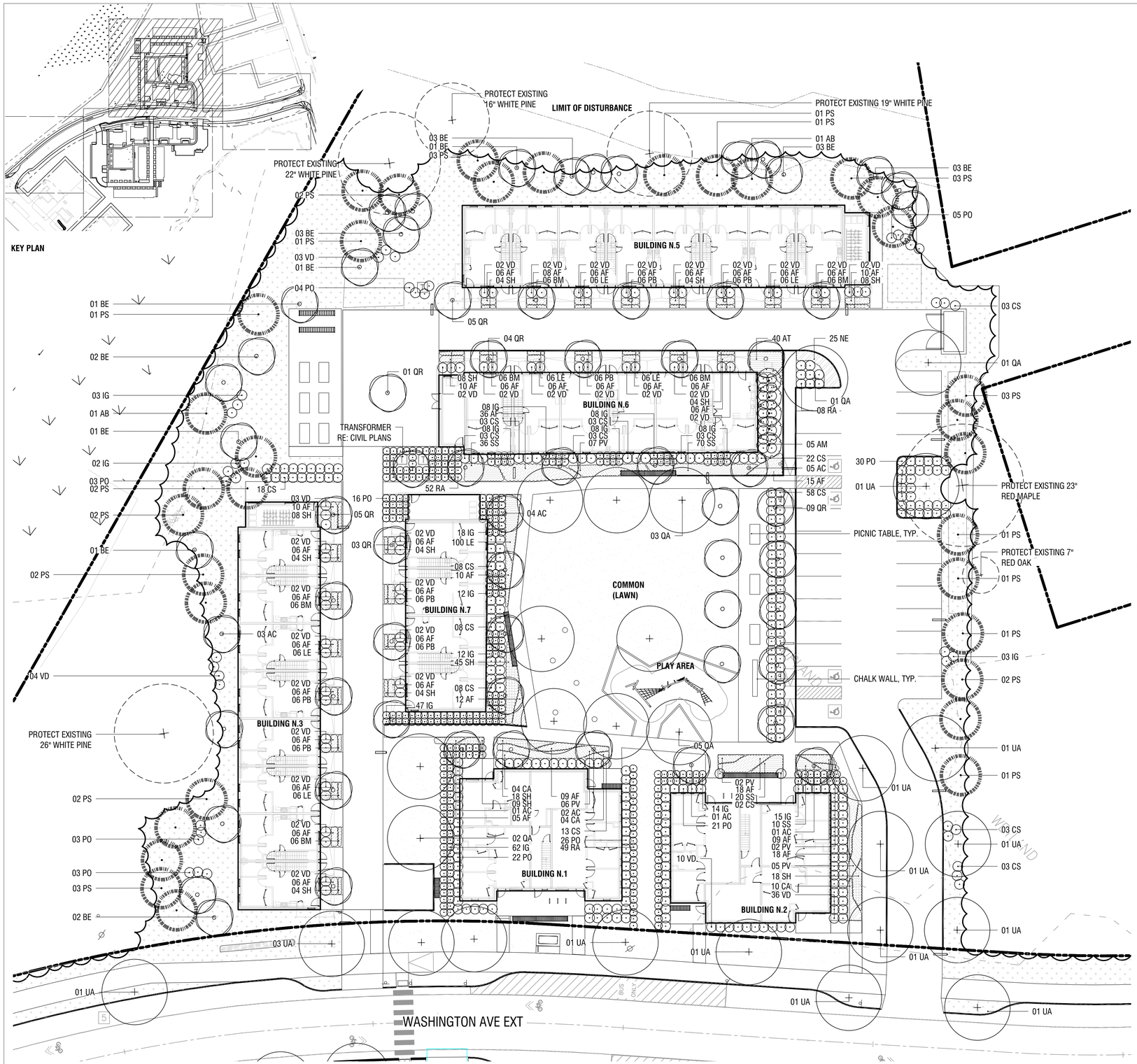
PREPARED FOR
MAINE COOPERATIVE DEVELOPMENT PARTNERS

REVISIONS DATE

ISSUE DATE
MAJOR SITE PLAN
JANUARY 31, 2023

SHEET TITLE
OVERALL PLANTING PLAN

SHEET INFORMATION
L 2-00
NOT FOR CONSTRUCTION



PLANT LIST

SYMB.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING
TREES					
AC	ACER x FREEMANII 'ARMSTRONG'	UPRIGHT ARMSTRONG MAPLE	17	2.5" CAL. MIN.	PER PLAN
AM	AMELANCHIER CANADENSIS	SERVICEBERRY (MULTI-STEM)	5	2.5" CAL. MIN.	PER PLAN
BE	BETULA	BIRCH	21	2.5" CAL. MIN.	PER PLAN
QA	QUERCUS ALBA	WHITE OAK	12	2.5" CAL. MIN.	PER PLAN
QR	QUERCUS ROBUR x BICOLOR 'LONG'	REGAL PRINCE OAK	27	2.5" CAL. MIN.	PER PLAN
UA	ULMUS AMERICANA	AMERICAN ELM	14	2.5" CAL. MIN.	PER PLAN
TREES - EVERGREEN					
AB	ABIES FRASERI	FRASER FIR	2	7-8'	PER PLAN
PS	PINUS STROBUS	WHITE PINE	32	7-8'	PER PLAN
SHRUBS					
CS	CORNUS SERICEA	RED-TWIG DOGWOOD	161	#5	PER PLAN
IG	ILEX GLABRA	INKBERRY	228	#2	PER PLAN
PO	PHYSOCARPUS OPULIFOLIUS	COMMON NINEBARK	133	#5	PER PLAN
RA	RHUS AROMATICA	LOW-GRO SUMAC	109	#2	PER PLAN
VD	VIBURNUM DENTATUM 'CHICAGO LUSTRE"	ARROWWOOD VIBURNUM	112	#5	PER PLAN
PERENNIALS AND ORNAMENTAL GRASSES					
AT	ASTILBE	FALSE SPIREA	40	#1	18" O.C.
AF	ATHYRIUM FILIX-FEMINA	LADY FERN	322	#1	24" O.C.
BM	BRUNNERA MACROPHYLLA	BUGLOSS	48	#1	18" O.C.
CA	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	18	#1	24" O.C.
LE	LIRIOPE	LILYTURF	136	#1	12" O.C.
PB	POLYGONATUM BIFLORUM	SOLOMON'S SEAL	42	#1	12" O.C.
PV	PANICUM VIRGATUM 'ROTSTRAHLBUSCH'	SWITCH GRASS	22	#1	48" O.C.
NE	NEPETA "WALKER'S LOW"	CATMINT	25	#1	24" O.C.
SS	SCHIZACHYRIUM SCOPARIUM 'PRAIRIE BLUES'	LITTLEBLUE STEM	136	#1	18" O.C.
SH	SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED	142	#1	18" O.C.

SEEDING

RESTORATION MIX
NEW ENGLAND CONSERVATION/WILDLIFE MIX
MFR: NEW ENGLAND WETLAND PLANTS
TOTAL AREA: 18,205 SF
APPLICATION RATE 25LBS/ACRE | 1750 SQ FT/LB
(SEEDING RATE MAY VARY DEPENDING ON TIME OF YEAR, SEE SPEC. SHEET FOR INSTRUCTIONS)

LAWN
WILDFLOWER FARM'S ECO-LAWN GRASS SEED
TOTAL AREA: 11,801 SF
ECO-LAWN IS A DROUGHT-RESISTANT GRASS THAT REQUIRES MOWING ONLY ONCE PER MONTH. EACH 5 POUND BAG OF SEED COVERS 1,000 SQUARE FEET. A THICK HEALTHY LAWN IS THE BEST DEFENCE AGAINST WEEDS, DISEASE, DROUGHT AND INSECT DAMAGE.

SITE DETAIL KEYNOTES:

		DETAIL / SHEET
1.0	PAVEMENTS, RAMPS, CURBS	
1.1	ASPHALT PAVING - PEDESTRIAN	1/L3-00
1.2	CONCRETE PAVER	2/L3-00
1.3	STONEDUST PATH	3/L3-00
1.4	GRASS PAVERS	8/L3-00
1.5	PLAY AREA SURFACE	3/L3-03
1.6	CIP CONCRETE PAVING	5/L3-00
2.0	JOINTING	
X.X	NOT USED AT THIS TIME	X/XX-XX
3.0	STEPS	
X.X	NOT USED AT THIS TIME	X/XX-XX
4.0	SITE WALLS/ EMBANKMENTS	
X.X	NOT USED AT THIS TIME	X/XX-XX
5.0	SITE FURNITURE	
5.1	BIKE RACK	6/L3-00
5.2	BENCH	1/L3-02
5.3	BENCH	2/L3-02
5.4	BENCH WITH BACKREST	3/L3-02
6.0	RAILINGS, BARRIERS, FENCING	
X.X	NOT USED AT THIS TIME	X/XX-XX
7.0	SITE LIGHTING	
7.1	LIGHT POLE BASE	7/L3-00
8.0	DRAINAGE	
X.X	NOT USED AT THIS TIME	X/XX-XX
9.0	PLANTING AND LANDSCAPE	
9.1	DECIDUOUS TREE PLANTING	1/L3-01
9.2	MULTI-STEM TREE PLANTING	2/L3-01
9.3	EVERGREEN TREE PLANTING	3/L3-01
9.4	SHRUBS PLANTING	4/L3-01
9.5	PERENNIAL PLANTING	5/L3-01
9.6	TREE PROTECTION	6/L3-01
9.7	METAL EDGING	4/L3-00
10.0	MISCELLANEOUS ELEMENTS	
10.1	CHALK WALL	4/L3-03
10.2	HAMMOCK POST	1/L3-03
10.3	TREE GRATE	2/L3-03
10.4	PLAYGROUND EQUIPMENT	4/L3-03

0 10 20 40

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SEAL

PROJECT TITLE

LAMBERT WOODS
PORTLAND, ME

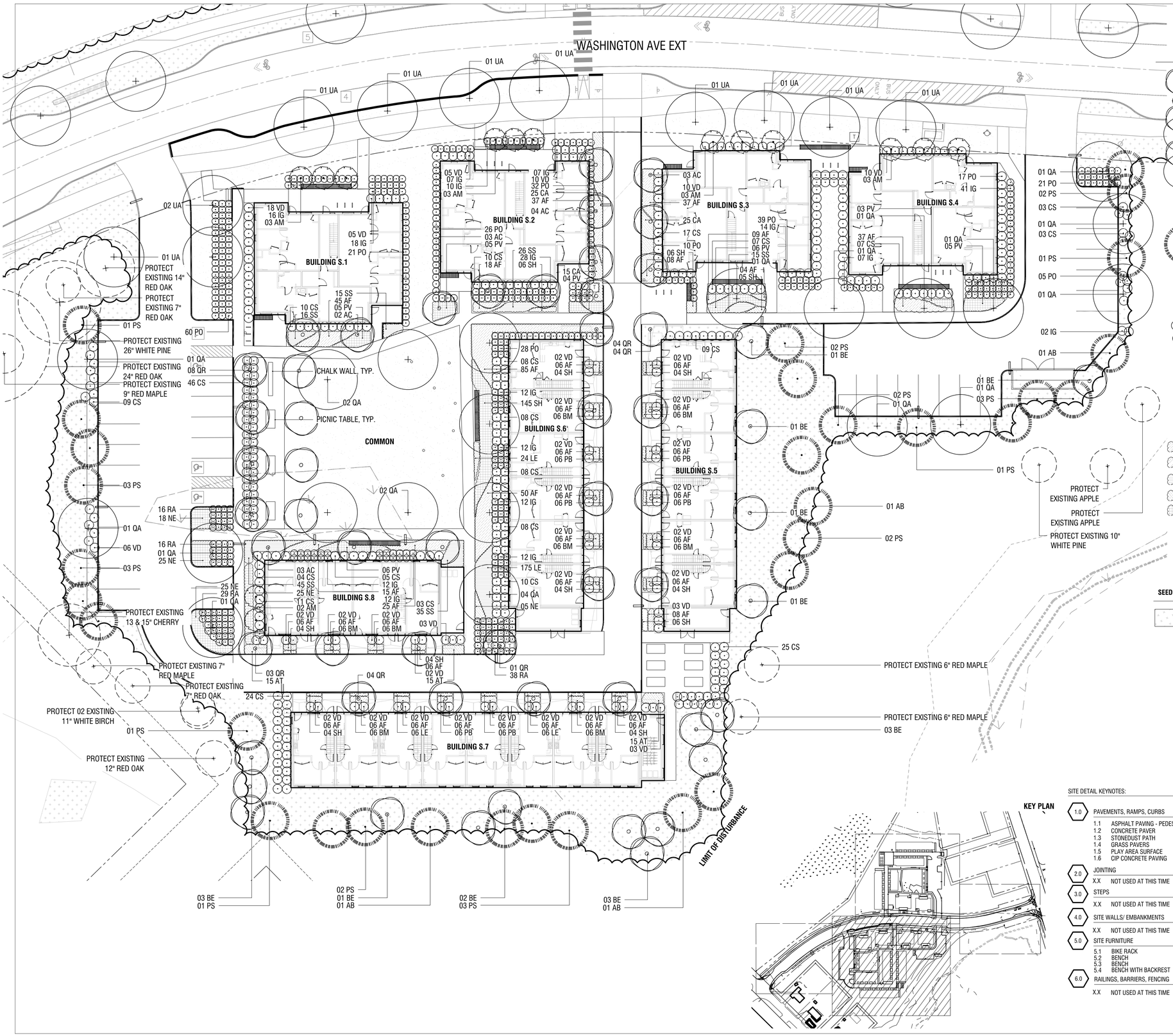
PREPARED FOR
MAINE COOPERATIVE DEVELOPMENT PARTNERS

REVISIONS — DATE

ISSUE DATE
MAJOR SITE PLAN
JANUARY 31, 2023

SHEET TITLE
NORTH PLANTING PLAN ENLARGEMENT

SHEET INFORMATION
L 2-01
NOT FOR CONSTRUCTION



PLANT LIST

SYMB.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING
TREES					
AC	ACER X FREEMANII 'ARMSTRONG'	UPRIGHT ARMSTRONG MAPLE	15	2.5" CAL. MIN.	PER PLAN
AM	AMELANCHIER CANADENSIS	SERVICEBERRY (MULTI-STEM)	14	2.5" CAL. MIN.	PER PLAN
BE	BETULA	BIRCH	17	2.5" CAL. MIN.	PER PLAN
QA	QUERCUS ALBA	WHITE OAK	21	2.5" CAL. MIN.	PER PLAN
QR	QUERCUS ROBUR x BICOLOR 'LONG'	REGAL PRINCE OAK	24	2.5" CAL. MIN.	PER PLAN
UA	ULMUS AMERICANA	AMERICAN ELM	11	2.5" CAL. MIN.	PER PLAN
TREES - EVERGREEN					
AB	ABIES FRASERI	FRASER FIR	4	7-8'	PER PLAN
PS	PINUS STROBUS	WHITE PINE	27	7-8'	PER PLAN
SHRUBS					
CS	CORNUS SERICEA	RED-TWIG DOGWOOD	235	#5	PER PLAN
IG	ILEX GLABRA	INKBERRY	222	#2	PER PLAN
RA	RHUS AROMATICA	LOW-GRO SUMAC	99	#2	PER PLAN
PO	PHYSOCARPUS OPULIFOLIUS	COMMON NINEBARK	259	#5	PER PLAN
VD	VIBURNUM DENTATUM 'CHICAGO LUSTRE"	ARROWWOOD VIBURNUM	121	#5	PER PLAN
PERENNIALS AND ORNAMENTAL GRASSES					
AT	ASTILBE	FALSE SPIREA	45	#1	18" O.C.
AF	ATHYRIUM FILIX-FEMINA	LADY FERN	516	#1	24" O.C.
BM	BRUNNERA MACROPHYLLA	BUGLOSS	48	#1	18" O.C.
CA	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	65	#1	24" O.C.
LE	LIRIOPE	LILYTURF	211	#1	12" O.C.
PB	POLYGONATUM BIFLORUM	SOLOMON'S SEAL	36	#1	12" O.C.
PV	PANICUM VIRGATUM 'ROTSTRAHLBUSCH'	SWITCHGRASS	34	#1	48" O.C.
NE	NEPETA "WALKER'S LOW"	CATMINT	98	#1	24" O.C.
SS	SCHIZACHYRIUM SCOPARIUM 'PRAIRIE BLUES'	LITTLEBLUE STEM	152	#1	18" O.C.
SH	SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED	200	#1	18" O.C.

SEEDING

RESTORATION MIX
NEW ENGLAND CONSERVATION/WILDLIFE MIX
MFR: NEW ENGLAND WETLAND PLANTS
TOTAL AREA: 17,857 SF
APPLICATION RATE 25LBS/ACRE | 1750 SQ FT/LB
(SEEDING RATE MAY VARY DEPENDING ON TIME OF YEAR, SEE SPEC. SHEET FOR INSTRUCTIONS)

LAWN
WILDFLOWER FARM'S ECO-LAWN GRASS SEED
TOTAL AREA: 10,841 SF
ECO-LAWN IS A DROUGHT-RESISTANT GRASS THAT REQUIRES MOWING ONLY ONCE PER MONTH. EACH 5 POUND BAG OF SEED COVERS 1,000 SQUARE FEET. A THICK HEALTHY LAWN IS THE BEST DEFENCE AGAINST WEEDS, DISEASE, DROUGHT AND INSECT DAMAGE.

KEY PLAN

SITE DETAIL KEYNOTES:

			DETAIL / SHEET
1.0	PAVEMENTS, RAMPS, CURBS		
	1.1	ASPHALT PAVING - PEDESTRIAN	1/L3-00
	1.2	CONCRETE PAVER	2/L3-00
	1.3	STONEDUST PATH	3/L3-00
	1.4	GRASS PAVERS	8/L3-00
	1.5	PLAY AREA SURFACE	3/L3-03
	1.6	CIP CONCRETE PAVING	5/L3-00
2.0	JOINTING		
	X.X	NOT USED AT THIS TIME	X/XX-XX
3.0	STEPS		
	X.X	NOT USED AT THIS TIME	X/XX-XX
4.0	SITE WALLS/ EMBANKMENTS		
	X.X	NOT USED AT THIS TIME	X/XX-XX
5.0	SITE FURNITURE		
	5.1	BIKE RACK	6/L3-00
	5.2	BENCH	1/L3-02
	5.3	BENCH	2/L3-02
	5.4	BENCH WITH BACKREST	3/L3-02
6.0	RAILINGS, BARRIERS, FENCING		
	X.X	NOT USED AT THIS TIME	X/XX-XX
7.0	SITE LIGHTING		DETAIL / SHEET
	7.1	LIGHT POLE BASE	7/L3-00
8.0	DRAINAGE		
	X.X	NOT USED AT THIS TIME	X/XX-XX
9.0	PLANTING AND LANDSCAPE		
	9.1	DECIDUOUS TREE PLANTING	1/L3-01
	9.2	MULTI-STEM TREE PLANTING	2/L3-01
	9.3	EVERGREEN TREE PLANTING	3/L3-01
	9.4	SHRUBS PLANTING	4/L3-01
	9.5	PERENNIAL PLANTING	5/L3-01
	9.6	TREE PROTECTION	6/L3-01
	9.7	METAL EDGING	4/L3-00
10.0	MISCELLANEOUS ELEMENTS		
	10.1	CHALK WALL	4/L3-03
	10.2	HAMMOCK POST	1/L3-03
	10.3	TREE GRATE	2/L3-03
	10.4	PLAYGROUND EQUIPMENT	4/L3-03

0 10 20 40

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SEAL

PROJECT TITLE

LAMBERT WOODS
PORTLAND, ME

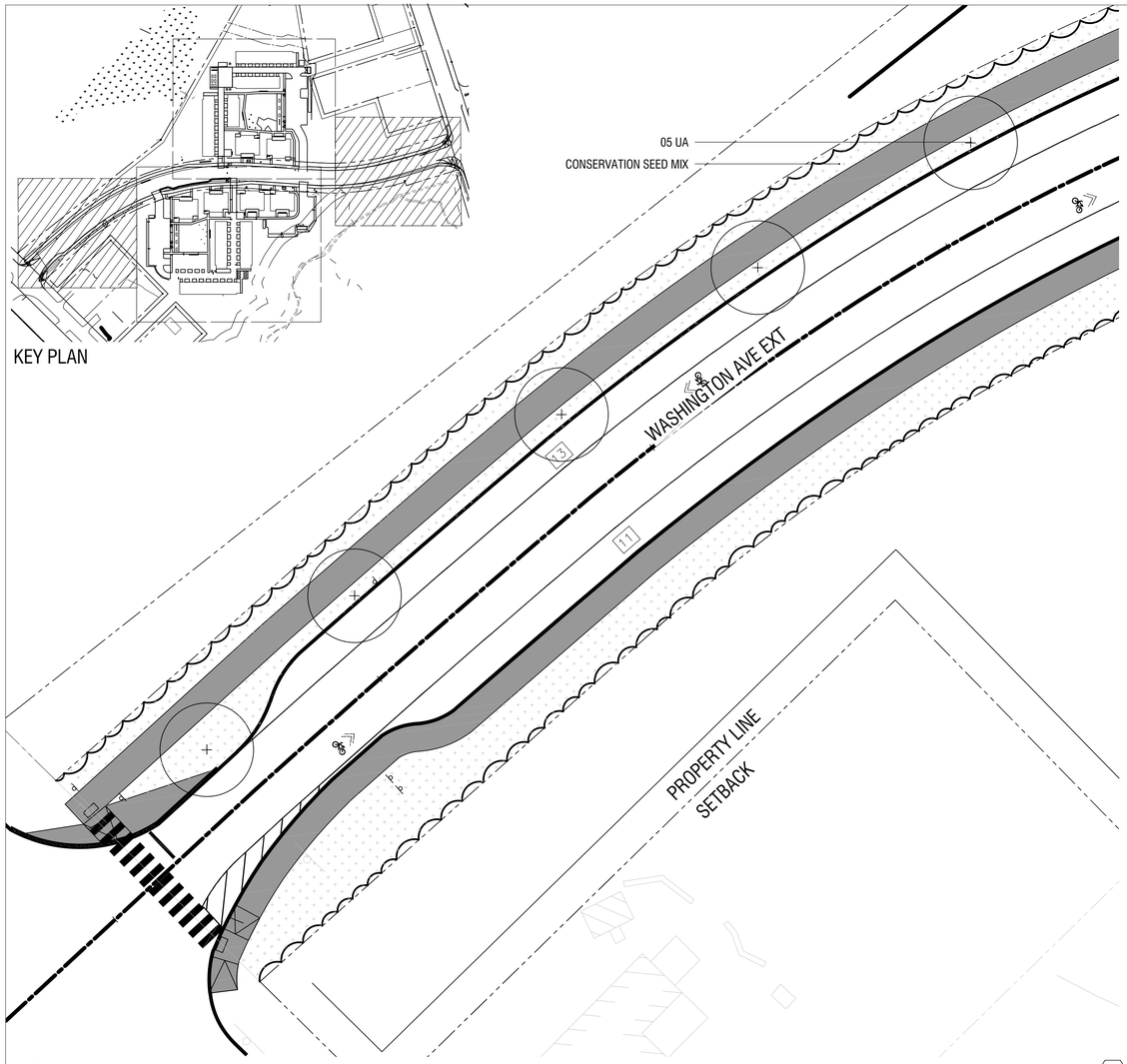
PREPARED FOR
MAINE COOPERATIVE DEVELOPMENT PARTNERS

REVISIONS — DATE

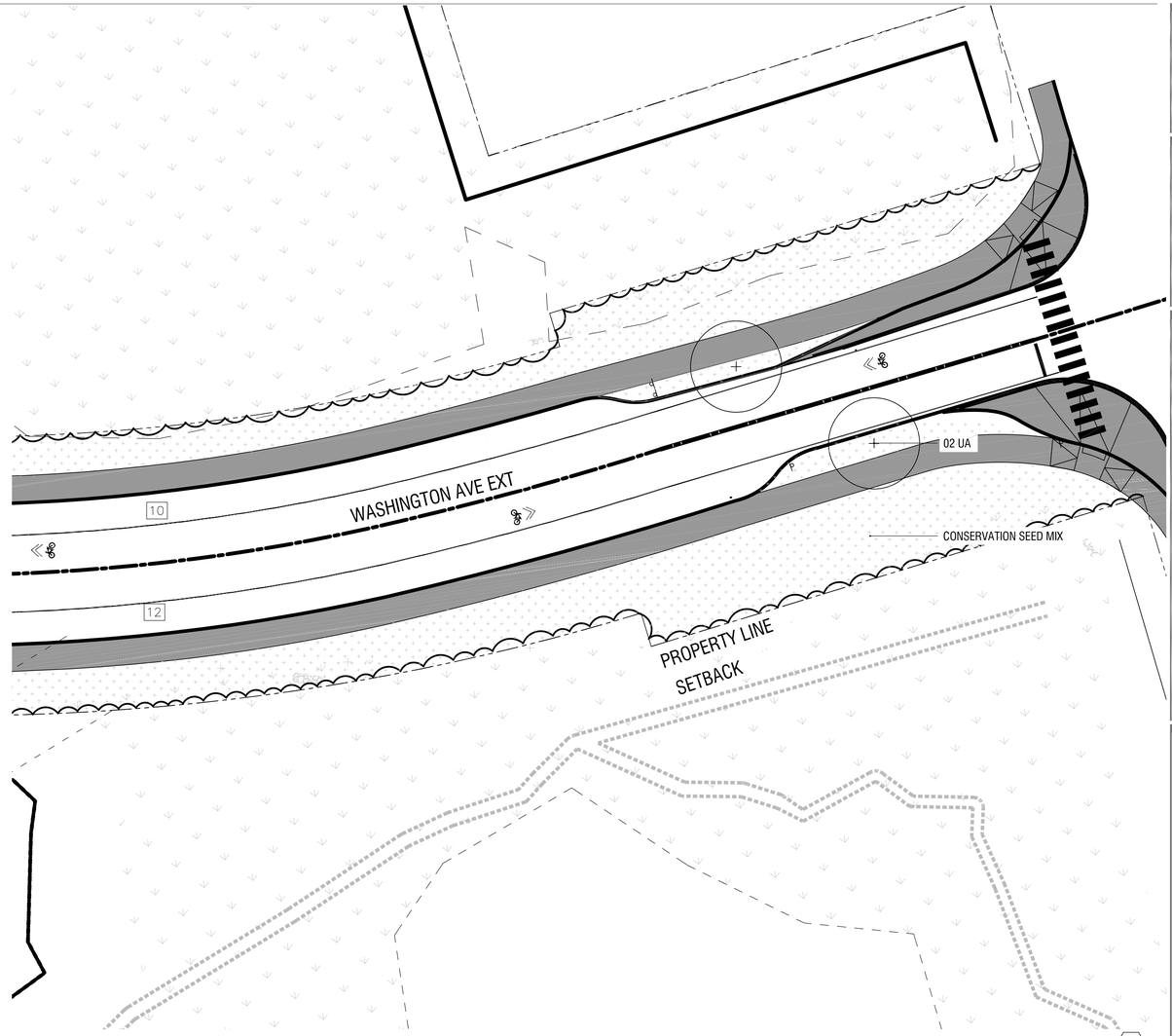
ISSUE DATE
MAJOR SITE PLAN
JANUARY 31, 2023

SHEET TITLE
SOUTH PLANTING PLAN ENLARGEMENT

SHEET INFORMATION
L 2-02
NOT FOR CONSTRUCTION



1 ROW PLANTING PLAN ENLARGEMENT
1":20'-0"



2 ROW PLANTING PLAN ENLARGEMENT
1":20'-0"

0 10 20 40

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PROJECT TITLE

LAMBERT WOODS
PORTLAND, ME

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MAINE COOPERATIVE
DEVELOPMENT PARTNERS

REVISIONS DATE

ISSUE DATE

MAJOR SITE PLAN
JANUARY 31, 2023

SHEET TITLE

ENLARGED ROW
PLANTING PLANS

SHEET INFORMATION

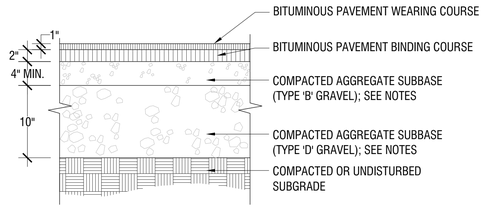
L 2-03

NOT FOR CONSTRUCTION

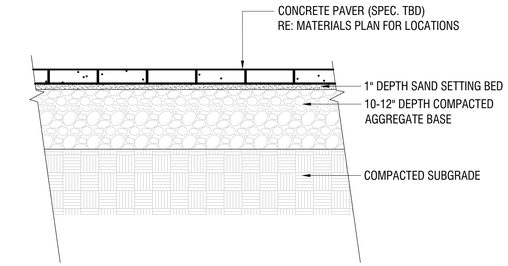
SITE DETAIL KEYNOTES:

			DETAIL / SHEET
1.0	PAVEMENTS, RAMPS, CURBS		
	1.1	ASPHALT PAVING - PEDESTRIAN	1/L3-00
	1.2	CONCRETE PAVER	2/L3-00
	1.3	STONEDUST PATH	3/L3-00
	1.4	GRASS PAVERS	8/L3-00
	1.5	PLAY AREA SURFACE	3/L3-03
	1.6	CIP CONCRETE PAVING	5/L3-00
2.0	JOINTING		
	X.X	NOT USED AT THIS TIME	X/XX-XX
3.0	STEPS		
	X.X	NOT USED AT THIS TIME	X/XX-XX
4.0	SITE WALLS/ EMBANKMENTS		
	X.X	NOT USED AT THIS TIME	X/XX-XX
5.0	SITE FURNITURE		
	5.1	BIKE RACK	6/L3-00
	5.2	BENCH	1/L3-02
	5.3	BENCH	2/L3-02
	5.4	BENCH WITH BACKREST	3/L3-02
6.0	RAILINGS, BARRIERS, FENCING		
	X.X	NOT USED AT THIS TIME	X/XX-XX

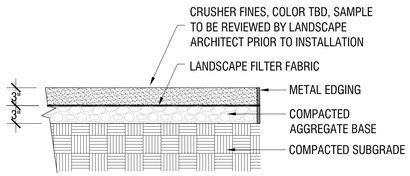
			DETAIL / SHEET
7.0	SITE LIGHTING		
	7.1	LIGHT POLE BASE	7/L3-00
8.0	DRAINAGE		
	X.X	NOT USED AT THIS TIME	X/XX-XX
9.0	PLANTING AND LANDSCAPE		
	9.1	DECIDUOUS TREE PLANTING	1/L3-01
	9.2	MULTI-STEM TREE PLANTING	2/L3-01
	9.3	EVERGREEN TREE PLANTING	3/L3-01
	9.4	SHRUBS PLANTING	4/L3-01
	9.5	PERENNIAL PLANTING	5/L3-01
	9.6	TREE PROTECTION	6/L3-01
	9.7	METAL EDGING	4/L3-00
10.0	MISCELLANEOUS ELEMENTS		
	10.1	CHALK WALL	4/L3-03
	10.2	HAMMOCK POST	1/L3-03
	10.3	TREE GRATE	2/L3-03
	10.4	PLAYGROUND EQUIPMENT	4/L3-03



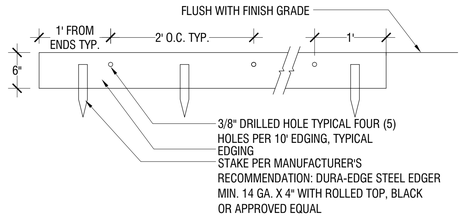
1 ASPHALT PAVING (PEDESTRIAN) 1.1
1":1'-0"



2 CONCRETE PAVER 1.2
1":1'-0"



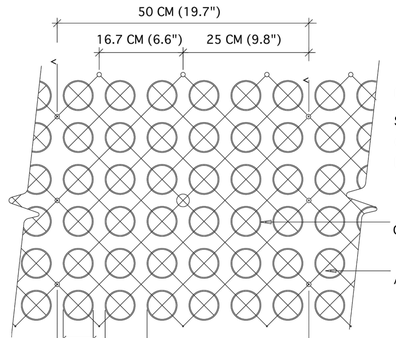
3 STONEDUST PATH 1.3
1":1'-0"



4 METAL EDGING 9.7
1":1'-0"

TYPICAL GRASSPAVE2 DETAIL

CHOOSE THIS PRODUCT FOR REINFORCING GRASS WEARING SURFACES



SPECIFICATIONS

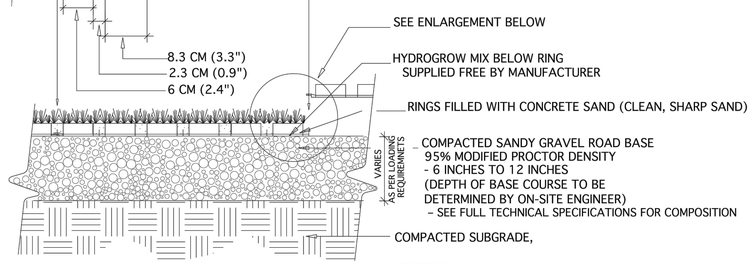
UNIT SIZE - 50 CM X 50 CM X 2.5 CM OR 1 M X 1 M X 2.5 CM
(20" X 20" X 1" OR 40" X 40" X 1")
AVAILABLE IN 9 STANDARD ROLL SIZES

UNIT WEIGHT - 510 GRAMS (18 OZ.)
OR 2.0 KG (4.5 POUNDS)
STRENGTH - 1121 KG/CM^2 (15,940 PSI)
COLOR - BLACK
RESIN - 100% RECYCLED HDPE

PLAN

GRASSPAVE2 SQUARES

ADJACENT GRASSPAVE2 UNITS



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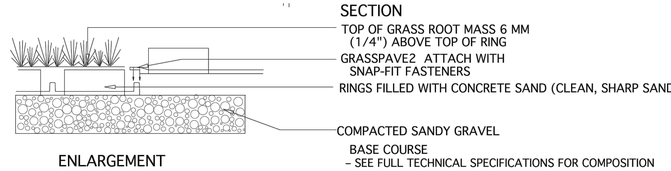
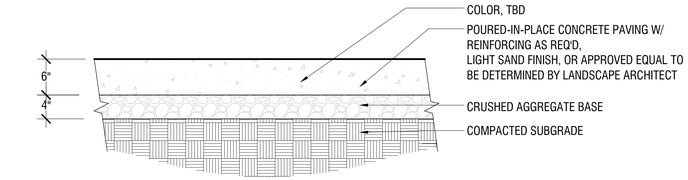
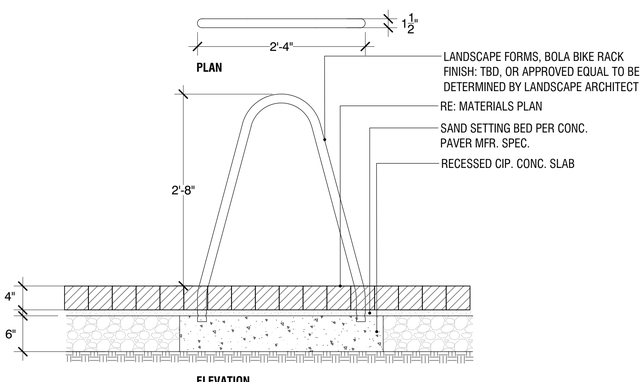


ENLARGEMENT

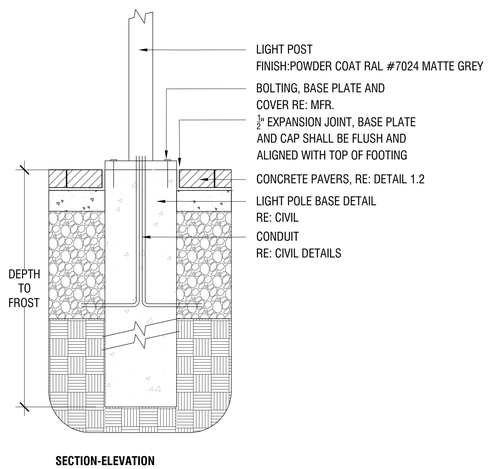
NOTE: GRASS/PLANT TYPES SHALL BE SPECIFIED BY A LANDSCAPE ARCHITECT OR LANDSCAPE DESIGNER.



5 CIP CONCRETE 9.7
1":1'-0"



6 BIKE RACK 5.1
N.T.S.



7 LIGHT POLE BASE 7.1
N.T.S.

8 GRASS PAVE 1.4
1":1'-0"

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SEAL

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LAMBERT WOODS
PORTLAND, ME

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MAINE COOPERATIVE DEVELOPMENT PARTNERS

REVISIONS — DATE

ISSUE DATE

MAJOR SITE PLAN
JANUARY 31, 2023

SHEET TITLE

SITE DETAILS

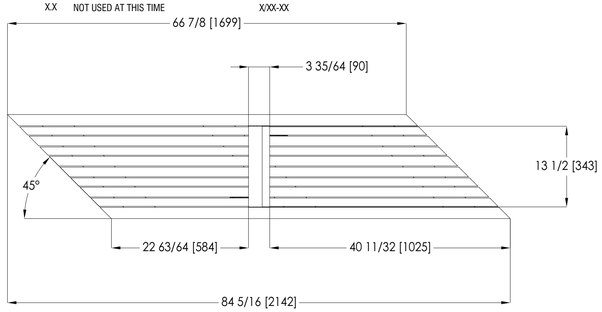
SHEET INFORMATION

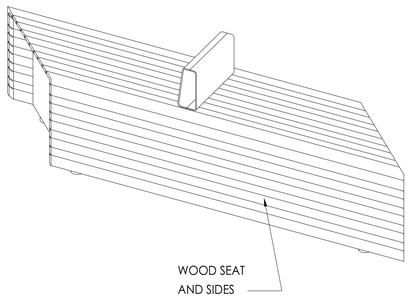
L 3-00

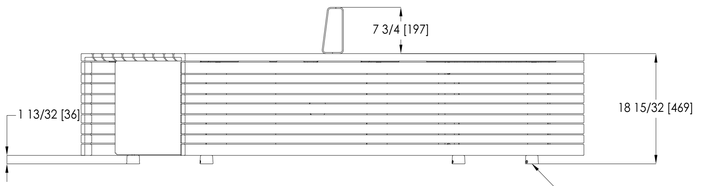
SITE DETAIL KEYNOTES:

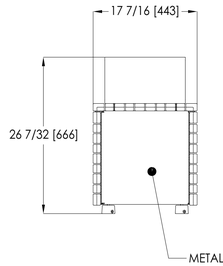
			DETAIL / SHEET
1.0	PAVEMENTS, RAMPS, CURBS		
	1.1	ASPHALT PAVING - PEDESTRIAN	1/L3-00
	1.2	CONCRETE PAVER	2/L3-00
	1.3	STONEDUST PATH	3/L3-00
	1.4	GRASS PAVERS	8/L3-00
	1.5	PLAY AREA SURFACE	3/L3-03
	1.6	CIP CONCRETE PAVING	5/L3-00
2.0	JOINTING		
	X.X	NOT USED AT THIS TIME	X/XX-XX
3.0	STEPS		
	X.X	NOT USED AT THIS TIME	X/XX-XX
4.0	SITE WALLS/ EMBANKMENTS		
	X.X	NOT USED AT THIS TIME	X/XX-XX
5.0	SITE FURNITURE		
	5.1	BIKE RACK	6/L3-00
	5.2	BENCH	1/L3-02
	5.3	BENCH	2/L3-02
	5.4	BENCH WITH BACKREST	3/L3-02
6.0	RAILINGS, BARRIERS, FENCING		
	X.X	NOT USED AT THIS TIME	X/XX-XX

			DETAIL / SHEET
7.0	SITE LIGHTING		
	7.1	LIGHT POLE BASE	7/L3-00
8.0	DRAINAGE		
	X.X	NOT USED AT THIS TIME	X/XX-XX
9.0	PLANTING AND LANDSCAPE		
	9.1	DECIDUOUS TREE PLANTING	1/L3-01
	9.2	MULTI-STEM TREE PLANTING	2/L3-01
	9.3	EVERGREEN TREE PLANTING	3/L3-01
	9.4	SHRUBS PLANTING	4/L3-01
	9.5	PERENNIAL PLANTING	5/L3-01
	9.6	TREE PROTECTION	6/L3-01
	9.7	METAL EDGING	4/L3-00
10.0	MISCELLANEOUS ELEMENTS		
	10.1	CHALK WALL	4/L3-03
	10.2	HAMMOCK POST	1/L3-03
	10.3	TREE GRATE	2/L3-03
	10.4	PLAYGROUND EQUIPMENT	4/L3-03





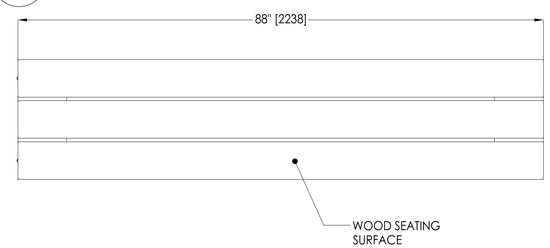




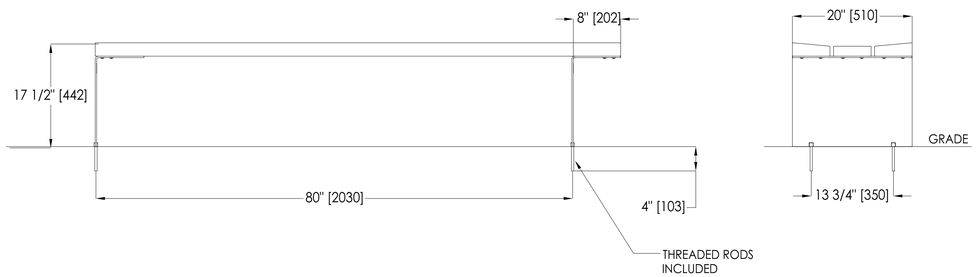
SPEC.:
MFR: LANDSCAPE FORMS, OR APPROVED EQUAL AS DETERMINED BY LANDSCAPE ARCHITECTS
PRODUCT: PARALLEL 42, 45 DEGREE BENCH, BACKLESS, FREESTANDING/SURFACE MOUNT WITH CENTER ARM
PRODUCT ID: P42
FINISH: POWDERCOAT BASE, DOMESTICALLY SOURCED THERMALLY MODIFIED ASH FOR BENCH TOP, TYP.
QTY: PER PLAN, APPROX. 12

1 BENCH
1":1'-0"

5.2

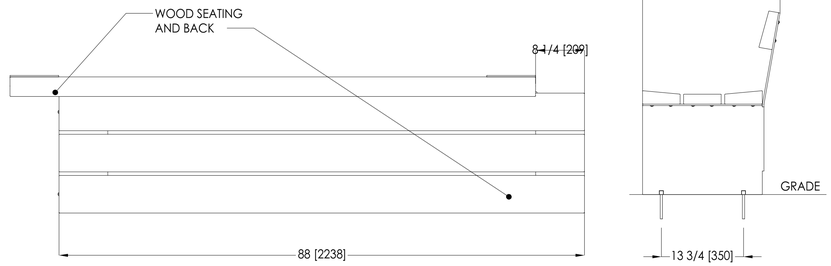


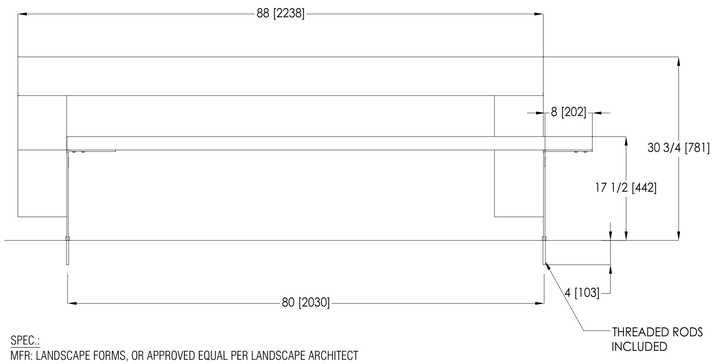
SPEC.:
MFR: LANDSCAPE FORMS, OR APPROVED EQUAL
PER LANDSCAPE ARCHITECTS
PRODUCT: BANCAL, BACKLESS BENCH, 88IN.,
EMBEDDED, WOOD
FINISH: CORTEN BASE, DOMESTICALLY SOURCED
THERMALLY MODIFIED ASH FOR BENCH TOP
QTY: PER PLAN



2 BENCH
1":2'-0"

5.3

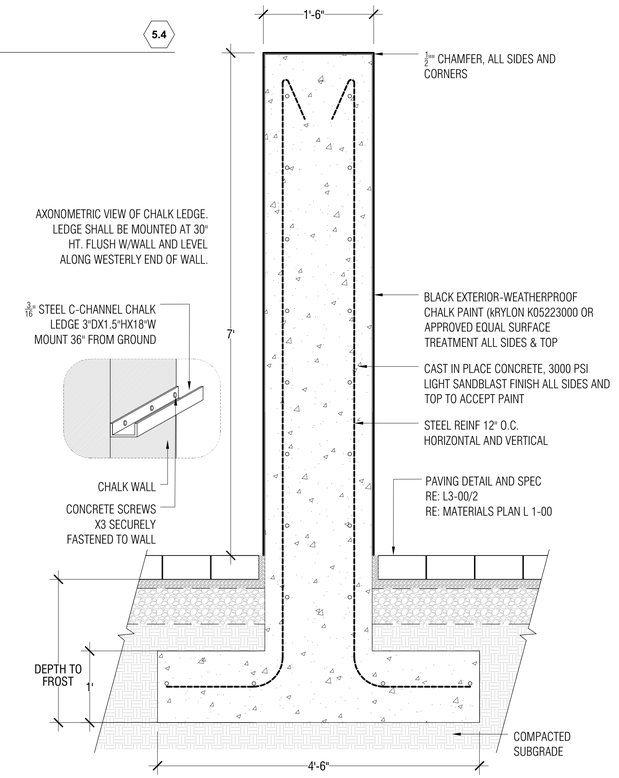




SPEC.:
MFR: LANDSCAPE FORMS, OR APPROVED EQUAL PER LANDSCAPE ARCHITECT
PRODUCT: BANCAL, BACKED BENCH, 88IN., EMBEDDED, WOOD
FINISH: CORTEN BASE, DOMESTICALLY SOURCED THERMALLY MODIFIED ASH FOR BENCH TOP
QTY: PER PLAN

3 BENCH WITH BACKREST
1":2'-0"

5.4



4 CHALK WALL
1":2'-0"

10.1

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SEAL

PROJECT TITLE

LAMBERT WOODS
PORTLAND, ME

PREPARED FOR

MAINE COOPERATIVE
DEVELOPMENT PARTNERS

REVISIONS | DATE

ISSUE DATE

MAJOR SITE PLAN
JANUARY 31, 2023

SHEET TITLE

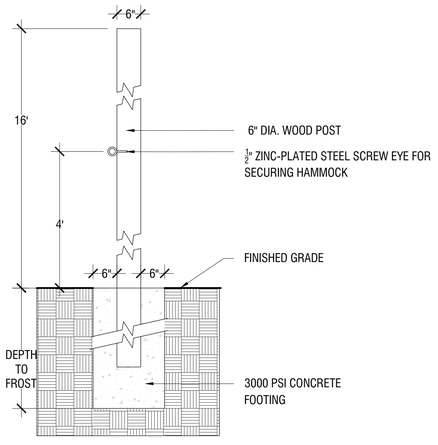
SITE DETAILS

SHEET INFORMATION

L 3-02

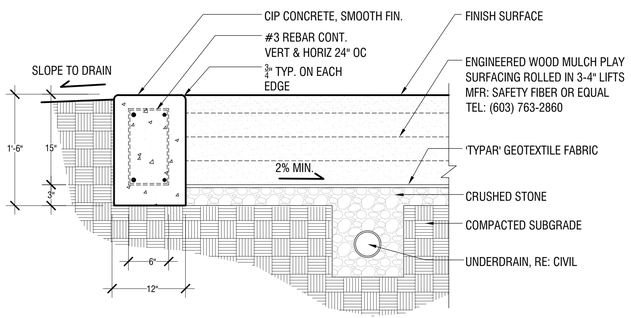
SITE DETAIL KEYNOTES:

			DETAIL / SHEET
1.0	PAVEMENTS, RAMPS, CURBS		
	1.1	ASPHALT PAVING - PEDESTRIAN	1/L3-00
	1.2	CONCRETE PAVER	2/L3-00
	1.3	STONEDUST PATH	3/L3-00
	1.4	GRASS PAVERS	8/L3-00
	1.5	PLAY AREA SURFACE	3/L3-03
	1.6	CIP CONCRETE PAVING	5/L3-00
2.0	JOINTING		
	X.X	NOT USED AT THIS TIME	X/XX-XX
3.0	STEPS		
	X.X	NOT USED AT THIS TIME	X/XX-XX
4.0	SITE WALLS/ EMBANKMENTS		
	X.X	NOT USED AT THIS TIME	X/XX-XX
5.0	SITE FURNITURE		
	5.1	BIKE RACK	6/L3-00
	5.2	BENCH	1/L3-02
	5.3	BENCH	2/L3-02
	5.4	BENCH WITH BACKREST	3/L3-02
6.0	RAILINGS, BARRIERS, FENCING		
	X.X	NOT USED AT THIS TIME	X/XX-XX
7.0	SITE LIGHTING		
	7.1	LIGHT POLE BASE	7/L3-00
8.0	DRAINAGE		
	X.X	NOT USED AT THIS TIME	X/XX-XX
9.0	PLANTING AND LANDSCAPE		
	9.1	DECIDUOUS TREE PLANTING	1/L3-01
	9.2	MULTI-STEM TREE PLANTING	2/L3-01
	9.3	EVERGREEN TREE PLANTING	3/L3-01
	9.4	SHRUBS PLANTING	4/L3-01
	9.5	PERENNIAL PLANTING	5/L3-01
	9.6	TREE PROTECTION	6/L3-01
	9.7	METAL EDGING	4/L3-00
10.0	MISCELLANEOUS ELEMENTS		
	10.1	CHALK WALL	4/L3-03
	10.2	HAMMOCK POST	1/L3-03
	10.3	TREE GRATE	2/L3-03
	10.4	PLAYGROUND EQUIPMENT	4/L3-03



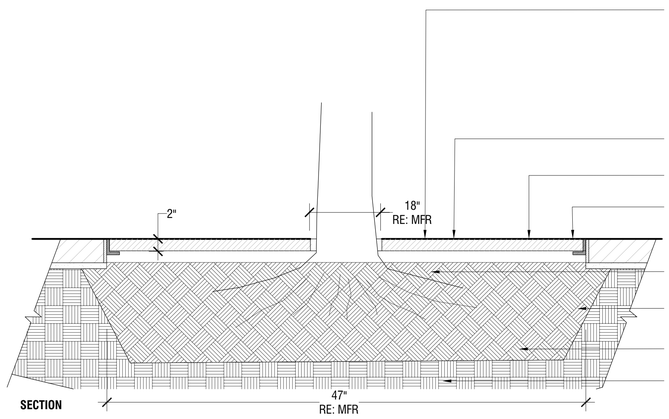
1 HAMMOCK POST DETAIL
1":1'-0"

10.2



3 PLAY AREA SURFACE
1":1'-0"

1.5



PRODUCT: STREET LIFE 'TREE GRILLE STRIPS' OR APPROVED EQUAL
FINISH: CORTEN, WEATHERING STEEL
PATTERN: BAMBOO
FOR ORDERING INFORMATION:
MATT SIGDA, STREET LIFE AMERICA, LLC
P: 215-247-0148

GRILLE ASSEMBLY, PATTERN 'BAMBOO', RE: MFR SPEC.

ATTACH GRILLE TO MOUNTING FRAME IN PLACE, RE: MFR SPEC. FOR ATTACHMENT

MOUNTING FRAME, RE: MFR SPEC.

PAVING SURFACE, RE: L3-00/1

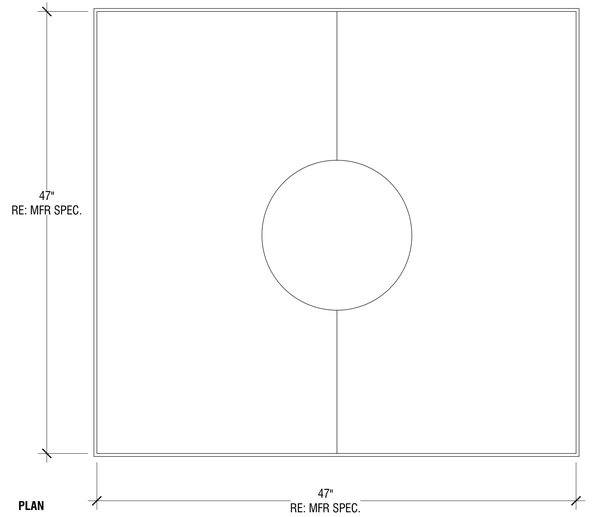
LIGHTLY AERATED SOIL OR GROUNDCOVER

COMPACTED GRAVEL BASE BELOW MOUNTING FRAME, TYP, FOR (4), RE: MFR FOR SPEC.

AMENDED SOIL, 18" DEPTH, MIN.

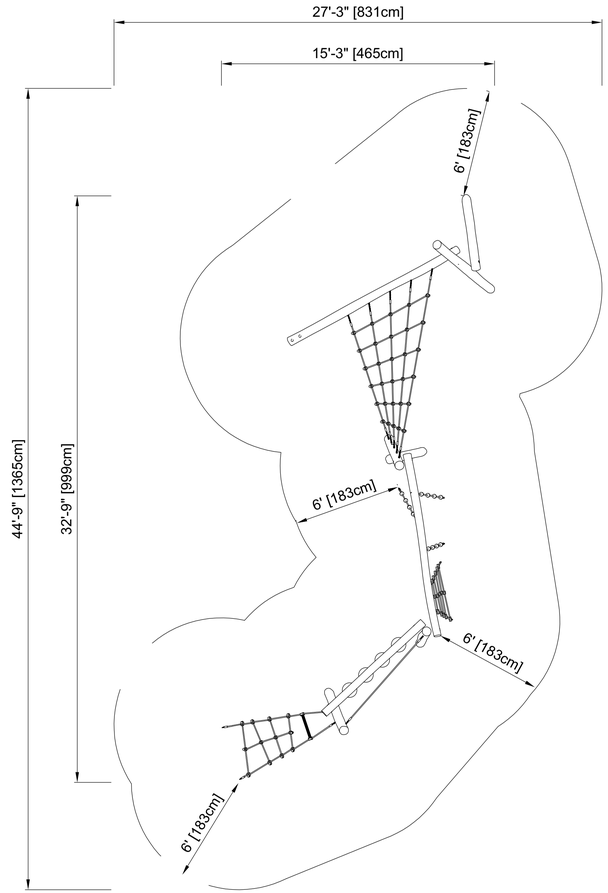
STRUCTURAL SOIL WHERE FEASIBLE BELOW TREE, 18" DEPTH, MIN.

NOTE: ALL DIMENISONS INDICATED FOR CONCEPTUAL PURPOSES ONLY, REFER TO MANUFACTURER SPECIFICATIONS FOR FINAL MEASUREMENTS.



2 TREE GRATE
1":1'-0"

10.3



PRODUCT: KOMPAN 'PARKOUR 4'
MATERIAL: ROBINA WOOD
FOR ORDERING INFORMATION:
KOMPAN REP: PERRY TRACHTEN
DIRECT SALES REPRESENTATIVE - NEW ENGLAND
P: 203-915-2730
E: PerTra@Kompan.com

4 PLAYGROUND EQUIPMENT
1":4'-0"

10.4

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SEAL

PROJECT TITLE

LAMBERT WOODS
PORTLAND, ME

PREPARED FOR

MAINE COOPERATIVE DEVELOPMENT PARTNERS

REVISIONS | DATE

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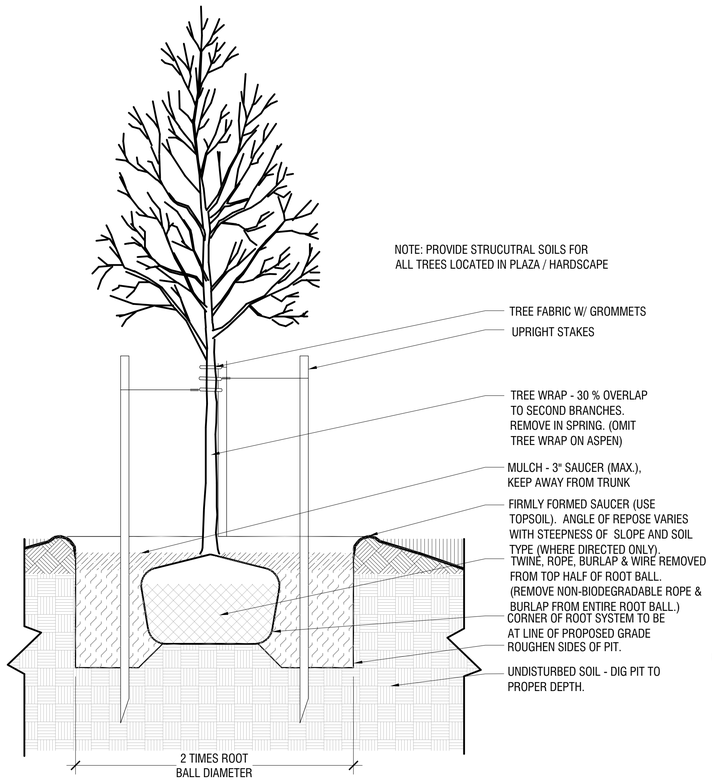
MAJOR SITE PLAN
JANUARY 31, 2023

SHEET TITLE

SITE DETAILS

SHEET INFORMATION

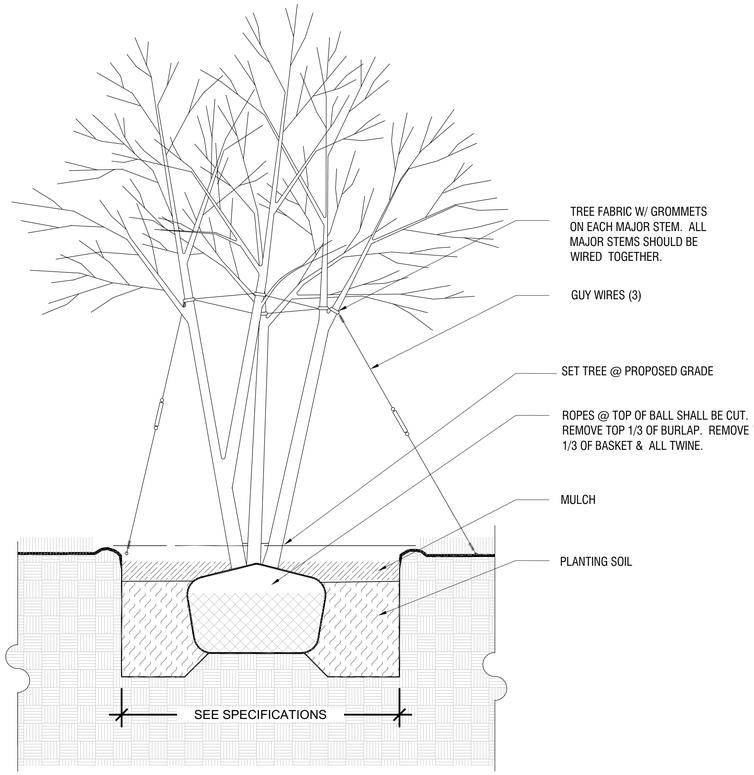
L 3-03



1 DECIDUOUS TREE PLANTING

9.1

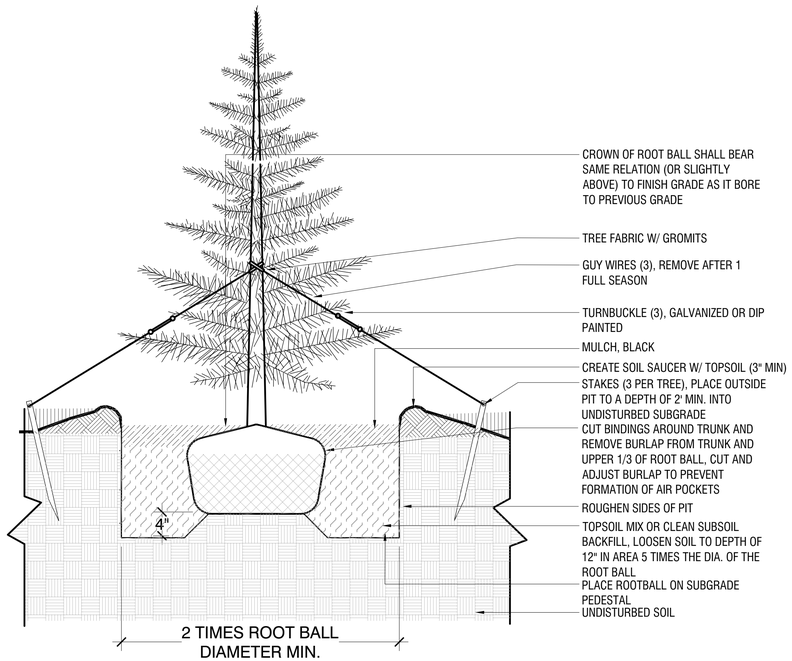
N.T.S.



2 MULTI-STEM TREE PLANTING

9.2

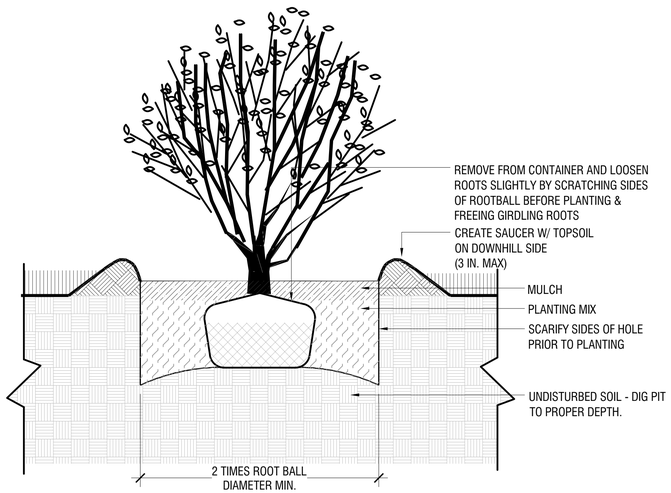
N.T.S.



3 EVERGREEN TREE PLANTING

9.3

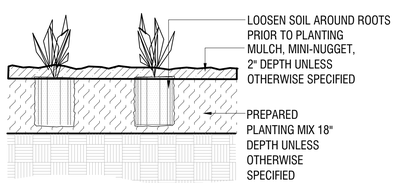
N.T.S.



4 SHRUB PLANTING

9.4

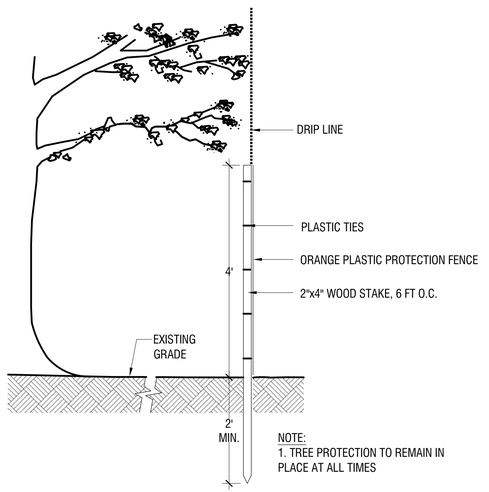
1":1'-0"



5 PERENNIAL PLANTING

9.5

1":1'-0"



6 TREE PROTECTION

9.6

1":1'-0"

SITE DETAIL KEYNOTES:

1.0	PAVEMENTS, RAMPS, CURBS		DETAIL / SHEET
	1.1	ASPHALT PAVING - PEDESTRIAN	1/L3-00
	1.2	CONCRETE PAVER	2/L3-00
	1.3	STONEDUST PATH	3/L3-00
	1.4	GRASS PAVERS	8/L3-00
	1.5	PLAY AREA SURFACE	3/L3-03
	1.6	CIP CONCRETE PAVING	5/L3-00
2.0	JOINTING		
	X.X	NOT USED AT THIS TIME	X/XX-XX
3.0	STEPS		
	X.X	NOT USED AT THIS TIME	X/XX-XX
4.0	SITE WALLS/ EMBANKMENTS		
	X.X	NOT USED AT THIS TIME	X/XX-XX
5.0	SITE FURNITURE		
	5.1	BIKE RACK	6/L3-00
	5.2	BENCH	1/L3-02
	5.3	BENCH	2/L3-02
	5.4	BENCH WITH BACKREST	3/L3-02
6.0	RAILINGS, BARRIERS, FENCING		
	X.X	NOT USED AT THIS TIME	X/XX-XX
7.0	SITE LIGHTING		DETAIL / SHEET
	7.1	LIGHT POLE BASE	7/L3-00
8.0	DRAINAGE		
	X.X	NOT USED AT THIS TIME	X/XX-XX
9.0	PLANTING AND LANDSCAPE		
	9.1	DECIDUOUS TREE PLANTING	1/L3-01
	9.2	MULTI-STEM TREE PLANTING	2/L3-01
	9.3	EVERGREEN TREE PLANTING	3/L3-01
	9.4	SHRUBS PLANTING	4/L3-01
	9.5	PERENNIAL PLANTING	5/L3-01
	9.6	TREE PROTECTION	6/L3-01
	9.7	METAL EDGING	4/L3-00
10.0	MISCELLANEOUS ELEMENTS		
	10.1	CHALK WALL	4/L3-03
	10.2	HAMMOCK POST	1/L3-03
	10.3	TREE GRATE	2/L3-03
	10.4	PLAYGROUND EQUIPMENT	4/L3-03

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SEAL

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LAMBERT WOODS
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MAJOR SITE PLAN
JANUARY 31, 2023

SHEET TITLE

PLANTING DETAILS

SHEET INFORMATION

L 3-01

PLANNING BOARD REPORT
PORTLAND, MAINE

Rezoning 22 Park Ave from Contract Zone 5 - Contract R6 to B2-b
22 Park Ave
Zoning Map Amendment
ZN-002238-2022
Brian Kilgallen, Applicant

Submitted to:	Portland Planning Board	**Prepared By:**	Maya Balassa
Public Hearing Date:	February 28, 2023	**Date:**	February 24, 2023

`

I. INTRODUCTION

Community Housing of Maine (CHOM) has requested a zoning map amendment to remove the Contract Zone at 22 Park Ave and rezone the property to B-2b Community Business. The property was previously zoned B-2 prior to the adoption of the C-5 Contract Zone in 1991, and subsequently the contiguous area zoned B-2 adjacent to the property at 22 Park Avenue was rezoned to B-2b in 1999.

The Planning and Urban Development Department mailed 103 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the February 17th and 21st, 2023 editions of the *Portland Press Herald*.

Image 1. Google Earth Pro view of 22 Park Ave

Applicant: Brian Kilgallen, Community Housing of Maine (CHOM)

II. PROJECT DATA

Existing Zoning	C5 Contract Zone
Proposed Zoning	B-2b Community Housing
Property Size	3,492 Square Feet
Existing Use	Housing – Affordable Housing
Proposed Use	Housing – Affordable Housing

III. BACKGROUND & EXISTING CONDITIONS

On June 4, 1991, the City of Portland rezoned 22 Park Ave to Contract Zone C-5, which permitted the charitable organization YWCA to permit a seventh dwelling unit of transitional housing as part of their Teen Parent Services Program. The contract zone only allows the seventh unit to be occupied if YWCA, or a similar organization, maintains this transitional housing element. Today, the property is under a purchase and sale agreement to be owned and operated by Community Housing of Maine (CHOM), an affordable housing provider not offering transitional housing services, and would therefore be ineligible to operate this seventh unit.

IV. PROPOSED ACTION

The proposal before the Planning Board is a request to terminate the C-5 Contract Zone, and rezone the property to B-2b Community Business which would permit CHOM to utilize all existing dwelling units within the building at 22 Park Avenue. This application is not intended to facilitate future development at this property and is being requested so as to remove the existing residential density limitations imposed by the contract zone.

V. ZONING ANALYSIS

Image 2. Zoning context for 22 Park Ave

The current use of this property aligns with the purpose statement of the B-2b zone. In the Land Use Code Chapter 14, Article 5, the B-2b zone purpose statement includes:

"To provide neighborhood and community retail, business and service establishments that are oriented to and built close to the street. The B-2b zone is appropriate in areas where a more compact urban development pattern exists or where a neighborhood-compatible commercial district is established which exhibits a pedestrian scale and character. Such locations may include the peninsula and other arterials and intersections with an existing urban or neighborhood-oriented building pattern. The B-2b should provide locations for moderate to high-density housing in urban neighborhoods along arterials."

This site is located along both the High Street and Park Avenue major arterials, and features convenient public transit access, with an existing transit stop located in front of the property on Park Avenue. The property is located within a large contiguous area that is zoned B-2b, depicted in Image 2 of this report. With respect to the surrounding zoning context, the Parkside Neighborhood, generally located to the south and west of the subject property, is zoned R-6 Residential, while the downtown core, anchored by Congress Street, is zoned B-3 Downtown Business.

The B-2b zone permits multi-family dwellings and allows 435 sf of lot area per dwelling unit. The property at 22 Park Avenue, under the B-2b dimensional standards, would be permitted to have up to eight units, given that the lot is 3,492 square feet.

VI. RIGHT, TITLE, & INTEREST

The applicant has shown right, title, and interest through inclusion of the Purchase and Sale Agreement of 22 Park Ave by Community Housing of Maine, Inc. from The Opportunity Alliance (Attachment C).

VII. COMPREHENSIVE PLAN ANALYSIS

Rezoning 22 Park Avenue from Contact Zone C-5 to B-2b Community Business is consistent with Portland's Plan 2030. Goals for housing in Portland's Plan include a statement to "increase, preserve, and modify the overall supply of housing city-wide to meet the needs, preferences and financial capabilities of all Portland residents". This rezoning would enable the occupation of an additional affordable housing unit, which supports the housing goals of Portland's Plan. Relevant comprehensive plan goals also include:

Housing:

- 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.
- Encourage quality, sustainable design in new housing development.

VIII. NEIGHBORHOOD MEETING & PUBLIC COMMENT

Per Article 1.10.2.C, which states that, "*A private applicant for a map amendment that would permit a development subject to major site plan review shall conduct neighborhood outreach according to the provisions for neighborhood meetings under Article 14*" staff have advised the applicant that no neighborhood meeting is required. The requested zoning amendment is not anticipated to result in significant redevelopment of the property which would trigger major site plan review.

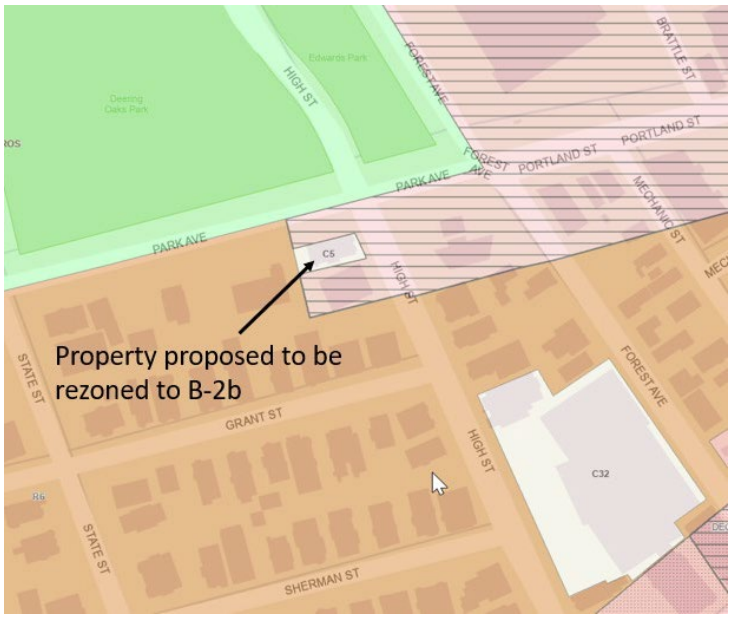
IX. REQUISITE COUNCIL ACTION

Any proposed rezoning, regardless of whether it is recommended by the Planning Board, must be approved by City Council vote in order to take effect.

X. PROPOSED MOTIONS

1. On the basis of materials submitted by the applicant, the City of Portland Land Use Code, Portland's Comprehensive Plan, public comment, and the information provided in the public hearing on February 28, 2023 for the application ZN-002238-2022 (22 Park Avenue), and/or other findings, the Planning Board finds that the proposed termination of Contract Zone C-5 **[is/is not]** consistent with the Comprehensive Plan for the city of Portland; therefore, the Planning Board **[recommends/does not recommend]** to the City Council termination of Contract Zone C-5 for 22 Park Avenue with the parcel 036 D009001.

2. On the basis of materials submitted by the applicant, the City of Portland Land Use Code, Portland's Comprehensive Plan, public comment, and the information provided in the public hearing on February 28, 2023 for the application ZN-002238-2022 (22 Park Avenue), and/or other findings, the Planning Board finds that the proposed zoning map amendment **[is/is not]** consistent with the Comprehensive Plan for the city of Portland; therefore, the Planning Board **[recommends/does not recommend]** to the City Council adoption of the Zoning Map Amendment for 22 Park Avenue with the parcel 036 D009001.



XI. ATTACHMENTS

APPLICANT'S SUBMITTAL

A. Project Cover Letter
B. Map Amendment Application Checklist
C. Right, Title, Interest
D. Building Floor Plan

Att. A

CHOM
Community Housing of Maine

Board Members

Aaron Shapiro
Retired Community Development Director, Cumberland County
Board President

Chip Newell
Principal, The NewHeight Group
Board Treasurer

Gunnar Hubbard
Principal, Thornton Tomasetti
Board Secretary

David Birkhahn
Vice President, TD Bank

Elizabeth Boepple
Partner, Murray, Plumb, & Murray

Jan McCormick
Retired Affordable Housing Investment Executive

Luc Nya
Mental Health Program Coordinator OCFS/Corrections Liaison, Maine DHHS

Angela Perkins
Westbrook Resident

Thomas Ptacek
Veteran's Healthcare Outreach Community Organizer, Preble Street

Jennifer Putnam
Executive Director, Waban

Jennifer Rottmann
Deputy Director/CFO, The Genesis Fund

John Ryan
President, Wright-Ryan Construction

Bill Shanahan
Co-President, Evernorth

Kimberly Twitchell
Maine Regional President, NBT Bank

Staff Contacts

Cullen Ryan
Executive Director

Kyra Walker
Chief Operating Officer

Elizabeth Baranick
Asset Manager

Sarah Gaba
Occupancy Manager

Mara O'Shea
Compliance Manager

Meredith Smith
Supportive Housing Manager

Dylan O'Neil
Asset Manager

Jim Gwilym
Chief Financial Officer

Chris Harmon
Controller

Jenny Jimino
Bookkeeper

Vickey Rand
Advocacy & Communications Manager

Bree LaCasse
Development Director

Brian Kilgallen
Development Officer

Robyn Wardell
Development Associate

October 5th, 2022

Good Afternoon,

Community Housing of Maine (CHOM) purchased 22 Park Ave from the Opportunity Alliance, on the 5th day of April 2021. Opportunity Alliance was operating a program that has since lost funding and is no longer in existence. CHOM purchased the building from Opportunity Alliance to help people transition out of homelessness and into safe and secure housing.

CHOM is requesting that the current contract zone on 22 Park Ave be removed. The contract zoning was tied to a program that is no longer operating. The parcel is surrounded on three sides by B-2b, and it would seem appropriate and consistent with the zoning map that B-2b would be the new zoning. This will additionally allow for the adjacent property to keep their current zoning.

When CHOM purchased the property there were 7 housing units at the building, however the contract zoning only allows for 6 units. CHOM will operate the 6 units until the city is able to remove the existing contract zone. Once the contract zone has been removed, CHOM will begin operating the 7th housing unit. The 7th housing would be permissible under the B-2b zoning requirements.

Thank you,

Brian Kilgallen
Development Officer
Community Housing of Maine
One City Center 4th Floor
Portland ME 04101

24134

AGREEMENT BETWEEN
CITY OF PORTLAND
AND
YWCA

AGREEMENT made this 4th day of June 1991 by and between the **CITY OF PORTLAND**, a body corporate and politic, located in Cumberland County and State of Maine, (hereinafter the **"CITY"**) and the **YWCA**, located at 87 Spring Street, Portland, Maine.

W I T N E S S E T H:

WHEREAS, the **YWCA** did request a rezoning of its property at 254 High Street/22 Park Avenue to permit a seventh dwelling unit to provide transitional apartments for its Teen Parent Services Program;

WHEREAS, the Planning Board of the City of Portland, pursuant to 30-A M.R.S.A. §4352(8), and after notice and hearing and due deliberation thereon, recommended the rezoning of the property as aforesaid, subject, however to certain conditions;

WHEREAS, the **CITY,** by and through its City Council determined that said rezoning would be pursuant to and consistent with the **CITY'S** comprehensive plan and authorized the execution of this Contract on April 17, 1991;

NOW, THEREFORE, in consideration of the mutual promises made by each party to the other, the parties covenant and agree as follows:

1. The **CITY** shall amend the Zoning Map of the City of Portland, dated March 1958, as amended and on file in the Department of Planning and Urban Development, and incorporated by reference into the Zoning Ordinance by §14-49, by adopting the map change amendment shown on Attachment 1.

2. The **YWCA** is authorized to create a seventh transitional housing apartment, using part of the ground floor, as shown on the proposed floor plans, a copy of which is included as Attachment 2 and which is hereby incorporated by reference.

3. The **YWCA's** use of the seventh unit shall only be valid while the building is operated by the YWCA, or a similar successor, for a transitional young parent housing program, according to applicable HUD guidelines. The building residents will be limited to formerly homeless, young (typically teenage) parents, their spouses or other approved adult living partners, and their infant children. Only one such family unit shall be housed in each apartment.

4. The program shall have an individual on-site twenty-four hours a day to provide social services support and other assistance for program residents in the building.

5. No business or commercial uses shall be allowed on the ground floor, which shall be used only for the seventh transitional apartment unit and as a community room for the residents and the social services support staff or for other administrative needs of the YWCA related to the program.

6. The **YWCA** shall complete the following exterior alterations or renovations to the building prior to occupancy of the seventh unit as part of its project:

   a. All boarded-up windows in the upper stories of the building shall be replaced with windows with configurations and openings that are consistent with the existing windows in the building.

   b. Any exterior alterations to the building shall require review by the Planning Department.

7. No more than three cars shall be allowed on the site at any time. The **YWCA** shall provide at least two additional off-site parking spaces.

8. The **YWCA** shall record this Contract and the conditions of rezoning contained herein in the Cumberland County Registry of Deeds and shall submit proof of recording to the Planning Authority prior to occupancy of the seventh unit. The provisions of this Contract shall be restrictions on the title to the **YWCA's** property, as otherwise described in its deed dated August 21, 1989

and recorded in the Cumberland County Registry of Deeds in Book 8879, Page 348.

The above stated restrictions, provisions and conditions are an essential part of the rezoning, shall run with the subject premises, shall bind the **YWCA**, its successors and assigns as limited above, of said property or any part thereof or interest therein, and any party in possession or occupancy of said property or any part thereof, and shall inure to the benefit of and be enforceable by the **CITY**, by and through its duly authorized representatives.

If any of the restrictions, provisions, conditions, or portions thereof set forth herein is for any reason held invalid or unconstitutional by any Court of competent jurisdiction, such portion shall be deemed as a separate, distinct and independent provision and such determination shall not affect the validity of the remaining portions hereof.

Except as expressly modified herein, the use and occupancy of the subject premises shall be governed by and comply with the provisions of the Land Use Code of the City of Portland and any applicable amendments thereto or replacement thereof.

In the event that the **YWCA** or its successor fail to continue to operate a transitional young parent apartment program in accordance with this Contract, or in the event of any other breach hereof, this Contract shall be terminated. The building may then be used only for the existing six residential units above the ground floor and for any lawful use on the ground floor.

WITNESS:

CITY OF PORTLAND

By Robert B. Ganley
Its City Manager

STATE OF MAINE
CUMBERLAND, ss.

, 1991

Personally appeared the above-named Robert B. Ganley, in his capacity as City Manager of the City of Portland and made oath to me that the foregoing instrument is his free act and deed.

Before me,

Notary public/Attorney-at-Law
SUSAN GRIFFIN NEWTON
NOTARY PUBLIC, MAINE
MY COMMISSION EXPIRES SEPTEMBER 9, 1993
SEAL

YWCA

By Beth C. Richardson
Its President
Print name: Beth C. Richardson

STATE OF MAINE
CUMBERLAND, ss.

June 4 , 1991

Personally appeared ~~the~~ above-named Beth C. Richardson in her/his capacity as President of the YWCA and made oath to me that the foregoing instrument is her/his free act and deed.

Before me,

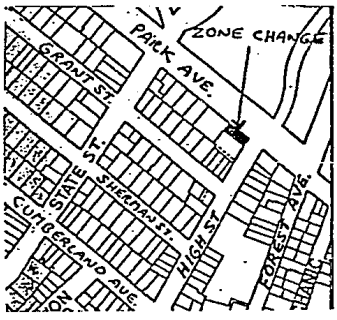
Notary public/~~Attorney at Law~~

CHERYL L. JOY Welch
MY COMMISSION EXPIRES:
AUGUST 10, 1996 SEAL

ATTACHMENT 1

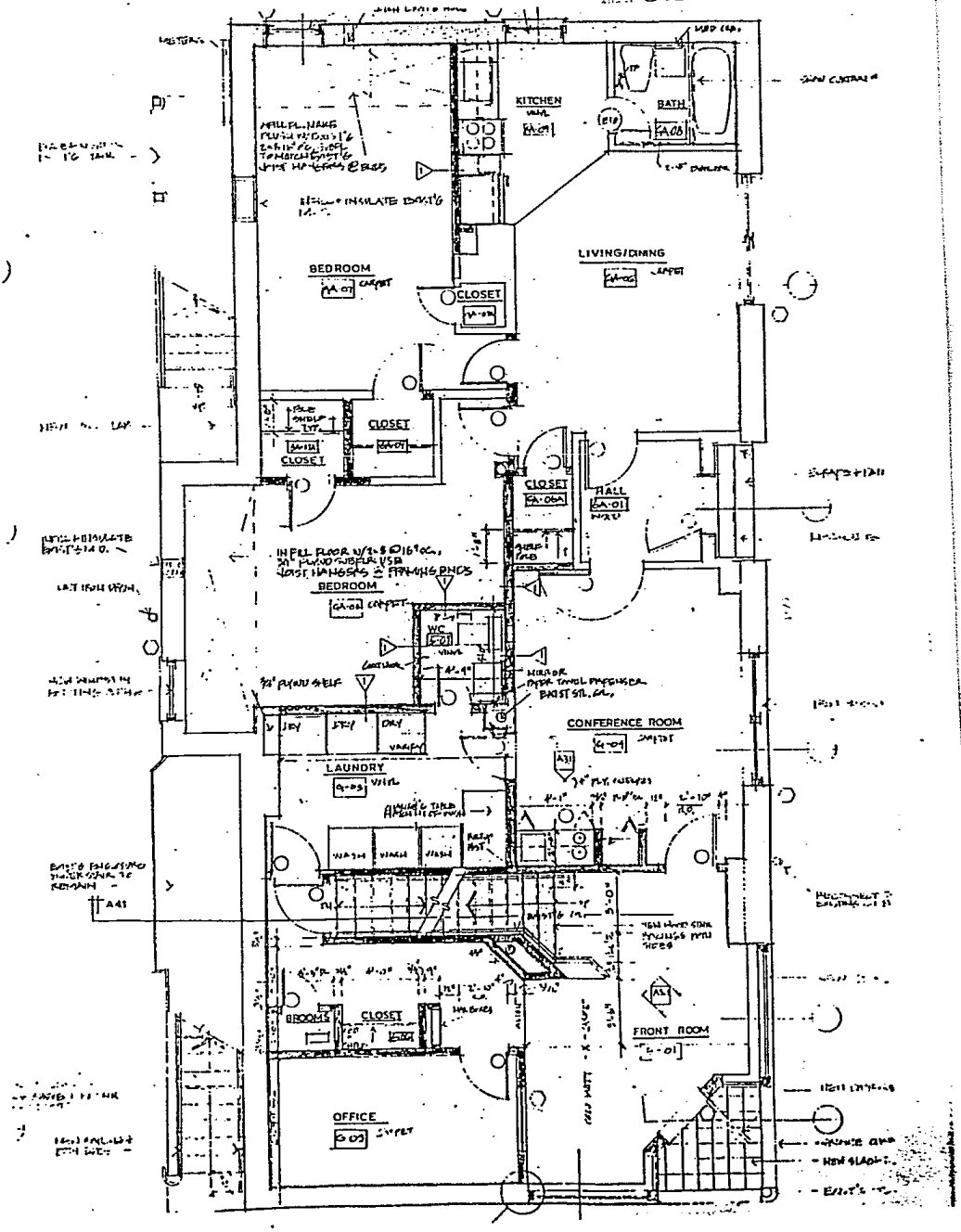
Instr 24154 Bk 9585 Pg 256

VICINITY MAP OF PROPOSED CONTRACT ZONE
IN THE VICINITY OF 245 HIGH STREET AND PARK AVENUE



ATTACHMENT 2

Instr 24154 Bk 9585 Pg 257



Recorded
Cumberland County
Registry of Deeds
06/10/91 09:42:03AM
Robert P. Titcomb
Register

CITY OF PORTLAND
Planning & Urban Development Department

TEXT AMENDMENT SUBMISSION CHECKLIST * Please upload each document and drawing as a separate PDF file * Please confirm each item by electronically checking the boxes to the left for each document/drawing	
GENERAL APPLICATION DOCUMENTS	
☑	**Project Description** • Cover Letter with detailed project description
☑	**Proposed Text Amendment** • Provide proposed language for text amendment(s) and cite the relevant sections to be revised in the Land Use code.
☑	**Consistency with Comprehensive Plan** • Analysis of the consistency of the zone change request with the goals, policies and land use plan of Portland's Comprehensive Plan.
☑	**Completed Checklist – Text Amendment Application** **(this document)**
☑	**Right, Title and Interest** • Deeds, leases, or purchase and sales agreements

PURCHASE AND SALE AGREEMENT

AGREEMENT made this 5th day of April, 2021, by and between The Opportunity Alliance, having an address at 50 Lydia Lane, South Portland Maine, 04106 ("Seller") and Community Housing of Maine, Inc., with an address at One City Center, 4th Floor, Portland, Maine ("Buyer").

1. Purchase and Sale of Property

Seller hereby agrees to sell to Buyer, and Buyer hereby agrees to purchase from Seller, on the terms and conditions hereinafter set forth, the property, including land and buildings, known as 22 Park Avenue, Portland, Maine, and all fixtures, appliances and improvements situated thereon, together with all easements and appurtenances benefiting such property, all of said property being hereinafter collectively referred to as the "Real Property."

2. Purchase Price

The purchase price for the Real Property shall be one ($1.00) Dollar, to be paid in cash or certified bank funds at closing. Seller may use the purchase money or any portion thereof to clear title of any encumbrances or interests.

3. Conveyance; Title

(a) Seller shall, on the date of closing, execute and deliver to Buyer a Quitclaim Deed with Covenant (the "Deed") describing the Real Property. Title to the Real Property shall be good and marketable and shall be free and clear of all liens and encumbrances except (i) zoning restrictions and land use matters; (ii) any covenants, restrictions or easements of record; (iii) current taxes and assessments; and (iv) any "Defects of Title" (as defined below) accepted or waived by Buyer pursuant to Section 3(b) below.

(b) Buyer shall have until closing to search record title and deliver notice of any title defects to Seller ("Defects of Title"). Should the title prove defective, then Seller shall have a reasonable time to remove the objectionable Defects of Title. If such Defect of Title cannot be removed by Seller, Buyer may either (i) terminate this Agreement, in which case both parties shall be released from their obligations hereunder, or (ii) consummate the sale of the Real Property in accordance with this Agreement without offset or reduction against the purchase price unless

otherwise agreed between Seller and Buyer.

(c) Except as set forth above with respect to title matters, the Real Property and all fixtures, appliances and improvements on the Real Property are sold "AS IS" and "WHERE IS" with no warranty or representation whatsoever.

4. Closing Date

The Closing shall take place on or before June 30, 2021 (the "Closing Date") in the offices of Murray, Plumb & Murray, 75 Pearl Street, Portland, Maine, or on such other date or at such other place as shall be mutually agreed to by both Buyer and Seller.

5. Default

If the transaction contemplated by this Agreement fails to close by reason of a breach by Buyer or Seller of its obligations hereunder, the non-defaulting party shall have all remedies available at law or equity.

6. Acceptance of Deed.

The acceptance of the Deed by Buyer at the Closing shall be deemed to be the full performance and discharge of every agreement, obligation and representation made on the part of Seller, except as expressly set forth herein or in such Deed. No provisions, agreements or representations herein shall survive the Closing except as specifically stated herein.

7. Miscellaneous

(a) Seller and Buyer shall each pay their portion of the Maine State Transfer Tax.

(b) Seller hereby acknowledges that Buyer is required to withhold 2½% of the purchase price pursuant to 36 M.R.S.A. §5250-A unless Seller presents to Buyer at closing a REW-2 Residency Affidavit certifying that Seller is a resident of the State of Maine, a Certificate of Exemption, or Certificate of Reduction from the State of Maine Bureau of Taxation.

(c) By signing this Contract, Buyer acknowledges that Buyer has been notified of the State of Maine's withholding tax requirement pursuant to 36 M.R.S.A. §5250-A.

(d) This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, personal representatives, successors in interest and assigns.

(e) This Agreement constitutes the entire Agreement between the parties, supersedes all prior negotiations and understandings among them, and shall not be altered or amended except by written amendment signed by Seller and Buyer.

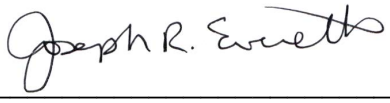
(f) This Agreement may be simultaneously executed in any number of counterparts, each of which when so executed and delivered shall be an original; but such counterparts shall constitute but one and the same instrument.

(g) This Agreement shall be construed and enforced in accordance with and governed by the laws of the State of Maine.

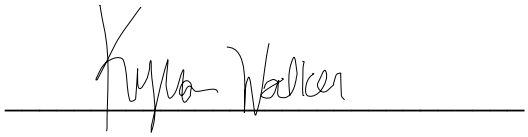
[signatures appear on following page]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as a sealed instrument on the date first above written.

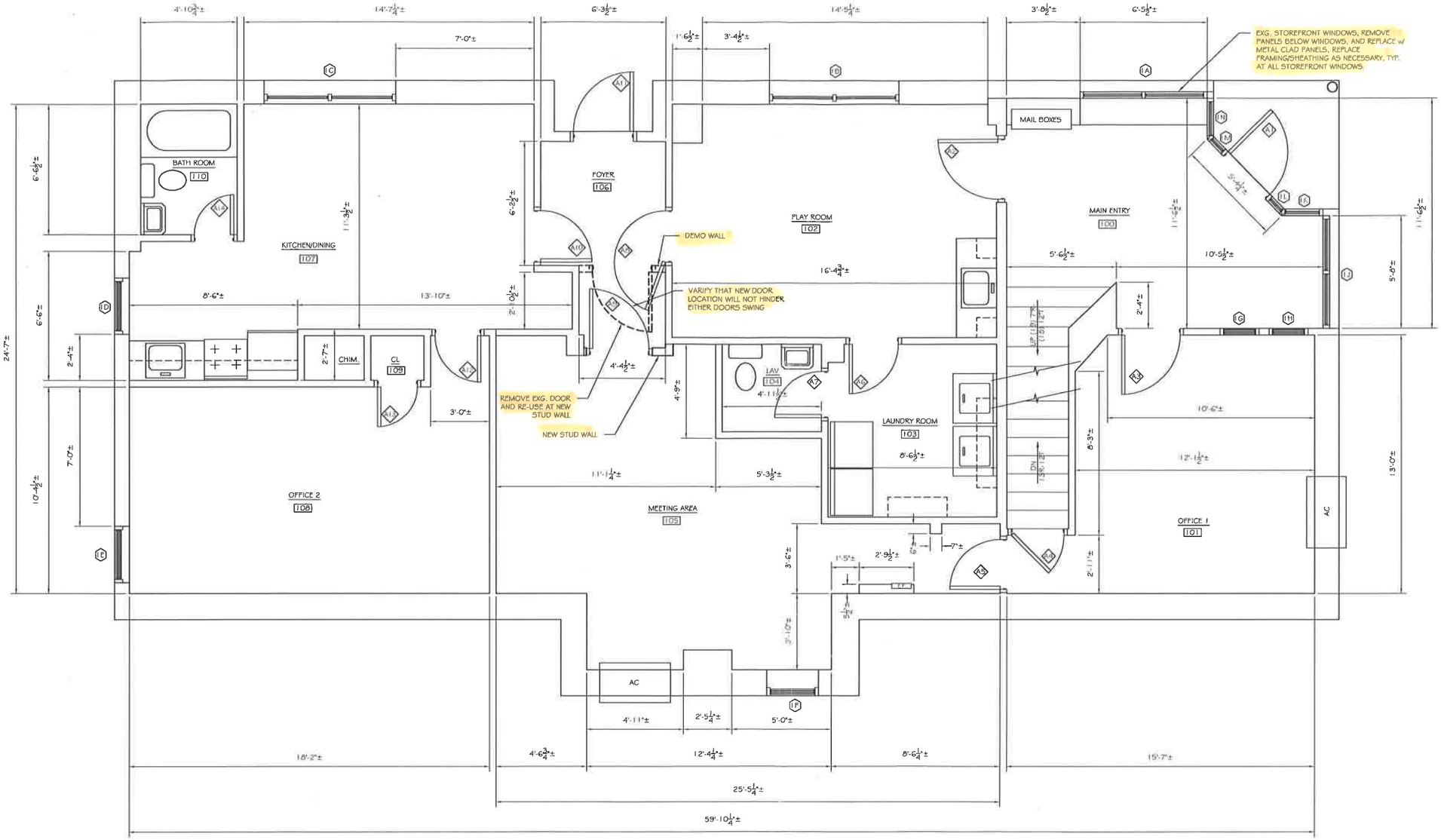
WITNESS:



Joseph Everett, The Opportunity Alliance, Seller



Cullen Ryan, Community Housing of Maine, Inc., Buyer



ROOM FINISH SCHEDULE

NO.	NAME	WALL FINISHES	WALLS SF	FLOOR FINISHES	FLOOR SF	CEILING FINISHES	CEILING SF	COMMENTS
100	MAIN ENTRY	GWB/STOREFRONT	-	VCT	132.50	2x2 ACOUSTIC CEILING TILE	132.50	REMOVE & REPLACE VCT FLOORING
101	OFFICE 1	GWB	-	VCT	166.20	2x2 ACOUSTIC CEILING TILE	166.20	
102	PLAY RM.	GWB	-	VCT	188.50	2x2 ACOUSTIC CEILING TILE	188.50	REMOVE & REPLACE VCT FLOORING
103	LAUNDRY RM.	GWB	-	LINOLEUM	73.70	2x2 ACOUSTIC CEILING TILE	73.70	
104	LAV	GWB	-	LINOLEUM	22.00	2x2 ACOUSTIC CEILING TILE	22.00	REPLACE BATHROOM FAN & VENT TO OUTSIDE
105	MEETING RM.	GWB	-	VCT	272.20	2x2 ACOUSTIC CEILING TILE	272.20	
106	FOYER	GWB	-	TILE	39.10	GWB	39.10	
107	KITCHEN/DINING	GWB/PANELING	-	VCT	217.80	2x2 ACOUSTIC CEILING TILE	217.80	REPLACE KITCHEN COOK HOOD & VENT TO OUTSIDE W/ SMOOTH WALL METAL DUCT
108	OFFICE 2	GWB/PANELING	-	VCT	196.30	2x2 ACOUSTIC CEILING TILE	196.30	
109	CLOSET	PANELING	-	VCT	6.00	2x2 ACOUSTIC CEILING TILE	6.00	
110	BATH RM.	GWB	-	LINOLEUM	32.10	GWB	32.10	REPLACE BATHROOM FAN & VENT TO OUTSIDE

NOTES:
1. PATCH AND PAINT ALL WALLS
2. STRIP, CLEAN, SEAL, WAX AND BUFF ALL EXG. VCT FLOORS
3. ALL SQUAR FOOT AMOUNTS ARE APROXIMATE
4. INSTALL ½" GYP @ ALL CEILINGS ABOVE ACT WHERE GYP IS DAMAGED BEYOND REPAIR.
5. Ⓣ = THERMOSTAT
6. ALL EXG. VCT STAIR LANDINGS AND TREADS TO BE REMOVED AND REPLACED w/ RUBBER TREADS AND LANDINGS.

A1 EXG. FIRST FLOOR PLAN
SCALE: 3/8" = 1'-0"

ASSOCIATED DESIGN PARTNERS INC.
80 Leighton Road
Falmouth, Maine 04105
Office: (207) 878-1751
Fax: (207) 878-1788
E-Mail: adp@adpengineering.com

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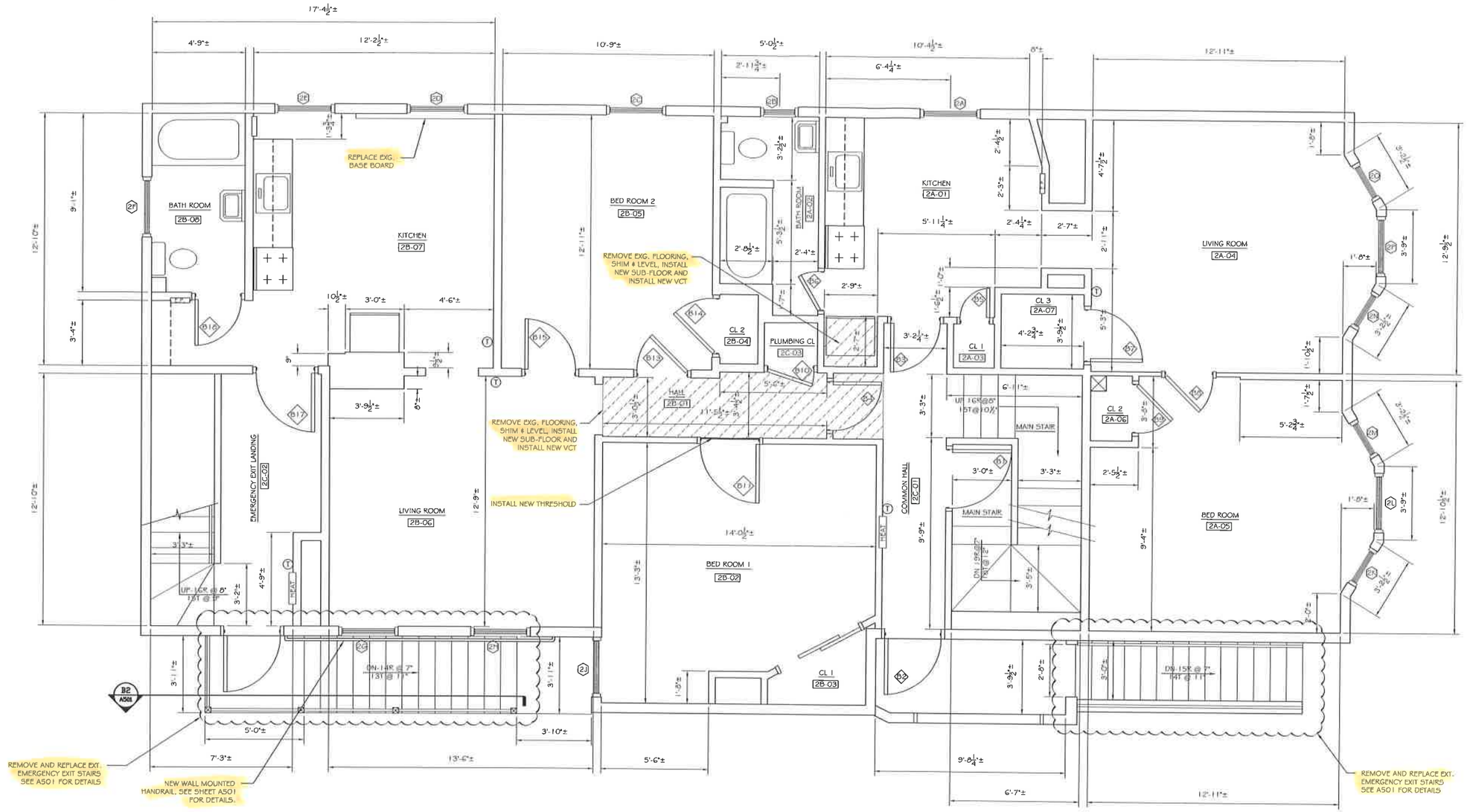
PROJECT: 22 PARK ST.
PORTLAND, MAINE
FOR:

SHEET TITLE: EXG. FIRST FLOOR PLAN

No.	BY	DESCRIPTION	DATE
A	JAT	REVISED FROM WALK THRU ON 2-5-09	2-9-09

REVISIONS

DATE : 2-6-09
SCALE : AS NOTED
DESIGN BY: JAT
DRAWN BY: RSC
FILE #: 08275-A101.DWG
PROJECT NUMBER: 08275
SHEET NO: A101



ROOM FINISH SCHEDULE

NO.	NAME	WALLS	WALLS SF	FLOOR	FLOOR SF	CEILING	CEILING SF	COMMENTS
2C-01	COM. HALL	GWB	-	VCT	61.30	2x2 ACOUSTIC CEILING TILE	61.30	INSPECT WALL HEATER
2C-02	E.E. STAIR	GWB	-	WOOD	59.60	2x2 ACOUSTIC CEILING TILE	59.60	
2C-03	PLUMB. CL.	UNKNOWN	-	UNKNOWN	6.00	UNKNOWN	6.00	
2A-01	KITCHEN	GWB/PANELING	-	VCT	117.80	2x2 ACOUSTIC CEILING TILE	117.80	REPLACE KITCHEN COOK HOOD & VENT TO OUTSIDE w/ SMOOTH WALL METAL DUCT, ADJUST AND RE-CAULK WINDOW 2A, REPLACE LIGHT FIXTURE ABOVE SINK
2A-02	BATH RM.	GWB	-	12x12 ADHESIVE BACKED VINYL	45.40	2x2 ACOUSTIC CEILING TILE	45.40	REPLACE BATHROOM FAN & VENT TO OUTSIDE w/ SMOOTH WALL METAL DUCT, REPLACE GFI OUTLET, REPLACE EXISTING VANITY w/ NEW 30" VANITY, REPLACE EXG. MEDICINE CABINET, STRIP AND RE-CAULK TUB, INSTALL NEW TRANSITION STRIP @ TUB BASE & RESEAL, & REPLACE DOOR
2A-03	CLOSET 1	GWB	-	VCT	4.70	2x2 ACOUSTIC CEILING TILE	4.70	
2A-04	LIVING ROOM	GWB/PANELING	-	VCT	179.90	2x2 ACOUSTIC CEILING TILE	179.90	REMOVE AND REPLACE VCT FLOORING
2A-05	BED RM.	GWB/PANELING	-	VCT	169.00	2x2 ACOUSTIC CEILING TILE	169.00	REMOVE AND REPLACE VCT FLOORING
2A-06	CLOSET 2	GWB	-	VCT	6.50	2x2 ACOUSTIC CEILING TILE	6.50	
2A-07	CLOSET 3	GWB	-	VCT	16.00	2x2 ACOUSTIC CEILING TILE	16.00	
2B-01	HALL	GWB	-	VCT	36.60	2x2 ACOUSTIC CEILING TILE	36.60	SEE NOTES ON DRAWING
2B-02	BED RM. 1	GWB/PANELING	-	VCT	163.80	2x2 ACOUSTIC CEILING TILE	163.80	
2B-03	CLOSET 1	GWB	-	VCT	13.40	2x2 ACOUSTIC CEILING TILE	13.40	INSTALL NEW HOLLOW CORE SLIDING DOOR
2B-04	CLOSET 2	GWB	-	VCT	6.80	2x2 ACOUSTIC CEILING TILE	6.80	
2B-05	BED RM. 2	PANELING	-	VCT	138.90	2x2 ACOUSTIC CEILING TILE	138.90	
2B-06	LIVING RM.	PANELING	-	VCT	170.70	2x2 ACOUSTIC CEILING TILE	170.70	
2B-07	KITCHEN	PANELING	-	VCT	171.60	2x2 ACOUSTIC CEILING TILE	171.60	REPLACE KITCHEN COOK HOOD & VENT TO OUTSIDE w/ SMOOTH WALL METAL DUCT, REPLACE CABINETS COMPLETE, REPLACE 2LF RADIANT HEAT BASEBOARD, REPLACE LIGHT FIXTURE ABOVE SINK
2B-08	BATH RM.	GWB	-	LENOLEUM	43.40	2x2 ACOUSTIC CEILING TILE	43.40	REPLACE BATHROOM FAN & VENT TO OUTSIDE w/ SMOOTH WALL METAL DUCT, REPLACE GFI OUTLET, REPLACE TOILET, REPLACE EXISTING VANITY w/ NEW 30" VANITY, REPLACE EXG. MEDICINE CABINET, STRIP AND RE-CAULK TUB, INSTALL NEW TRANSITION STRIP @ TUB BASE & RESEAL, & REPLACE DOOR

NOTES:
1. PATCH AND PAINT ALL WALLS
2. STRIP, CLEAN, SEAL, WAX AND BUFF ALL EXG. VCT FLOORS
3. ALL SQUAR FOOT AMOUNTS ARE APROXIMATE
4. INSTALL ½" GYP @ ALL CEILINGS ABOVE ACT WHERE GYP IS DAMAGED BEYOND REPAIR
5. Ⓣ = THERMOSTAT
6. ALL EXG. VCT STAIR LANDINGS AND TREADS TO BE REMOVED AND REPLACED w/ RUBBER TREADS AND LANDINGS.
7. REPLACE ALL APT. ENTRY DOORS w/ NEW STEEL DOORS, AND FRAMES.

A1 EXG. SECOND FLOOR PLAN
SCALE: ⅜"=1'-0"

ASSOCIATED DESIGN PARTNERS INC.
80 Leighton Road
Falmouth, Maine 04105
Office: (207) 878-1751
Fax: (207) 878-1788
E-Mail: adp@adpengineering.com

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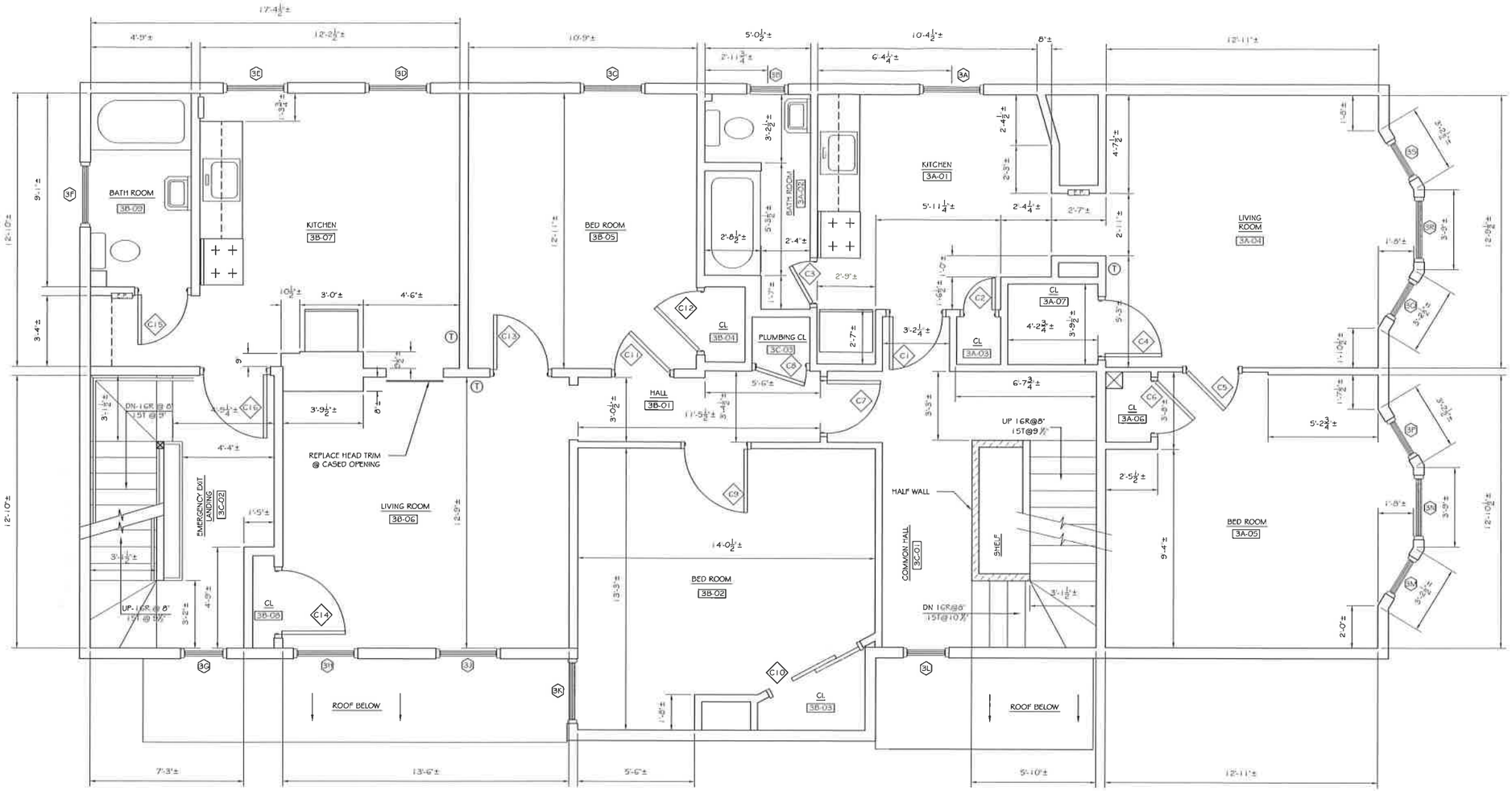
PROJECT: 22 PARK ST. PORTLAND, MAINE
FOR:
SHEET TITLE: EXG. SECOND FLOOR PLAN

No.	BY	REVISIONS DESCRIPTION	DATE
1	JAT	REVISED FROM WALK THRU ON 2-6-09	2-9-09

DATE : 2-6-09
SCALE : AS NOTED
DESIGN BY: JAT
DRAWN BY: RSC
FILE #: 08275-A101.DWG
PROJECT NUMBER: 08275
SHEET NO: A102



ROOM FINISH SCHEDULE

NO.	NAME	WALLS	WALL SF	FLOOR	FLOOR SF	CEILING	CEILING SF	COMMENTS
3C-01	COM. HALL	GWB	-	VCT	91.50	2x2 ACOUSTIC CEILING TILE	91.50	
3C-02	E.E. STAIR	GWB	-	WOOD	51.20	2x2 ACOUSTIC CEILING TILE	51.20	
3C-03	PLUMB. CL.	UNKNOWN	-	VCT	6.00	2x2 ACOUSTIC CEILING TILE	6.00	
3A-01	KITCHEN	GWB/PANELING	-	VCT	117.80	2x2 ACOUSTIC CEILING TILE	117.80	REPLACE KITCHEN COOK HOOD & VENT TO OUTSIDE w/ SMOOTH WALL METAL DUCT, REPLACE LIGHT FIXTURE ABOVE SINK
3A-02	BATH RM.	GWB	-	VCT	45.40	2x2 ACOUSTIC CEILING TILE	45.40	REPLACE BATHROOM FAN & VENT TO OUTSIDE w/ SMOOTH WALL METAL DUCT, REPLACE GFI OUTLET, REPLACE EXISTING VANITY w/ NEW 30" VANITY, REPLACE EXG. MEDICINE CABINET, STRIP AND RE-CAULK TUB, INSTALL NEW TRANSITION STRIP @ TUB-BASE & REISEAL, REMOVE EXG. FLOORING & REPLACE w/ LENOLEUM
3A-03	CLOSET 1	GWB	-	VCT	4.70	2x2 ACOUSTIC CEILING TILE	4.70	
3A-04	LIVING ROOM	GWB/PANELING	-	VCT	179.90	2x2 ACOUSTIC CEILING TILE	179.90	REMOVE & REPLACE VCT FLOORING
3A-05	BED RM.	GWB/PANELING	-	VCT	169.00	2x2 ACOUSTIC CEILING TILE	169.00	
3A-06	CLOSET 2	GWB	-	VCT	6.50	2x2 ACOUSTIC CEILING TILE	6.50	
3A-07	CLOSET 3	GWB	-	VCT	16.00	2x2 ACOUSTIC CEILING TILE	16.00	
3B-01	HALL	PANELING	-	VCT	36.60	2x2 ACOUSTIC CEILING TILE	36.60	ADD CLOSER TO ENTRY DOOR C7
3B-02	BED RM. 1	GWB/PANELING	-	VCT	163.80	2x2 ACOUSTIC CEILING TILE	163.80	
3B-03	CLOSET 1	GWB	-	VCT	13.40	2x2 ACOUSTIC CEILING TILE	13.40	REMOVE AND REPLACE SLIDING HOLLOW CORE CLOSET DOOR
3B-04	CLOSET 2	GWB	-	VCT	6.80	2x2 ACOUSTIC CEILING TILE	6.80	
3B-05	BED RM. 2	PANELING	-	VCT	138.90	2x2 ACOUSTIC CEILING TILE	138.90	
3B-06	LIVING RM.	PANELING	-	VCT	170.70	2x2 ACOUSTIC CEILING TILE	170.70	REMOVE & REPLACE VCT FLOORING, REPLACE HEAD TRIM @ CASED OPENING
3B-07	KITCHEN	PANELING	-	VCT	171.60	2x2 ACOUSTIC CEILING TILE	171.60	REPLACE KITCHEN COOK HOOD & VENT TO OUTSIDE w/ SMOOTH WALL METAL DUCT, REPLACE BROKEN CABINET DOOR ABOVE STOVE, REPLACE KITCHEN SINK FAUCET, REPLACE LIGHT FIXTURE ABOVE SINK
3B-08	CLOSET 3	GWB	-	VCT	4.40	2x2 ACOUSTIC CEILING TILE	4.40	
3B-09	BATH RM.	GWB	-	LENOLEUM	43.40	2x2 ACOUSTIC CEILING TILE	43.40	REPLACE BATHROOM FAN & VENT TO OUTSIDE w/ SMOOTH WALL METAL DUCT, REPLACE GFI OUTLET, REPLACE EXISTING VANITY w/ NEW 30" VANITY, REPLACE EXG. MEDICINE CABINET, STRIP AND RE-CAULK TUB, INSTALL NEW TRANSITION STRIP @ TUB-BASE & RESEAL, & REPLACE DOOR C15

NOTES:
1. PATCH AND PAINT ALL WALLS
2. STRIP, CLEAN, SEAL, WAX AND BUFF ALL EXG. VCT FLOORS
3. ALL SQUAR FOOT AMOUNTS ARE APROXIMATE
4. INSTALL ½" GYP @ ALL CEILINGS ABOVE ACT @HERE GYP IS DAMAGED BEYOND REPAIR
5. = THERMOSTAT
6. ALL EXG. VCT STAIR LANDINGS AND TREADS TO BE REMOVED AND REPLACED w/ RUBBER TREADS AND LANDINGS.
7. REPLACE ALL APT. ENTRY DOORS w/ NEW STEEL DOORS, AND FRAMES.

A1 EXG. THIRD FLOOR PLAN
SCALE: ⅜"= 1'-0"

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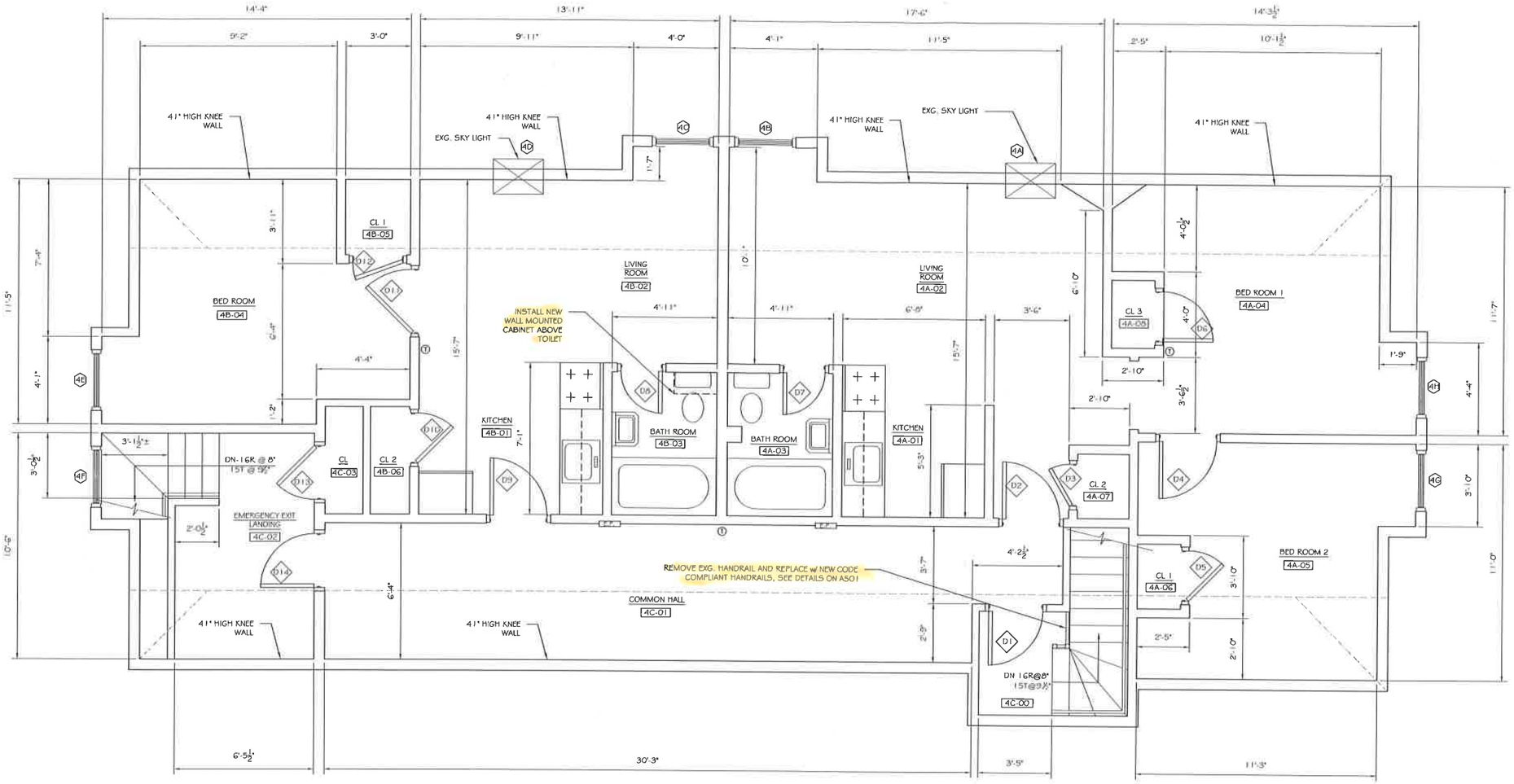
PROJECT: 22 PARK ST. PORTLAND, MAINE FOR:

SHEET TITLE: EXG. THIRD FLOOR PLAN

REVISIONS			
No.	BY	DESCRIPTION	DATE
1	JAT	REMOVED FROM WALK THRU ON 2-6-09	2-9-09

DATE : 2-6-09
SCALE : AS NOTED
DESIGN BY: JAT
DRAWN BY: RSC
FILE #: 08275-A101.DWG
PROJECT NUMBER: 08275
SHEET NO: A103



ROOM FINISH SCHEDULE

NO.	NAME	WALLS	WALLS SF	FLOOR	FLOOR SF	CEILING	CEILING SF	COMMENTS
4C-00	MAIN STAIR	GWB	-	VCT	17.40	GWB	17.50	REMOVE AND REPLACE STAIR HANDGUARD RAILS TO CODE
4C-01	COM. HALL	GWB	-	VCT	206.70	GWB	108.00	
4C-02	E.E. STAIR	GWB	-	VCT	61.00	GWB	40.30	
4C-03	CLOSET	GWB	-	VCT	8.75	2x2 ACOUSTIC CEILING TILE	8.75	
4A-01	KITCHEN	GWB/PANELING	-	VCT	48.00	2x2 ACOUSTIC CEILING TILE	48.00	REPLACE KITCHEN COOK HOOD & VENT TO OUTSIDE w/ SMOOTH WALL METAL DUCT, REPLACE LIGHT FIXTURE ABOVE SINK, REMOVE AND REPLACE VCT FLOORING
4A-02	LIVING RM.	GWB/PANELING	-	VCT	189.80	2x2 ACOUSTIC CEILING TILE	129.90	REMOVE AND REPLACE VCT FLOORING
4A-03	BATH RM.	GWB	-	VCT	32.80	GWB	32.80	REPLACE BATHROOM FAN & VENT TO OUTSIDE w/ SMOOTH WALL METAL DUCT, REPLACE GFI OUTLET, REPLACE EXISTING VANITY w/ NEW, REPLACE EXG. MEDICINE CABINET & LIGHT FIXTURE, INSTALL NEW TUB ENCLOSURE, INSTALL NEW TRANSITION STRIP @ TUB BASE & RESEAL, REMOVE & REPLACE DOOR D7, REMOVE AND REPLACE LINOLEUM
4A-04	BED RM. 1	GWB/PANELING	-	VCT	139.00	2x2 ACOUSTIC CEILING TILE	98.50	REMOVE AND REPLACE VCT FLOORING
4A-05	BED RM. 2	GWB/PANELING	-	VCT	121.20	2x2 ACOUSTIC CEILING TILE	80.30	REMOVE AND REPLACE VCT FLOORING
4A-06	CLOSET 1	GWB/PANELING	-	VCT	6.00	2x2 ACOUSTIC CEILING TILE	4.80	REMOVE AND REPLACE VCT FLOORING
4A-07	CLOSET 2	GWB/PANELING	-	VCT	7.30	2x2 ACOUSTIC CEILING TILE	7.30	REMOVE AND REPLACE VCT FLOORING
4A-08	CLOSET 3	GWB/PANELING	-	VCT	9.20	2x2 ACOUSTIC CEILING TILE	9.20	REMOVE AND REPLACE VCT FLOORING
4B-01	KITCHEN	GWB/PANELING	-	VCT	60.80	2x2 ACOUSTIC CEILING TILE	60.80	REPLACE KITCHEN COOK HOOD & VENT TO OUTSIDE w/ SMOOTH WALL METAL DUCT, REPLACE LOWER CABINETS COMPLETE, REPLACE KITCHEN SINK FAUCET, REPLACE LIGHT FIXTURE ABOVE SINK.
4B-02	LIVING RM.	PANELING	-	VCT	124.70	2x2 ACOUSTIC CEILING TILE	73.80	
4B-03	BATH RM.	GWB	-	VCT	32.80	GWB	32.80	REPLACE BATHROOM FAN & VENT TO OUTSIDE w/ SMOOTH WALL METAL DUCT, REPLACE GFI OUTLET, REPLACE EXISTING VANITY w/ NEW, REPLACE EXG. MEDICINE CABINET & LIGHT FIXTURE, STRIP AND RE-CAULK TUB, INSTALL NEW TRANSITION STRIP @ TUB BASE & RESEAL, INSTALL WALL MOUNTED CABINET ABOVE TOILET
4B-04	BED RM.	PANELING	-	VCT	132.40	2x2 ACOUSTIC CEILING TILE	103.10	
4B-05	CLOSET 1	GWB/PANELING	-	VCT	10.50	2x2 ACOUSTIC CEILING TILE	5.00	
4B-06	CLOSET 2	GWB/PANELING	-	VCT	9.20	2x2 ACOUSTIC CEILING TILE	9.20	

NOTES:
1. PATCH AND PAINT ALL WALLS
2. STRIP, CLEAN, SEAL, WAX AND BUFF ALL EXG. VCT FLOORS
3. ALL SQUAR FOOT AMOUNTS ARE APROXIMATE
4. INSTALL ½" GYP @ ALL CEILINGS ABOVE ACT WHERE GYP IS DAMAGED BEYOND REPAIR.
5. T = THERMOSTAT
6. ALL EXG. VCT STAIR LANDINGS AND TREADS TO BE REMOVED AND REPLACED w/ RUBBER TREADS AND LANDINGS.
7. INSULATE ATTIC ABOVE TO R49
8. REPLACE ALL APT. ENTRY DOORS w/ NEW STEEL DOORS, AND FRAMES.

A1 EXG. FOURTH FLOOR PLAN
SCALE: ⅜"= 1'-0"

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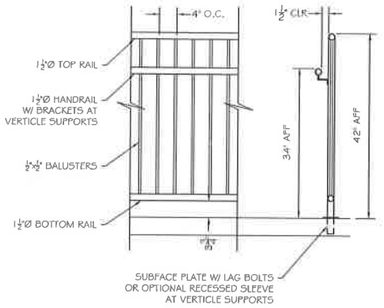
PROJECT: 22 PARK ST. PORTLAND, MAINE
FOR:
SHEET TITLE: EXG. FOURTH FLOOR PLAN

REVISIONS No.	BY	DESCRIPTION	DATE
1	JAT	REVISED FROM WALK THRU ON 2-5-09	2-9-09

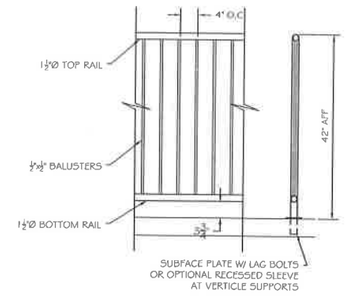
DATE : 2-6-09
SCALE : AS NOTED
DESIGN BY: JAT
DRAWN BY: RSC
FILE #: 08275-A101.DWG
PROJECT NUMBER: 08275
SHEET NO: A104



NOTE: 1½Ø INTERMEDIATE VERTICLE SUPPORTS AT 6'-0" O.C. MAX.

C4 TYPICAL GUARDRAIL / HANDRAIL

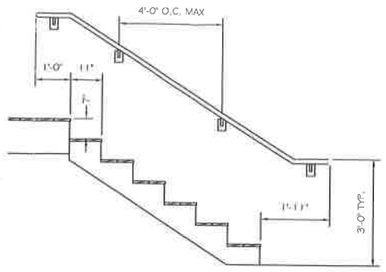
SCALE: NO SCALE



NOTE: 1½Ø INTERMEDIATE VERTICLE SUPPORTS AT 6'-0" O.C. MAX.

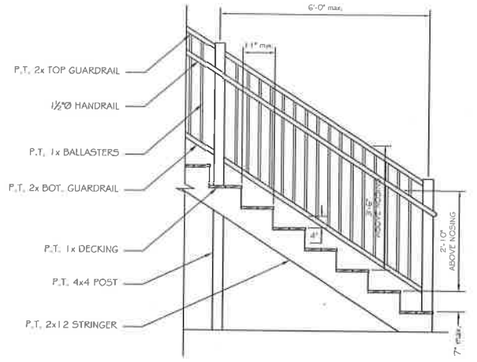
C3 TYPICAL GUARDRAIL

SCALE: NO SCALE



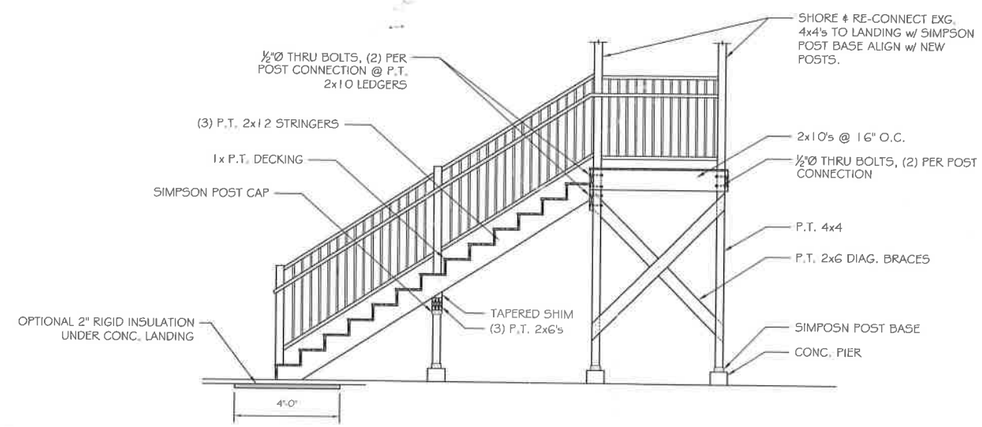
C2 TYP STAIR WITH WALL MOUNTED HANDRAIL

SCALE: NO SCALE



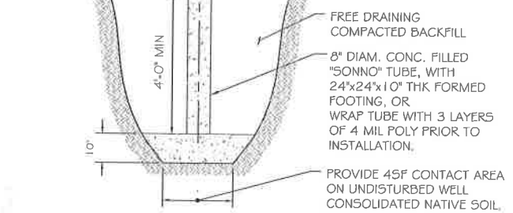
C1 TYPICAL BOTTOM OF STAIR DETAIL

SCALE: NO SCALE



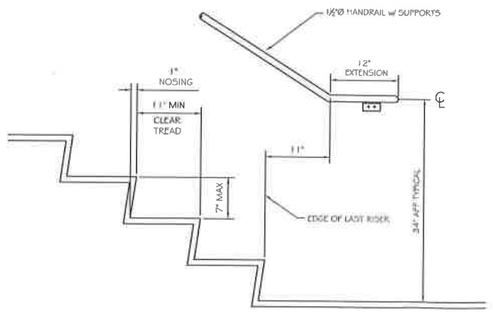
B2 TYP WALL MOUNTED HANDRAIL EXTENSION AT BOTTOM

SCALE: NO SCALE



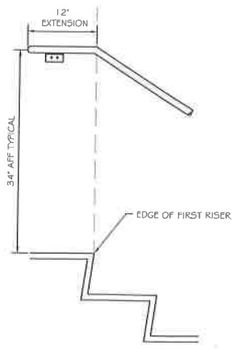
B1 TYPICAL CONCRETE PIER AT COLUMN

SCALE: NO SCALE



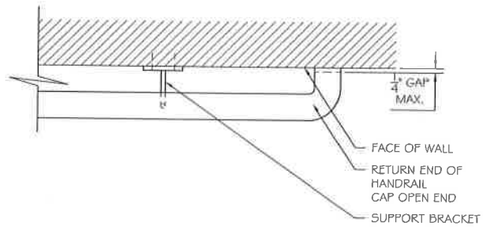
A3 TYP HANDRAIL EXTENSION AT BOTTOM

SCALE: NO SCALE



A2 TYP HANDRAIL EXTENSION AT TOP

SCALE: NO SCALE



A1 WALL MOUNTED HANDRAIL RETURN

SCALE: NO SCALE

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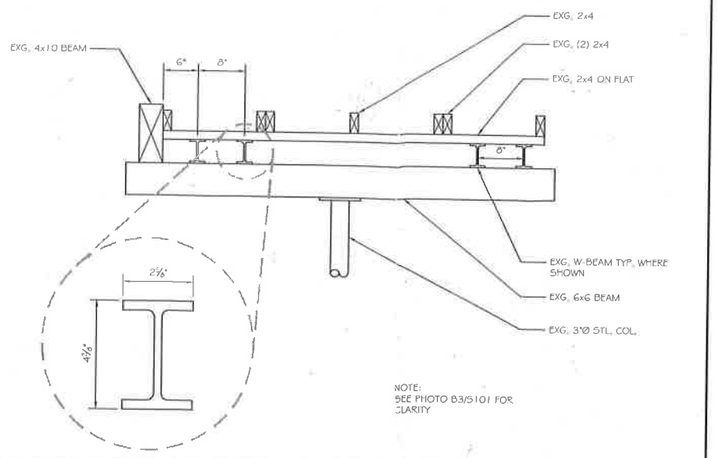
PROJECT: 22 PARK ST. PORTLAND, MAINE
FOR:

SHEET TITLE: TYP. STAIR DETAILS

No.	BY	DESCRIPTION	DATE
1	JAT	REVISED FROM WALK THRU ON 2-5-09	2-5-09

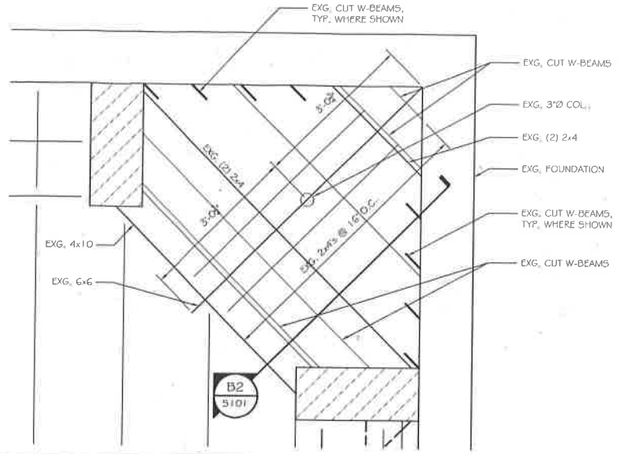
DATE : 2-6-09
SCALE : AS NOTED
DESIGN BY: JAT
DRAWN BY: RSC
FILE #: 08275-A501.DWG
PROJECT NUMBER: 08275
SHEET NO: A501

B3



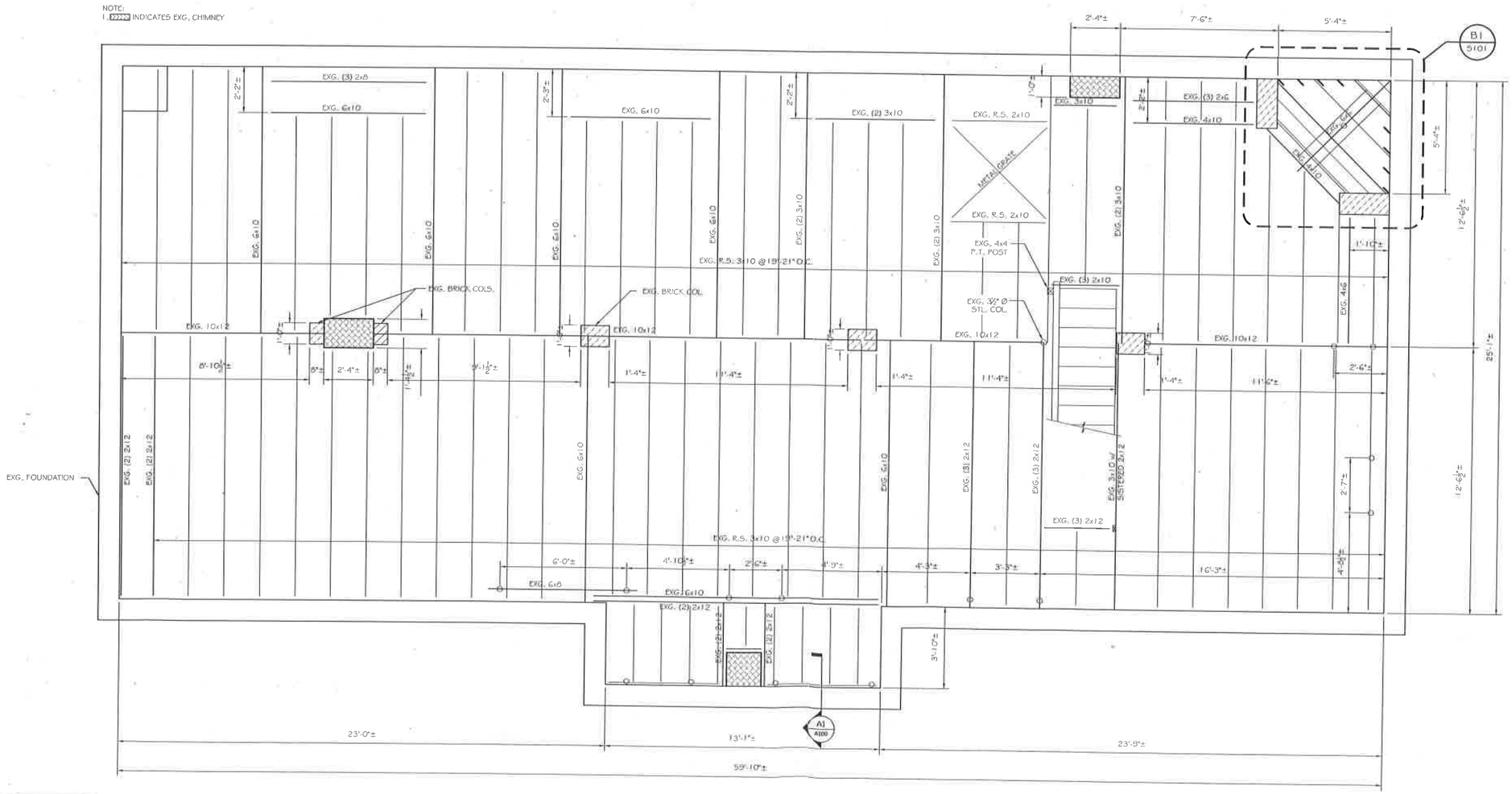
NOTE:
SEE PHOTO B3/S101 FOR CLARITY

B2 PARTIAL ENLARGED FRAMING PLAN
SCALE: 1"= 1'-0"



B1 PARTIAL ENLARGED FRAMING PLAN
SCALE: ¾"= 1'-0"

NOTE:
1. ▨ INDICATES EXG. CHIMNEY



A1 EXG. FIRST FLOOR FRAMING PLAN
SCALE: ⅜"= 1'-0"

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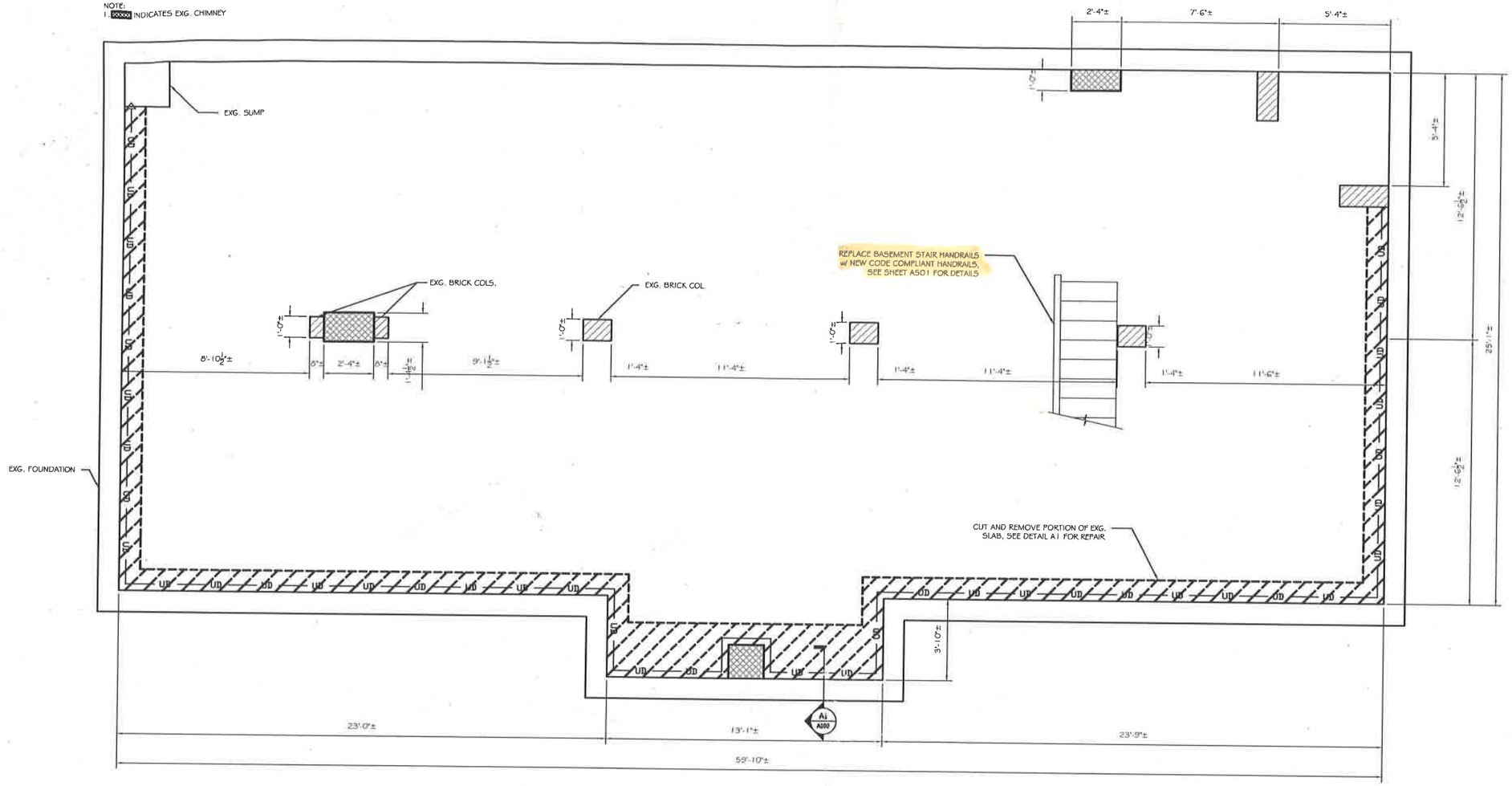
PROJECT: 22 PARK ST.
PORTLAND, MAINE
FOR:

SHEET TITLE: FIRST FLOOR FRAMING PLAN & FRAMING DETAILS

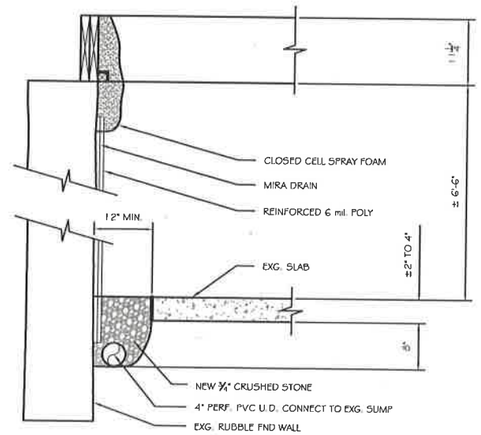
REVISIONS		
No.	BY	DESCRIPTION	DATE

DATE : 12-23-08
SCALE : AS NOTED
DESIGN BY: JAT
DRAWN BY: RSC
FILE #: 08275-S101.DWG
PROJECT NUMBER: 08275
SHEET NO: S201

NOTE:
1. XXXX INDICATES EXG. CHIMNEY



B1 EXG. BASEMENT PLAN
SCALE: ⅜"= 1'-0"



A1 FND WALL/SLAB FIX SECTION
SCALE: 1"= 1'-0"

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PROJECT: 22 PARK ST.
PORTLAND, MAINE
FOR:

SHEET TITLE: EXG. BASEMENT PLAN w/ DEMO, AND REPAIR SECTION

REVISIONS			
No.	BY	DESCRIPTION	DATE
1	JAT	REVISED PER WALK THRU ON 2-2-09	2-2-09

DATE : 2-6-09
SCALE : AS NOTED
DESIGN BY: JAT
DRAWN BY: RSC
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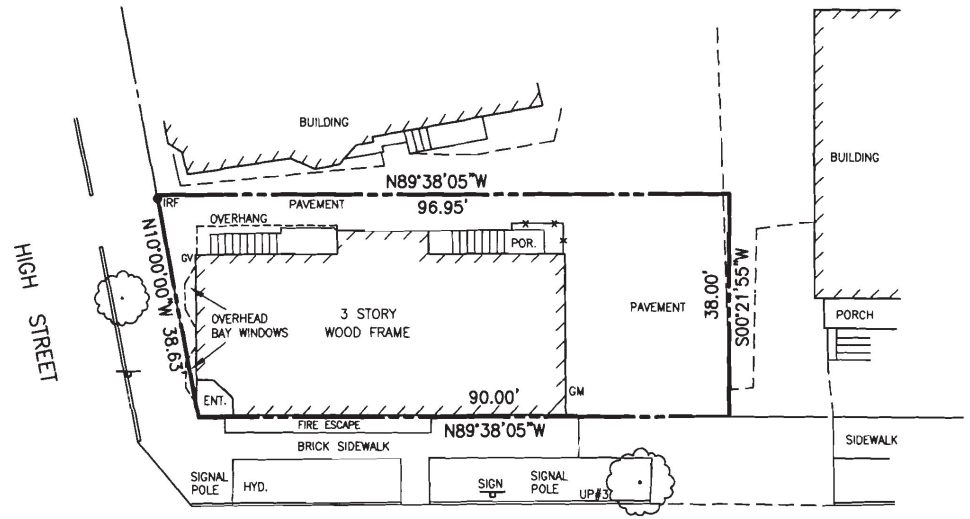
PROJECT NUMBER: 08275
SHEET NO: A100



PARK AVENUE

APR 2 4 2009

OWNER OF RECORD:

YOUNG WOMEN'S CHRISTIAN ASSOCIATION OF PORTLAND

CUMBERLAND COUNTY REGISTRY OF DEEDS
BOOK 8879 PAGE 350

CITY OF PORTLAND TAX MAP 36 BLK D LOT 9

THIS IS NOT A BOUNDARY SURVEY.

THIS SKETCH DOES NOT PURPORT TO NOR DOES IT IDENTIFY OR DELINATE THE LIMITS OF OWNERSHIP ON THE FACE OF THE EARTH OF THE SUBJECT PARCEL. THE PURPOSE OF THIS SKETCH IS TO SHOW THE APPROXIMATE RELATIONSHIP OF THE MAJOR STRUCTURES TO THE SUBJECT PARCEL AS PER DEED DESCRIPTION.

GRAPHIC SCALE

0 10' 20' 40'

CERTIFICATION IS HEREBY MADE TO:

THAXTER COMPANY

THAT THE EXISTING BUILDING SHOWN ON THIS PLAN IS SITUATED ON THE LOT AS DESIGNATED AND DOES COMPLY WITH APPLICABLE SETBACK REQUIREMENTS AT THE TIME OF CONSTRUCTION. CERTIFICATION IS ALSO MADE THAT THE BUILDING AND PREMISES DO NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY H.U.D.

PLOT PLAN

AT 22 PARK AVENUE, PORTLAND, MAINE

MADE FOR

YOUNG WOMEN'S CHRISTIAN ASSOCIATION OF PORTLAND

OWEN HASKELL, INC.
390 U.S. ROUTE ONE, FALMOUTH, ME 04105 (207) 774-0424

Drwn By EB	Date 04-23-09	Job No. 09-044P
Check By JWS	Scale 1" = 20'	Drwg. No. 1

PLANNING BOARD REPORT
PORTLAND, MAINE

211 Cumberland Avenue
Zoning Map Amendment
ZN-002321-2022

Submitted to:	Portland Planning Board	**Prepared By:**	Charles Tetelman
Public Hearing Date:	February 28, 2023	**Date:**	February 24, 2023

I. INTRODUCTION

Portland Housing Authority (PHA) and Portland Housing Development Corporation (PHDC) has submitted a zoning map amendment application requesting to rezone property at 211 Cumberland Avenue (Franklin Towers) from R-6 Residential to B-3 Downtown Business. The zoning map amendment also includes an amendment to the Downtown Height Overlay Map. Together, these zoning amendments would bring the property into zoning compliance, and would facilitate renovations to the Franklin Towers building, and allow for future development on the remainder of the site.

This application has been scheduled for a Planning Board Hearing without an initial Workshop.

Figure 1: Aerial View of 211 Cumberland Avenue

The Planning and Urban Development Department mailed 65 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the February 17, 2023 and February 21, 2023 editions of the *Portland Press Herald*.

Applicant: Portland Housing Authority (PHA)
Portland Housing Development Corporation (PHDC)

Applicant Consultants: Carroll Associates Landscape Architects

II. PROJECT DATA

Property Size	66,163 sq. ft.
Existing Zone	R-6 Residential

Existing Use	Residential
Proposed Zone	B-3 Downtown Business
Proposed Use	Residential

III. BACKGROUND & PROPOSED PROJECT

211 Cumberland Avenue is a 66,163 square foot lot and is the site of Franklin Towers, a 16-story (175 ft.) high-rise residential building that contains 200 subsidized housing units and an associated surface parking lot, owned and operated by the PHA. Franklin Towers was constructed in 1969.

The proposed zoning map amendments would facilitate PHA's future plans at 211 Cumberland Avenue which involve bringing Franklin Towers into zoning compliance and upgrading the building. This zoning amendment would also create opportunities for future development on the remainder of the parcel.

IV. EXISTING CONDITIONS AND SURROUNDING AREA

The proposed zoning map amendments include the PHA parcel at 211 Cumberland Avenue (Chart 026, Block P, Lot 4001). The site is bounded by Franklin Street, a wide urban arterial to the north, Cumberland Avenue, an urban major collector to the east, Wilmot Street, a local street to the south, and 127 Oxford Street, which is improved with a large industrial warehouse for Noyes and Sons to the west. The site currently includes Franklin Towers, a surface parking lot, and 200 affordable housing units.

The surrounding area contains a mix of medium- and high-density residential, commercial, institutional, and industrial uses as well as surface parking. Immediately north of the site is Franklin Street, which connects i-295 to the Portland waterfront. Across Franklin Street is the East Bayside neighborhood, which is characterized by a mix of single- and two-family, and multi-family residential as well as industrial and mixed-use buildings ranging between one and six-stories. Light Industrial uses in East Bayside are located west of Fox Street. The Cathedral of the Immaculate Conception, an approximately 200-foot-tall locally designated historic landmark is located northeast of the site, across Franklin Street along Cumberland Avenue. Immediately east of the site, across Cumberland Avenue, is the Top of the Old Port parking lot, a large surface parking lot. There are many residential buildings including single- and two-family and multi-family buildings south of the site. Portland City Hall and Merrill Auditorium are approximately three-blocks south of the site.

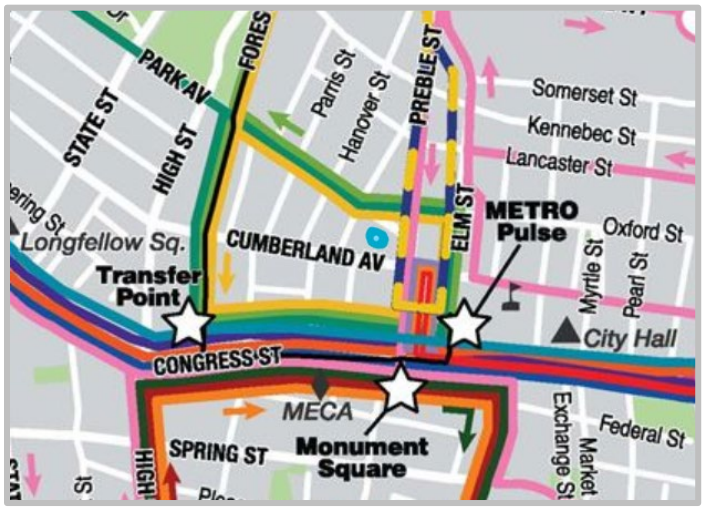


Figure 2: Transit Map (source: GP Metro)

The property at 211 Cumberland Avenue is located directly along the METRO Local Service Route 8. The site is in close proximity to three primary METRO transit hubs located within a half-mile radius including the Transfer Point at the corner of Congress Street and Forest Avenue, the Monument Square transit hub, and METRO Pulse located on Elm Street just off of Congress Street. Between these three nearby transit hubs, nearly all the METRO Routes are accessible. Additionally, Franklin Towers is near the head of the Bayside Trail which connects into the Back Cove Trail

and the Eastern Promenade Trail providing access to these trails for pedestrians or bicyclists.

The site is currently within an R-6 Residential zone, which extends both north and east of the site. Immediately east of the site, across Cumberland Avenue, property is zoned B-3 Downtown Business. Height in the B-3 zone is governed by the Downtown Height Overlay Map. Directly to the west, property is zoned B-7 Mixed Development. The B-2 Community Business zone is mapped along Cumberland Avenue to the west of Franklin Towers between Wilmot Street and Chestnut Street and permits building heights up to 50 feet if the first floor is used for commercial use.

V. PROPOSED MAP AMENDMENTS

I. Zoning Map Amendment (Plan 2)

The applicant proposes a zoning map amendment to rezone the parcel located at 211 Cumberland Avenue from R-6 Residential to B-3 Downtown Business. The B-3 zone will bring Franklin Towers into zoning conformity for both density and height. Currently, Franklin Towers is a legally nonconforming building with a height of approximately 175 feet, and a residential density well in excess of the R-6 density limit of 725 sq. ft. of lot area per dwelling unit. The lot is approximately 66,163 sq. ft. (according to the Assessor's Office) with a current density of approximately 330 sq. ft. lot area per dwelling unit, based upon the 200 existing residential units. With no density requirement in the B-3 Downtown Business zone, rezoning this site would allow for renovations and increased density, facilitating affordable housing opportunities near Portland's downtown core. The applicant's submittal (Plan 2) shows the proposed Zoning Map Amendment.

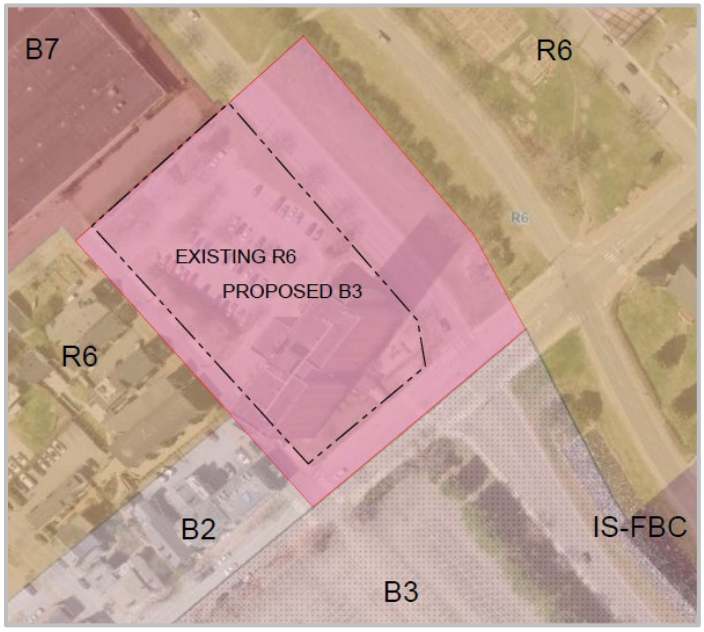


Figure 3: Proposed Zoning Map Amendment

II. Downtown Height Overlay Map Amendment (Plan 2 + Attachment 1)

As part of this application, PHA is also proposing an amendment to the Downtown Height Overlay Map, which governs height for sites within Portland's downtown core. The applicant is proposing a 150 ft. max building height with a 90 ft. maximum street wall and 30 ft. stepback requirement along Franklin Street and Cumberland Avenue as well as a 50 ft. maximum street wall and 15 ft. stepback along Wilmot Street and the backside of the parcel. Affordable housing projects located within the B-3 zone may utilize height and density bonuses. Height bonuses are specified in Section 18.2.4.A

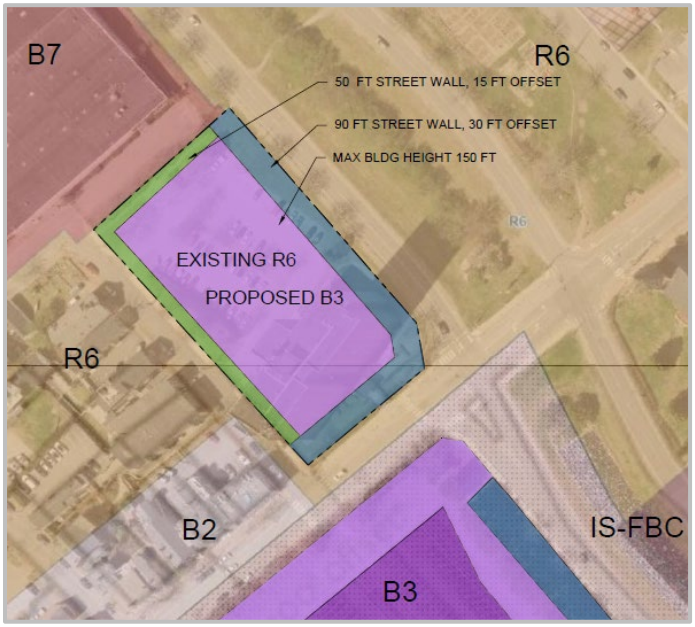


Figure 4: Downtown Height Map Overlay Amendment

and Table 18-C of the Land Use Code, and range from up to 10 feet for projects including a minimum of 20 percent of units as affordable and up to a height bonus of 25 feet for projects that include at least 75 percent of units as affordable.

VI. ZONING ANALYSIS

R-6 Residential Zone

The existing zoning at 211 Cumberland Avenue is zoned entirely R-6 Residential. The purpose of the R-6 Residential zone is 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."*

The R-6 zone limits residential density by requiring a minimum of 725 square feet of lot area per dwelling unit and further requires a minimum lot area of 2,000 square feet for residential uses. Maximum height in the R-6 zone is 45 feet or for R-6 buildings governed by the Bayside Height Overlay map 55 feet or 85 feet and 125 feet for the Franklin Towers parcel. Affordable housing height and density bonuses are not permitted in the R-6 zone. No off-street parking is required for the first three residential dwelling units and sites in the R-6 zone that are within a ¼ mile of fixed route transit may be exempt from providing parking as specified in Table 19-B of the Land Use Code.

B-3 Downtown Business Zone

The applicant is proposing to rezone 211 Cumberland Avenue to B-3 Downtown Business. The purpose of the B-3 Downtown Business zone is 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 business downtown, satisfying the related needs for 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, through the enhancement and maintenance of public and private open space, and through the enlivenment and increased attractiveness of the street environment; to encourage excellence in urban design; to preserve and capitalize on the unique character and historic fabric of the downtown through the encouragement of reuse of significant existing structures; to provide opportunity for an enhanced presence and integration of the arts and cultural activities; to reinforce the role of the downtown as a meeting place for community residents and visitors alike from all walks of life and all socio-economic groups; to provide adequate parking and transportation facilities which promote accessibility, enhance and encourage development opportunity, and enhance and protect the pedestrian environment."*

The B-3 Downtown Business zone has no density requirement. Building heights are governed by the Downtown Height Overlay Map and Bayside Height Overlay Map and range from 35 feet up to 210 feet. In addition, projects located within the B-3 zone that provide affordable housing may utilize height and density bonuses as outlined in Table 18-C. Immediately east of the site, across Cumberland Avenue, buildings are permitted heights up to 150 feet to a depth of 100 feet and then may rise to a maximum height of 190 feet. A 90-foot maximum street wall height after which a 30-foot minimum stepback is required is mapped along

Franklin Street. Sites in the B-3 zone that are within a ¼ mile of fixed route transit may be exempt from providing parking as specified in Table 19-B of the Land Use Code.

The applicant is proposing the B-3 zone to bring Franklin Towers into conformance zoning. The existing building is approximately 175 tall. The B-3 zone would allow the applicant to map 150 feet on the parcel. The 150-foot height may be increased when utilizing affordable housing height and density bonuses up to 25 feet, which would bring the 175-foot-tall building into conformance for height. The proposal would increase the height by 65 feet and by 25 feet on the western and easterly portions of the parcel, respectively and includes contextual maximum street wall heights of 90 feet along the parcel's Franklin Street and Cumberland Avenue frontages and 50 feet along the parcel's frontage of Wilmot Street and abutting property line with 127 Oxford Street. The lot is approximately 66,163 sq. ft. (according to the Assessor's Office) with a current density of approximately 330 sq. ft. lot area per dwelling unit. With no density requirement in the B-3 Downtown Business zone, rezoning this site to B-3 would bring the building into conformance with density requirements,

Table 1 provides a comparison of the permitted uses for zones under consideration. Uses marked with a 'P' are permitted uses in the zone. A 'C' indicates a conditional use. Uses with an empty cell are not permitted in the zone. '**' indicates that other restrictions may apply.

Table 2 provides a comparison of the dimensional requirements for zones under consideration.

Table 1 - Permitted Uses	R-6	B-3
Single-family dwellings	P	P
Two-family dwellings	P	P
Multi-family dwellings	P	P
Congregate care facilities		P
Handicapped family units	P	P
Special needs independent dwelling units	P	
Combined living/working spaces		P
Lodging houses	P	P
Sheltered care group homes	C	
Emergency shelters		C
Clinics		P
Elementary, middle, and secondary schools	C	P
Governmental uses	P	P
Hospitals	C	P
Intermediate care facilities	C	P
Long-term and extended care facilities	C	
Places of assembly (<10,000 sq. ft.)	C	P
Places of assembly (>10,000 sq. ft.)	C	P
Preschool facilities	C	P
Post-secondary schools	C	P
Bed and breakfasts	P/C*	P
Adult business establishments		P
Bars		P
Bed and breakfasts		P
Exhibition, meeting, and convention halls		P

General offices (<5,000 sq. ft.)	P	P
General offices (>5,000 sq. ft.)		P
General services (<5,000 sq. ft.)		P
General services (>5,000 sq. ft.)		P
Hostels	P/C**	
Hotels		P
Marijuana retail store		P
Registered marijuana dispensary		P
Restaurants		P
Retail (<5,000 sq. ft.)		P
Retail (5,000 – 25,000 sq. ft.)		P
Retail (>25,000 sq. ft.)		P
Small-scale marijuana caregiver		P
Theaters and performance halls		P
Communication studios		P
Laboratory and research facilities		C
Low-impact industrial (<10,000 sq. ft.)		P**
Printing and publishing		P
Repair services		P
Studios for artists and craftspeople		P
Warehouse, storage, and distribution		C**
Cemeteries	P	
Off-street parking	C	P/C**
Parks and open spaces	P	P
Solar energy system (minor)	P	P
Utility substations	C	C
Wind energy system (minor)		C

Table 2 - Zoning Requirements	R-6	B-3
Lot Size (min)	2,000 sq. ft. to 2 ac. (depending on use)	None
Density (lot are per dwelling unit)	725 sq. ft.	None
Street Frontage (min)	20 ft.	15 ft.
Front Yard (min)	5 ft.	
Front Yard (max)		5 ft.
Rear Yard (min)	10 ft.	None
Side Yard (max)	5 ft.	None
Side Yard (Side Street, min)	None	None
Stepbacks	10 ft. from side property line and 15ft. from rear property line	None
Lot Coverage (max)	60%	25% above 125 ft.
Impervious Area (max)		None

Lot Width (min)	20 ft.	
Building Height (max)	45 ft.** 55 ft in Bayside Height Overlay Map 85 ft /125 ft Franklin Towers	Downtown Height Overlay Map
Floor Area (max)		10,000 sq. ft. (laboratory and research facilities, warehousing)

VII. COMPREHENSIVE PLAN CONSISTENCY

Staff have identified that the map amendment aligns with Portland's comprehensive plan, *Portland's Plan 2030* by enhancing the ability for the applicant to rehabilitate existing affordable housing and facilitate future affordable housing development in downtown Portland, providing the opportunity for housing within an urban context, and potentially increasing the services provided within a walking and transit radius. In addition, the map amendment would foster sustainable growth by providing contextually appropriate housing density in and approximate to neighborhood centers, concentration of services, and transit nodes and corridors as a means of supporting complete neighborhoods. Relevant Comprehensive Plan goals and objectives also include:

Environmental:

Support Sustainable Land Use & Transportation Policies

"Adopt sustainable land use and transportation policies that support connectivity, walkable neighborhoods, and multi-modal transportation."

Housing:

Remove Housing Barriers

"Evaluate whether current zoning allows for new development consistent with historic patterns of form, density, and/or use, as well as whether it allows for priority growth areas."

Promote Sustainability

"Encourage energy efficiency in new construction and rehabilitation of our housing stock."

Adapt Affordable Housing

"Assess the capacity of existing affordable housing developments, many of which were built over four decades ago, to adapt to current best practices by improving energy efficiency and physical and social connections to surrounding neighborhoods."

"Pursue new opportunities for increased energy efficiency, increased densities, mixed incomes, and greater connectivity to surrounding neighborhoods."

"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."

Future Land Use

Priority Nodes & Corridors

"Priority nodes and corridors indicate areas that would be appropriate for new development to provide needed housing, businesses, and services proximate to transit, or areas that otherwise warrant some examination of potential for positive change in form and/or function."

VIII. NEIGHBORHOOD MEETING & PUBLIC COMMENT

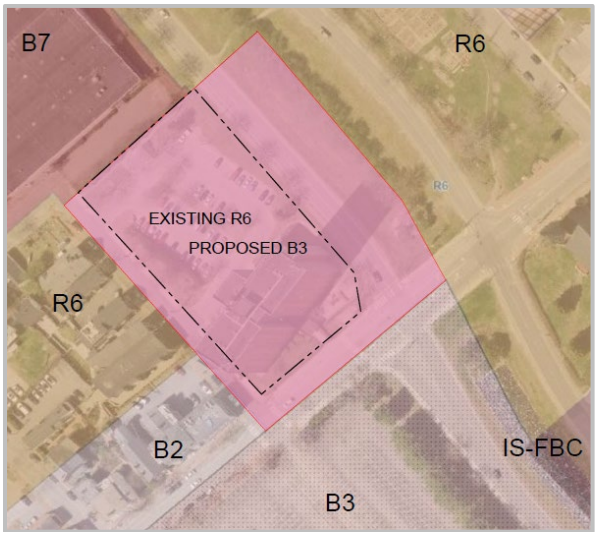
No public comment has been submitted and the applicant was not required to hold a neighborhood meeting as part of this application.

IX. REQUISITE COUNCIL ACTION

Any proposed rezoning, regardless of whether it is recommended by the Planning Board, must be approved by City Council vote in order to take effect.

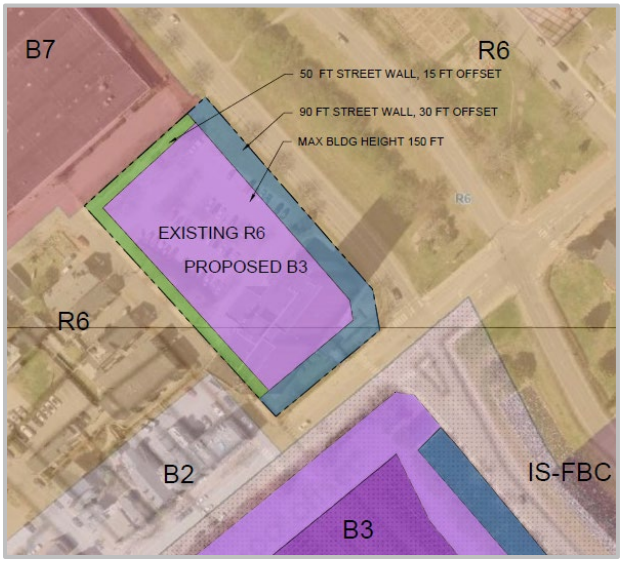
X. PROPOSED MOTIONS

1. On the basis of materials submitted by the applicant, the City of Portland Land Use Code, Portland's Comprehensive Plan, public comment, and the information provided in the public hearing on February 28, 2023 for the application ZN-002321-2022 (211 Cumberland Avenue), and/or other findings, the Planning Board finds that the proposed zoning map amendment **[is/is not]** consistent with the Comprehensive Plan for the city of Portland; and therefore, the Planning Board **[recommends/does not recommend]** to the City Council adoption of the Zoning Map amendment for the area of land that includes 211 Cumberland Avenue as shown below:



2. On the basis of materials submitted by the applicant, the City of Portland Land Use Code, Portland's Comprehensive Plan, public comment, and the information provided in the public hearing on February 28, 2023 for the application ZN-002321-2022 (211 Cumberland Avenue), and/or

other findings, the Planning Board finds that the proposed Downtown Height Overlay Map amendment **[is/is not]** consistent with the Comprehensive Plan for the city of Portland; and therefore, the Planning Board **[recommends/does not recommend]** to the City Council adoption of the Downtown Height Overlap Map amendment for the area of land that includes 211 Cumberland Avenue as shown below:



XI. ATTACHMENTS

REPORT ATTACHMENTS

1. Proposed Downtown Height Overlay Map

APPLICANT SUBMITTAL

A. Project Summary
B. Consistency with Comprehensive Plan
C. Checklist
D. Right, Title, & Interest

PLANS

Plan 1. Vicinity Map
Plan 2. Proposed Zoning Map and Downtown Height Overlay Map Amendments
Plan 3. Site Map

Downtown Height Overlay
Portland, Maine

Proposed Changes 2/28/2023

Areas Eligible for Architectural Cap***

Eligible areas are shown below:

Height Overlay Legend

Maximum Height (ft.)

35	90**
45	125
50**	150
65	190
85	210

planning & urban development

0 500 1,000 2,000 3,000 4,000 Feet

Notes:

No new construction of any building shall be less than 35 ft. in height within 50 ft. of any street frontage. See Land Use Code for exceptions.

Maximum street wall height within the B-3 zone is 65 ft. unless otherwise noted.

*Boundary offsets are from street centerline unless otherwise noted.

**Multiple stepbacks cumulatively reaching at least the minimum noted above (15 and 30 ft.) are acceptable.

***Architectural Cap Allowance: The building form may extend up to 40 ft. above the designated height limit for the purpose of proving a distinctive graduated design for an architectural building top and to enclose rooftop appurtenances. No habitable floor area shall be developed within the building envelope provided by the addition 40 ft. unless at least 50% of such habitable floor area is devoted exclusively to one or more publicly accessible uses, and provided that such floor area is incidental to the primary design intent of the space.

Commissioners
Kristin Blum, Chair
Monique Mutumwinka, Vice Chair
Christian MilNeil, Commissioner
Shirley Peterson, Commissioner
Thomas Valleau, Commissioner
Joan White, Commissioner
Robert Dunfey, Commissioner

PORTLAND HOUSING AUTHORITY

Brian Frost
Executive Director
14 Baxter Blvd.
Portland, Maine 04101
Office: 207-773-4753
Fax: 207-761-5886
www.porthouse.org

December 27, 2022

Christine Grimando, Director of Planning & Urban Development
Kevin Kraft, Deputy Director of Planning & Urban Development
City of Portland, Planning and Urban Development Department
389 Congress Street, 4th Floor
Portland, Maine 04101

RE: Map Amendment Application
Franklin Towers, 211 Cumberland Avenue
Tax Map 26-P-4

Dear Christine and Kevin,

On behalf of Portland Housing Authority (PHA) and Portland Housing Development Corporation (PHDC), we are pleased to submit this Application for a Map Amendment for Franklin Towers. The parcel is currently in the R-6 District. We propose a Map Amendment to rezone the entire parcel to the B-3 District, which mirrors the zoning across Cumberland Avenue and helps connect the B-3 and B-7 Districts.

In the short-term, a B-3 zoning change will facilitate the much-needed renovation of Franklin Towers and bring the property into zoning compliance. In the long-term, it will allow PHA to retain the parking lot land for future use. PHA's Strategic Vision Plan imagines new affordable multifamily infill development on this parking lot and potentially on newly available land if Franklin Street is reconfigured.

The upcoming Franklin Towers renovation will make this landmark property more physically, financially, and environmentally sustainable so it can continue to offer 200 quality affordable homes to low-income Portlanders. We welcome the opportunity to discuss plans with Planning Staff and the Planning Board, and look forward to working closely with you as this important project advances. Please contact us if you have questions or need additional information.

Sincerely,

Tyler Plante
Development Officer
PHA & PHDC

2. Consistency with Comprehensive Plan

The proposed Map Amendment of the Franklin Towers parcel to the B-3 district is consistent with, and advances, the City of Portland's Comprehensive Plan (Portland's Plan 2030). In the short-term, a zoning change will facilitate a much-needed rehabilitation of this high-rise building. In the long-term, it will allow Portland Housing Authority (PHA) to retain the parking lot land for future development. PHA's Strategic Vision Plan for Franklin Towers imagines new affordable multifamily infill development on the existing parking lot and on newly available land following Franklin Arterial redesign.

Policy Guide: Environment

7. SUPPORT SUSTAINABLE LAND USE & TRANSPORTATION POLICIES

- ***"Continue to develop land use policies which support complete neighborhoods."*** – Franklin Towers provides 200 affordable homes for mostly seniors and persons with disabilities. The site embodies walkable urbanism thanks to its adjacency to downtown, grocery stores, shops, community facilities and services, parks and METRO bus service. The property receives a Walk Score of 98 ("Walkers Paradise") and is conveniently located at the corner of four downtown neighborhoods – East Bayside, West Bayside, Old Port and India Street. To promote pedestrian connectivity, three sides of the property have public sidewalks and the fourth side is a gravel pedestrian walkway from the corner of Wilmot and Oxford Streets to Franklin Arterial. There is an on-site METRO bus stop along Cumberland Ave (Route 8). The property offers on-site resident services to meet the needs of our low-income residents. These services include a small health clinic in collaboration with Greater Portland Health, dental clinic in collaboration with University of New England (UNE), classes in collaboration with Portland Adult Education, case management services, hairdresser, small library, and resident convenience store, among others. The property includes numerous gathering and resident service spaces. The near-term renovation of Franklin Towers will allow the property to support its residents with quality housing, services, multimodal transportation options, greater accessibility, and convenient access to walkable destinations on Portland's peninsula. Future infill development next door will mean more Portlanders can enjoy these walkable destinations, services and amenities.

Policy Guide: Housing

3. REMOVE HOUSING BARRIERS

- ***"Evaluate whether current zoning allows for new development consistent with historic patterns of form, density, and/or use, as well as whether it allows for priority growth areas."*** – The current R-6 zoning does not align with the Business zones seen Downtown (B-3), along Cumberland Avenue (B-2 and B-3), or down Franklin Street (B-7). It is also overly restrictive for the subject parcel, which is centrally located on Portland's peninsula, enjoys convenient access to METRO bus service, and is highly walkable. PHA believes the building is a legally established non-conforming structure developed long before the current R-6 district was enacted. Despite being located along a "Priority Corridor" and adjacent to three "Priority Nodes" (East Bayside, West Bayside and Downtown) , no future infill development would be permitted on this parcel under

R-6. PHA's long-term Strategic Vision Plan for Franklin Towers imagines new affordable multifamily development atop existing surface parking; the narrowing of Franklin Street and new infill development on this newly available land; and the reconnection of Franklin and Oxford Streets. Prior to the Urban Renewal era in the 60's and early-70's, the Bayside neighborhood enjoyed high housing densities, a gridded street network, utilization of the entire lot for residential structures, and mixed-uses, which is not allowable within today's R-6 district. The proposed Map Amendment will help support a return to historical patterns of density, forms and uses in Bayside and Downtown, and advance affordable housing production in the future.

4. PROMOTE SUSTAINABILITY

- ***"Encourage energy efficiency in new construction and rehabilitation of our housing stock."*** – The renovation of Franklin Towers will significantly improve the building's energy-efficiency through new windows, insulation, air sealing, and upgrades to mechanical and heating equipment. PHA aims to electrify its portfolio and retrofit buildings to be electrification-ready.

8. SUPPORT AGE-FRIENDLY HOUSING OPTIONS

- ***"Create, promote, and facilitate safe, affordable, and practical housing solutions that will meet the evolving needs of Portland residents as they age."*** – Franklin Towers has traditionally served seniors and persons with disabilities. The renovation will increase the number of accessible units for persons with a physical disability, sight-impairment, and/or hearing-impairment. Sitework will improve accessible routes throughout the site. Resident services offered at Franklin Towers will continue to help support aging-in-place and adult education. A small Greater Portland Health clinic and University of New England dental clinic currently operate there and provide basic healthcare services to residents. Future residents of future PHA properties next door could utilize these healthcare services to improve public health for low-income persons and underserved communities.

9. ADAPT AFFORDABLE HOUSING

- ***"Assess the capacity of existing affordable housing developments, many of which were built over four decades ago, to adapt to current best practices by improving energy efficiency and physical and social connections to surrounding neighborhoods."*** – Franklin Towers contains 200 apartments, making it Maine's largest affordable housing community. For over 50 years, Franklin Towers has reliably offered low-income seniors affordable, safe, quality homes. It is also Maine's tallest occupied building (soon to be second tallest). The proposed renovation of Franklin Towers will make this landmark property more physically, financially and environmentally sustainable so it can continue to serve Portlanders for decades to come.
- ***"Pursue new opportunities for increased energy efficiency, increased densities, mixed incomes, and greater connectivity to surrounding neighborhoods."*** – Renovation will significantly increase energy-efficiency of the building (see "4. Promote Sustainability" above). Franklin Towers is ideally located at the corner of four downtown neighborhoods – East Bayside, West Bayside, Old Port and India Street. It will continue to enjoy excellent walkability and an on-site METRO bus stop. Rezoning will allow PHA to pursue affordable infill development in the future.

Transportation

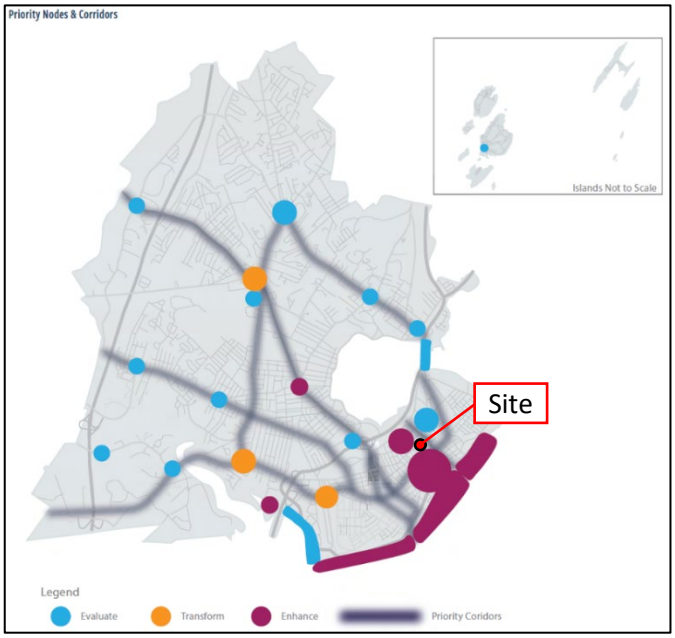
10. INVEST IN PUBLIC TRANSIT

- ***"Create incentives to spur transit-oriented, mixed use development along corridors and in areas that can support high quality transit service."*** – Rezoning this parcel will enhance future affordable infill development in a walkable downtown site with an on-site METRO bus stop for Route 8 (see "7. Support Sustainable Land Use & Transportation Policies" above).

Future Land Use

PRIORITY NODES & CORRIDORS

- ***"Priority nodes and corridors indicate areas that would be appropriate for new development to provide needed housing, businesses, and services proximate to transit, or areas that otherwise warrant some examination of potential for positive change in form and/or function."*** – Franklin Towers is located along a "Priority Corridor" and adjacent to three "Priority Nodes" – East Bayside, West Bayside and Downtown. Given this proximity, additional housing density is appropriate.



CITY OF PORTLAND
Planning & Urban Development Department

Attachment No.		
	MAP AMENDMENT SUBMISSION CHECKLIST * Please submit each document and drawing as a separate PDF file * Please submit all drawings in a 24 x 36 sheet size * Please confirm each item by electronically checking the boxes to the left for each document/drawing	
	GENERAL APPLICATION DOCUMENTS	
1	☑	Project Description • Cover Letter with detailed project description
2	☑	Consistency with Comprehensive Plan • Analysis of the consistency of the zone change request with the goals, policies and land use plan of Portland's Comprehensive Plan.
3	☑	Completed Checklist – Map Amendment Application (this document)
4	☑	Right, Title and Interest • Deeds, leases, or purchase and sales agreements
	PLANS	
5	☑	Vicinity Map
6	☑	Proposed Map Amendment (please use the Portland zoning map as a reference)
7	☑	Site Plan (if applicable) Provide a site plan of the property showing existing and proposed improvements, including such features as buildings, parking, driveways, walkways, landscape and property boundaries.

4043

Know all Men by these Presents, That

127

Corbin & to Portland Housing Authority - War

WE, Exerlia Corbin and Ernest E. Corbin, both of Portland in the County of Cumberland and State of Maine,

in consideration of one dollar and other valuable consideration paid by PORTLAND HOUSING AUTHORITY, a public body corporate and politic existing under the laws of the State of Maine, located in the County of Cumberland and State of Maine,

the receipt whereof we do hereby acknowledge, do hereby give, grant, bargain, sell and convey unto the said

PORTLAND HOUSING AUTHORITY, its successors and assigns forever, the following described property:

a certain lot or parcel of land, with the buildings thereon, situated in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning at a point on the northeasterly side line of Wilmot Street at the westerly corner of land formerly of Eben S. Stevens; thence from said point of beginning northwesterly by the side line of Wilmot Street forty-seven (47) feet, more or less to Dyer's Lane so-called; thence northeasterly by said Dyer's Lane eighty (80) feet,more or less, to land now or formerly of Jesse S. Felt; thence southeasterly by said Felt land fifty (50) feet, more or less, to land formerly of Eben S. Stevens; thence southwesterly by said Stevens land eighty (80) feet, more or less, to Wilmot Street and point of beginning.

Subject to the agreement, reservation and exception in deed of Eben S. Stevens to George W. Stevens dated October 18, 1877 recorded in the Cumberland County Registry of Deeds in Book 343, Page 242, insofar as the same are applicable.

Being the same premises conveyed to the grantors herein by Roland J. Goyer et al, by deed dated January 27, 1965 and recorde in said Registry of Deeds in Book 2877, Page 229.

The Grantors herein also convey all right,title and interest, if any, in and to all passageways, lanes, streets, or alleys, adjoining, abutting and/or running with the above described premises.

To Have and to Hold the aforegranted and bargained premises, with all the privileges and appurtenances thereof, to the said

PORTLAND HOUSING AUTHORITY, its successors

~~heirs~~ and assigns, to it and their use and behoof forever. And we do covenant with the said Grantee, its successors ~~heirs~~ and assigns, that we are lawfully seized in fee of the premises; that they are free of all incumbrances, that we have good right to sell and convey the same to the said Grantee to hold as aforesaid; and that we and our heirs and assigns shall and will warrant and defend the same to the said Grantee, its successors ~~heirs~~ and assigns forever, against the lawful claims and demands of all persons.

In Witness Whereof, we ~~Ernest E. Corbin and~~ Exerlia Corbin, being ~~husband and wife~~ unmarried,

and Ernest E. Corbin and Dorothy Ann Corbin, wife of the said Ernest E. Corbin

joining in this deed as Grantors, and relinquishing and conveying our rights by descent and all other rights in the above described premises, have hereunto set our hands and seals this twenty-seventh day of May in the year of our Lord one thousand nine hundred and sixty-six.

Signed, Sealed and Delivered in presence of

Ronald Z. Kelley (to all)

Exerlia Corbin
Dorothy Corbin
Ernest E. Corbin

State of Maine, Cumberland ss. May 27 1966

Personally appeared the above named ~~Exerlia and~~ Ernest E. Corbin

and acknowledged the foregoing instrument to be his free act and deed.

Before me, Ronald Z. Kelley ~~Notary Public~~ JUSTICE OF THE PEACE.

DOCUMENTARY .50 .50 DOCUMENTARY 5 5 DOCUMENTARY .65 .65

STATE OF MAINE, CUMBERLAND COUNTY, SS. REGISTRY OF DEEDS

Received MAY 27 1966 at 4 o'clock 25 m. P. M., and recorded in BOOK 2937 PAGE 127 Attest: Leonard P. Tuttle Register.

Falledo
&
to
Portland
Housing
Authority
-
War

90

FORM 1200 MAINE Warranty Deed

4019

TUTBLANX REGISTERED U.S. PAT. OFFICE
Tuttle Law Print Publishers, Rutland, Vt

Know all Men by these Presents

That We, MANUEL F. FALLEDO and LAURA B. FALLEDO, both of Portland in the County of Cumberland and State of Maine,

in consideration of ONE DOLLAR and OTHER VALUABLE CONSIDERATION

paid by PORTLAND HOUSING AUTHORITY, a public body corporate and politic existing under the laws of the State of Maine, located in the County of Cumberland and State of Maine,

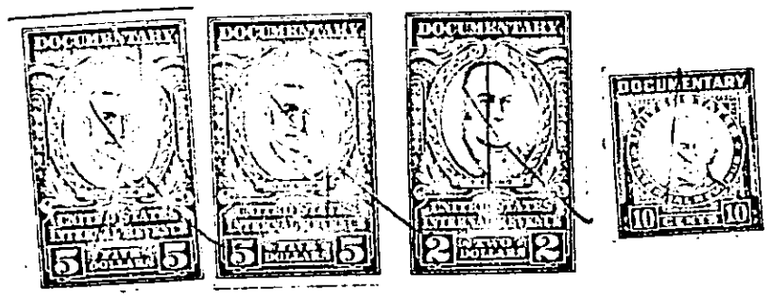
the receipt whereof we *do hereby acknowledge, do hereby* give, grant, bargain, sell and convey *unto the said* PORTLAND HOUSING AUTHORITY its successors ~~heirs~~ *and assigns forever,*

a certain lot or parcel of land with the buildings thereon situated on the northwesterly side of Cumberland Avenue and the southwesterly side of Franklin Street, in said City of Portland bounded and described as follows:

Beginning at a stake on the southwesterly side of Franklin Street northwesterly of Cumberland Avenue and fifty-six (56) feet from the corner of the underpinning stone of the dwelling house at the westerly corner of Franklin Street and Cumberland Avenue; thence southeasterly by said Franklin Street fifty-six (56) feet, more or less, to Cumberland Avenue; thence southwesterly by said Cumberland Avenue fifty (50) feet, more or less, to land formerly in possession of Simeon T. Rice; thence northwesterly by said Rice land fifty-five (55) feet, more or less, to land formerly of Isaac Fickett; thence northeasterly forty-seven (47) feet, more or less, to Franklin Street and the point of beginning.

Being the same premises conveyed to the Grantors herein by Leura Langley by deed dated November 21, 1960 recorde in the Cumberland County Registry of Deeds in Book 2576, Page 252.

The Grantees herein also convey all right, title and interest, if any, in and to all passageways, lanes, streets, or alleys, adjoining, abutting and/or running with the above described premises.



To Have and to Hold *the aforegranted and bargained premises with all the privileges and appurtenances thereof to the said*

PORTLAND HOUSING AUTHORITY, its successors

~~heirs~~ *and assigns, to* its *and their use and behoof forever.*

And we do *COVENANT with the said Grantee* , its successors ~~heirs~~ *and assigns, that* we are *lawfully seized in fee of the premises that they are free of all encumbrances:*

that we *have good right to sell and convey the same to the said Grantee to hold as aforesaid; and that* we *and* our *heirs shall and will WARRANT and DEFEND the same to the said Grantee* , its successors ~~heirs~~ *and assigns forever, against the lawful claims and demands of all persons.*

In Witness Whereof, we *the said* MANUEL F. FALLEDO

and LAURA B. FALLEDO

being husband and *wife* ~~aforesaid~~

joining in this deed as Grantors , *and relinquishing and conveying* our *right by descent and all other rights in the above described premises, have hereunto set* our *hands and seals this* twenty-sixth *day of* May *in the year of our Lord one thousand nine hundred and* sixty-six.

Signed, Sealed and Delivered
in presence of

Ronald Z Kellam
(to Both)

Manuel F Falledo
Laura B Falledo

State of Maine, Cumberland } ss. May 26, 19 66

Personally appeared the above named

MANUEL F. FALLEDO and LAURA B. FALLEDO *and acknowledged the above instrument to be* their *free act and deed.*

Before me,

Ronald Z Kellam
Justice of the Peace.

MAY 27 1966.
REGISTRY OF DEEDS, CUMBERLAND COUNTY, MAINE
Received at 11 H 17 M, and recorded in
BOOK 2959 PAGE 90 Edward P. Nelson Register

Geisinger

to

Portland Housing Authority

War

216

1815 No. 166

Know All Men by these Presents,

That LOTTIE M. GEISINGER, of Portland in the County of Cumberland and State of Maine,

in consideration of One Dollar and other valuable considerations,

paid by PORTLAND HOUSING AUTHORITY, a body corporate and politic existing under the laws of the State of Maine,

the receipt whereof I do hereby acknowledge, do hereby give, grant, bargain, sell and convey, unto the said PORTLAND HOUSING AUTHORITY,

its Successors ~~xxxxx~~ and Assigns forever,

the following described property:

A certain lot or parcel of land, with the buildings thereon, situated in said Portland, bounded and described as follows:

Beginning on the northwesterly side of Cumberland Street (now Avenue) fifty (50) feet from Franklin Street; thence running southwesterly by Cumberland Avenue Fifty (50) feet to the easterly corner of land formerly owned by John Neal; thence northwesterly Eighty (80) feet, more or less, keeping with the width of Fifty (50) feet to land formerly owned by the heirs of Parker Illsley, and being the same lot of land conveyed to Charles R. Phinney and Andrew L. Geele by deed of John F. Procter dated December 1, 1892, and recorded in Cumberland County Registry of Deeds in Book 596, Page 206, and the same conveyed by said Charles R. Phinney to said Andrew L. Geele by deed dated July 20, 1906, and duly recorded in said Registry. Being the same premises conveyed to Freida Bernstein by deed of Andrew L. Geele dated May 28, 1925 and recorded in said Registry of Deeds in Book 1202, Page 312.

Being the same premises conveyed by Ruth E. MacDowell to Harry Geisinger by deed dated June 12, 1956 recorded in said Registry of Deeds in Book 2089, Page 119. The grantee herein assumes responsibility for the 1966 taxes.

~~xxxx

The grantor herein also conveys all rights, title and interest, if any, in and to all passageways, lanes, streets, or alleys, adjoining, abutting and/or running with the above described premises.

To have and to hold the aforegranted and bargained premises, with all privileges and appurtenances thereof to the said Portland Housing Authority, its Successors ~~XXXXXX~~ and Assigns, to its and their use and behoof forever.

And I do covenant with the said Grantee, Its successors ~~XXXXX~~ and Assigns, that I am lawfully seized in fee of the premises; that they are free of all incumbrances;

that I have good right to sell and convey the same to the said Grantee to hold as aforesaid; and that I and my Heirs, shall and will Warrant and Defend the same to the said Grantee, its Successors ~~XXXXXX~~ and Assigns forever, against the lawful claims and demands of all persons.

In Witness Whereof, WE the said LOTTIE M. GEISINGER and ABE GEISINGER, husband of the said LOTTIE M. GEISINGER, joining in this deed as Grantors and relinquishing and conveying our rights by descent and all other rights in the above described premises,

~~XXX~~ ~~wife of the said~~

~~joining in this deed as Grantor and relinquishing and conveying~~ ~~rights by descent and all other rights in the above described premises,~~ have hereunto set our hands and seals this Second day of ~~April~~ May in the year of our Lord one thousand nine hundred and 66.

Signed, Sealed and Delivered in presence of

Louis Kimmelman
to both

Lottie M. Geisinger
Abe Geisinger

State of Maine, CUMBERLAND, ss. May 7, 19 66

Personally appeared the above named Lottie M. Geisinger

248

and acknowledged the above instrument to be her free act and deed.

Before me, Louis Freedman

Justice of the Peace

REGISTRY OF DEEDS
CUMBERLAND COUNTY MAINE
Received MAY 2 1966
at 11 H 8 M A M, and recorded
in BOOK 2955 PAGE 246
Attest: Lawrence R. Thurston
Register

I. T. S.

(PLEASE GIVE REGISTRY REFERENCES)

1816

STATE OF MAINE

BUREAU OF TAXATION

CERTIFICATE OF DISCHARGE OF INHERITANCE TAX LIEN

State of Maine

to

Palmer Est

-

Disch

Estate of Mildred E. Palmer

Late of South Portland, Maine

Date of Death June 23, 1959

Testate or intestate Testate

Docket No. 55220

I, the State Tax Assessor, hereby certify that the real property described below has been and hereby is discharged of any lien for any inheritance and estate tax, with any interest thereon, due because of the death of the above named decedent. This certificate is to be recorded in the Registry of Deeds as provided by M. R. S. 1964, Title 36, Section 3404.

Land and buildings located at 51 Mitchell Road in South Portland, County of Cumberland and State of Maine; buildings being a wooden dwelling, asphalt shingles, 7 rooms and 1½ bath with attached 1-car garage; land 100 ft. x 150 ft.

Land and cottage located at White's Bridge, Town of Standish, County of Cumberland and State of Maine; wooden building of 6 rooms and bath; land 1½ lots with 75 ft. frontage on Sebago Lake, Jordan's Bay.

Date signed APR 29 1966

Ernest H. Johnson
State Tax Assessor

State of Maine
Kennebec, SS.

Augusta, APR 29 1966

Personally appeared the above named Ernest H. Johnson and acknowledged the above instrument to be his free act and deed in his said capacity.

Marjorie R. Russell
Notary Public

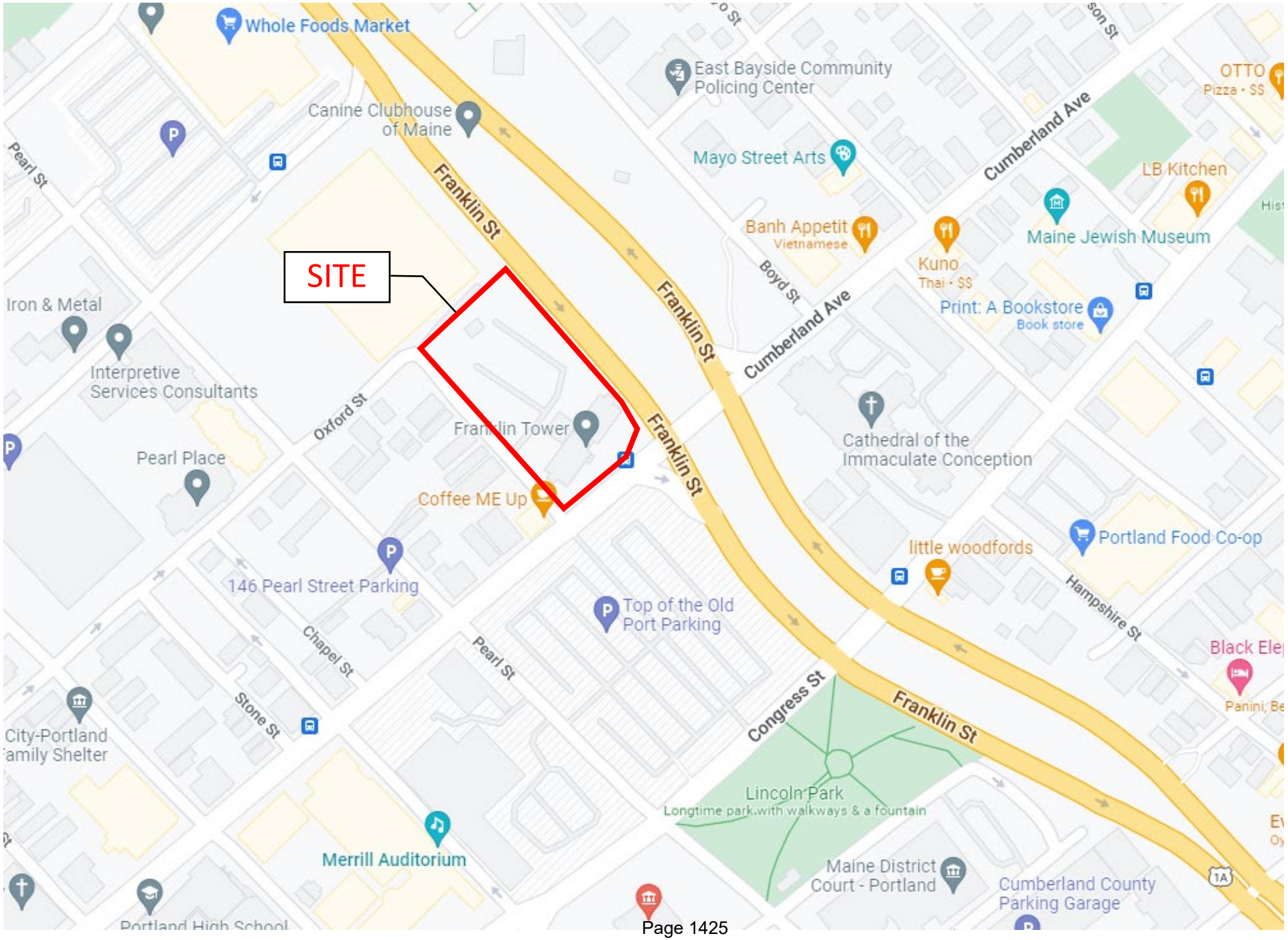
My Commission Expires 5/8/70

NOTARY PUBLIC MAINE

MAY 2 1966
REGISTRY OF DEEDS, CUMBERLAND COUNTY, MAINE
Received at 11 H 25 M. and recorded in
BOOK 2955 PAGE 248 Lawrence R. Thurston Register

Franklin Towers

211 Cumberland Avenue, Portland, ME 04101

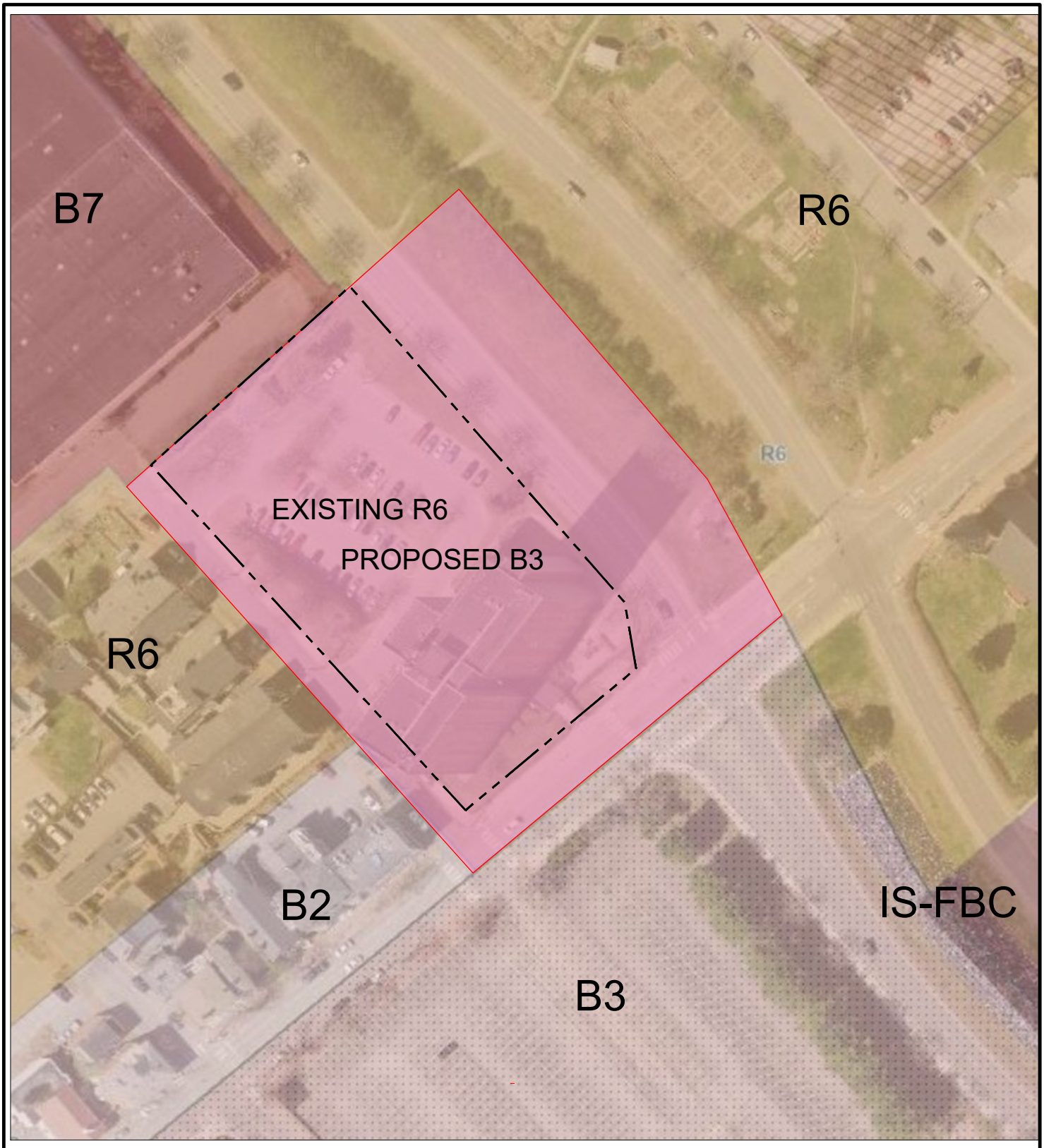


Franklin Towers

211 Cumberland Avenue, Portland, ME 04101

Franklin Towers

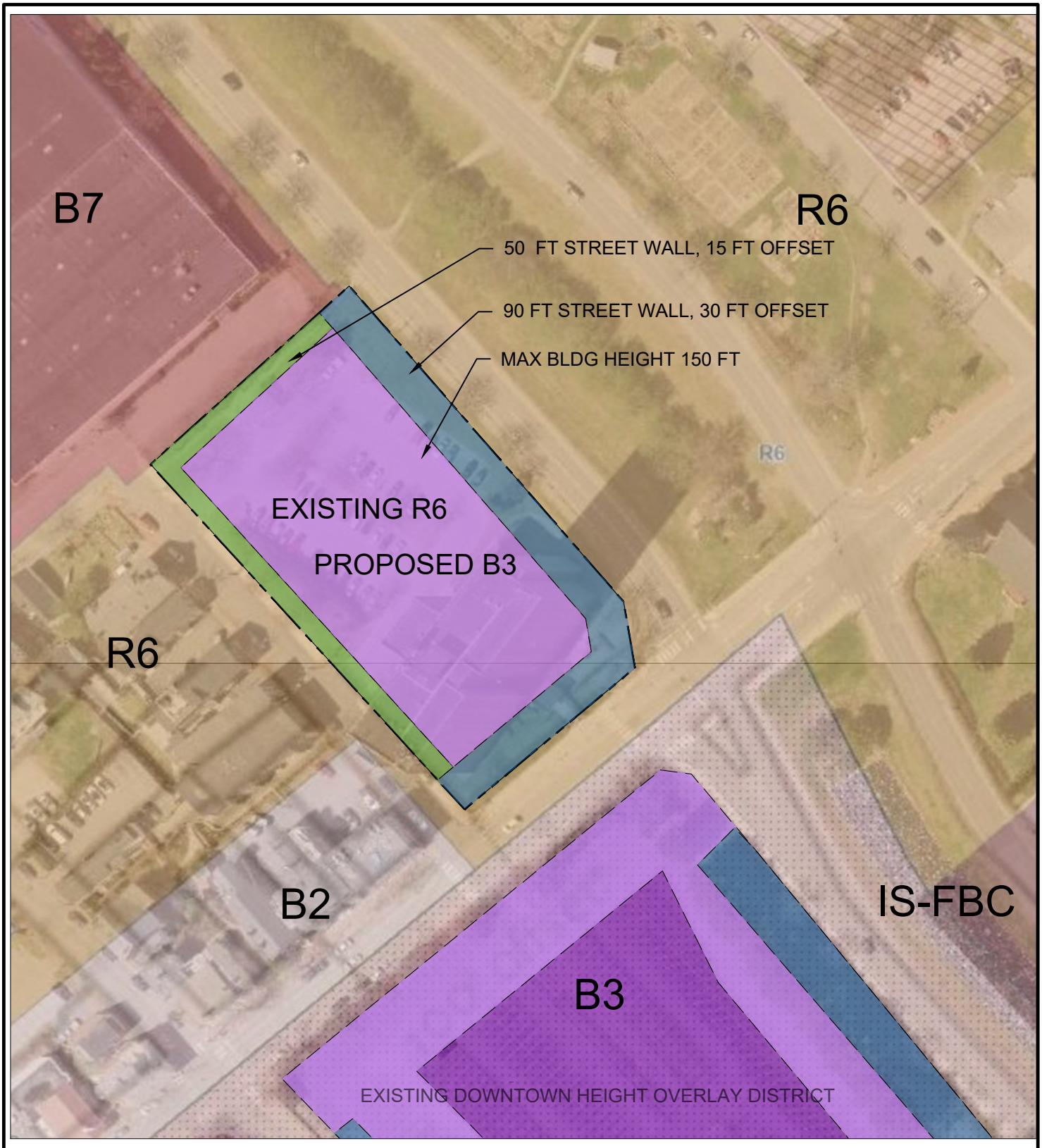
211 Cumberland Avenue, Portland, ME 04101



PROPOSED MAP CHANGE FROM R6 TO B3

a. SPACE AND BULK REQUIRMENTS TO MEET B3 STANDARDS
b. BUILDING HEIGHT TO MEET ADJUSTED DOWNTOWN BUILDING HEIGHT OVERLAY, AS AMENDED TO INCLUDE THIS PROPERTY.

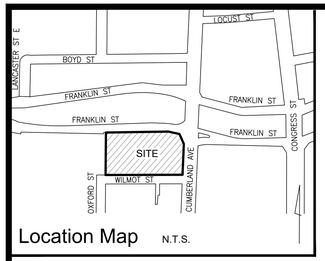
PROJECT: FRANKLIN TOWERS 211 Cumberland Ave	DATE: December, 2022	CARROLL ASSOCIATES Landscape Architects	SHEET NO.
DRAWING TITLE: PROPOSED ZONE MAP CHANGE	SCALE: 1"= 100'-0"	217 Commercial St Portland, ME PH: 207.772.1552 FAX: 207.772.0712	



PROPOSED DOWNTOWN HEIGHT OVERLAY AMENDMENT

a. Max Building Height 150 ft
b. Max Street Wall Height 50 ft with 15 ft Stepback along Wilmont Street
c. Maximum Street Wall Height 90 ft with 30 ft Stepback along Franklin and Cumberland Streets

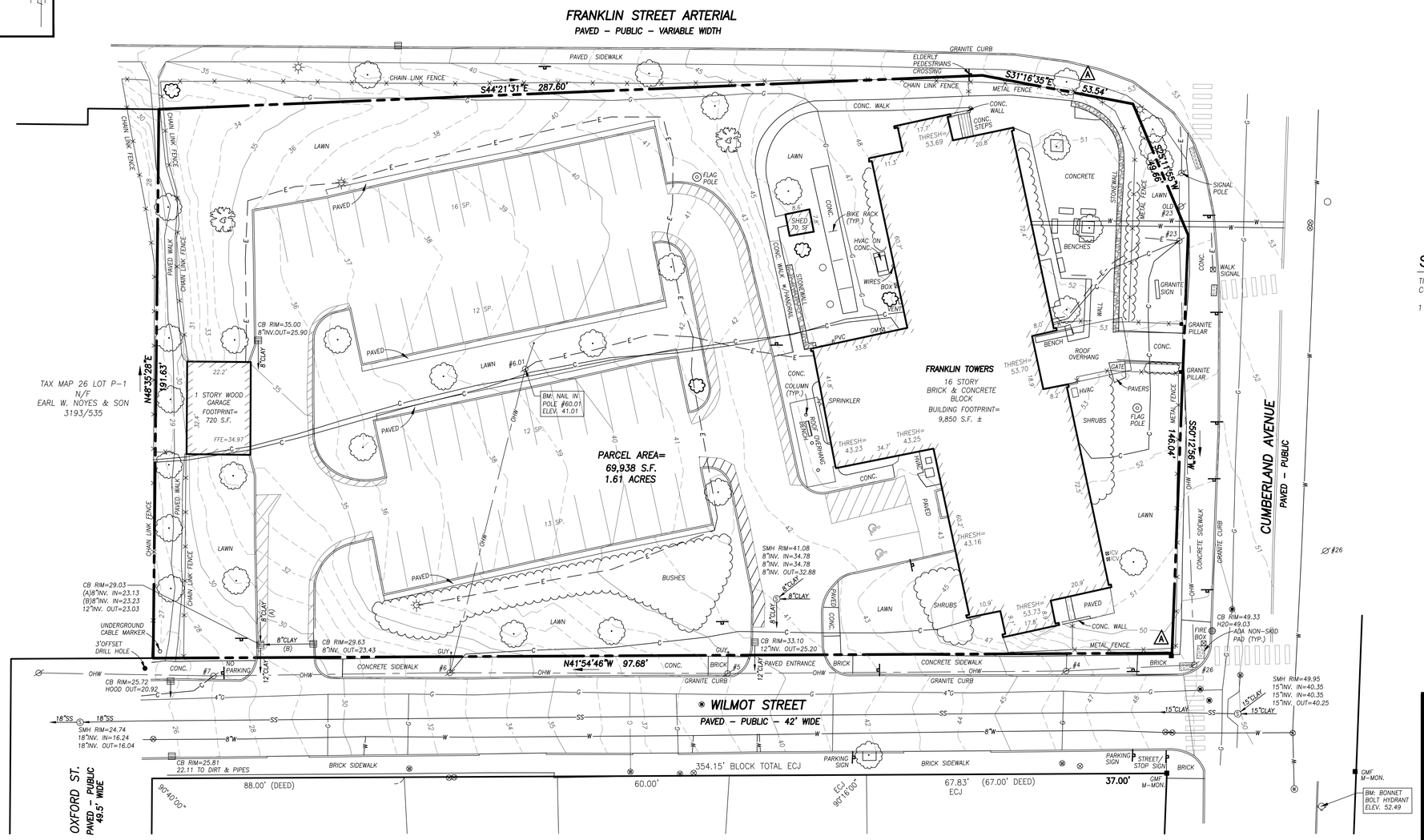
PROJECT: FRANKLIN TOWERS 211 Cumberland Ave	DATE: December, 2022	CARROLL ASSOCIATES Landscape Architects	SHEET NO.
DRAWING TITLE: PROPOSED HEIGHT OVERLAY	SCALE: 1"= 100'-0"	217 Commercial St Portland, ME PH: 207.772.1552 FAX: 207.772.0712	



Location Map N.T.S.

Legend

- IRON PIPE OR ROD FOUND
- MONUMENT FOUND
- UTILITY POLE
- MANHOLE
- EM/GM ELECTRIC/GAS METER
- GAS VALVE
- ICV IRRIGATION CONTROL VALVE
- SIGN
- CATCH BASIN
- HYDRANT
- WATER VALVE OR SHUTOFF
- LIGHT POLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- BUSH
- CURB
- FENCE
- OHW OVERHEAD WIRES
- E UNDERGROUND POWER
- W WATER LINE
- G GAS LINE
- C COMMUNICATION/TEL.
- SD STORM DRAIN
- SS SANITARY SEWER
- 40 1' CONTOUR
- N/F NOW OR FORMERLY
- 000/000 DEED BOOK / PAGE
- THRES THRESHOLD
- CONC. CONCRETE
- A POSSIBLE ENCROACHMENT
- 1 SCHEDULE B EXCEPTION



Zoning Information

NONE PROVIDED

Flood Zone Note

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE C (AREAS OF MINIMAL FLOODING) OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 230051 0013B WHICH BEARS AN EFFECTIVE DATE OF JULY 17, 1986 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.

Possible Encroachments

A *METAL FENCE INTO STREET 1'±*

SCALE : 1" = 20'

0' 10' 20' 40'

Plan References

1. *"BOUNDARY SURVEY ON WILMOT, CUMBERLAND & PEARL STREET, PORTLAND, MAINE MADE FOR CRANDALL TOOTHAKER" FEBRUARY 15, 2017 BY OWEN HASKELL, INC.*
2. *"PLAN OF PROPERTY IN PORTLAND, MAINE" MADE FOR PORTLAND HOUSING AUTHORITY FOR THE ELDERLY ME 3–4 CONDEMNATION AREA I BY H. I. & E.C. JORDAN DATED SEPTEMBER 28, 1966.*
3. *"ALTA/ACSM LAND TITLE SURVEY" MADE FOR EARL W. NOYES & SONS BY OWEN HASKELL. INC. DATED NOVEMBER 17, 2000.*

Utility Note

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1–888–DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

General Notes

1. *OWNER OF RECORD: PORTLAND HOUSING AUTHORITY, 14 BAXTER BOULEVARD, PORTLAND, MAINE CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 3193 PAGE 535*
2. *LOCUS IS SHOWN AS LOT 4 BLOCK P ON CITY OF PORTLAND'S ASSESSORS MAP 26.*
3. *BEARINGS AND COORDINATES ARE BASED ON CITY GRID, MAINE STATE PLANE COORDINATE SYSTEM WEST ZONE, NAD83.*

   CITY HORIZONTAL CONTROL:
   M MON L751–16–3015 CORNER OF LOCUST ST. & CONGRESS STREET
   N:301650.27; E:2929713.04

   M MON L751–16–3027 ANGLE SOUTHEAST SIDE OF CONGRESS ST. BETWEEN FRANKLIN STREET & INDIA STREET
   N:301958.62; E:2929895.77
4. *CITY VERTICAL CONTROL: SEWER MANHOLE PHOTO CONTROL POINT #23 T–113–44–141 EL. 52.08*
5. *THERE ARE 53 REGULAR SPACES AND 2 HANDICAP SPACES, FOR A TOTAL OF 55 PARKING SPACES.*
6. *NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, BUILDING ADDITIONS, OR RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS WAS OBSERVED.*
7. *NO PROPOSED CHANGES IN STREET LINES IS KNOWN BY THIS SURVEYOR.*

Legal Description

A CERTAIN LOT OR PARCEL OF LAND

Schedule B Section II Exceptions

TITLE INSURANCE COMPANY
COMMITMENT NO. EFFECTIVE DATE:

1 – 7. NON SURVEY

ALTA / NSPS Land Title Survey

211 Cumberland Avenue
Portland, Cumberland County, Maine
Made For
Portland Housing Development Corp.
14 Baxter Boulevard, Portland, Maine

Surveyor's Certification

TO: TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 6(A), 6(B), 7(A), 7(B)(1), 8, 9, 11(B), 13, 16, 17, 18, AND 19 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON SEPTEMBER 16, 2022.

REX J. CROTEAU
PROFESSIONAL LAND SURVEYOR NO. 2273

DATE OF PLAT OR MAP: SEPTEMBER 23, 2022
DATE OF LAST REVISION:

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

DRAWN BY: RJC / JLW	FIELD BOOK: FILE	JOB NO.	2022-167 P
CHECKED BY: RJC	SCALE: 1" = 20'	DRWG. NO.	1