CITY OF PORTLAND, MAINE

PLANNING BOARD

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

AGENDA
PORTLAND PLANNING BOARD MEETING

The Portland Planning Board will hold a remote meeting on Tuesday, November 9, 2021, 4:30 p.m. Due to the existence of an emergency or urgent issue, the Planning Board will conduct this meeting by remote methods/technology at the Zoom link provided below in accordance with the requirements of 1 M.R.S. section 403-B and the City Council's Remote Participation Policy.

Public comments will be taken for each item on the agenda during the allotted time and written comments should be submitted to planningboard@portlandmaine.gov. Please note that the placement of this item on the agenda is subject to change. Please check the Agenda & Minutes Center prior to the meeting for the item's approximate start time.

When participating via Zoom, allow your computer to install the free Zoom app to get the best meeting experience. For public comment, you will need to use the "raise your hand" feature. To raise your hand via the telephone, please hit *9. You will be un-muted by the moderator when it is time for public comment. For more information on how to use Zoom, please go to: https://www.portlandmaine.gov/remotePUD

ZOOM MEETING INSTRUCTIONS
You are invited to a Zoom webinar.
When: Nov 9, 2021 04:30 PM Eastern Time (US and Canada)
Topic: Planning Board Workshop 11/09/2021

Please click the link below to join the webinar:
https://us02web.zoom.us/j/86977027070
Or One tap mobile : US: +13126266799,,86977027070# or +19292056099,,86977027070#
Or Telephone: Dial(for higher quality, dial a number based on your current location):
US: +1 312 626 6799 or +1 929 205 6099 or +1 301 715 8592 or +1 346 248 7799 or +1 669 900 6833 or +1 253 215 8782
Webinar ID: 869 7702 7070
International numbers available: https://us02web.zoom.us/u/kc4YNXFo22

WORKSHOP - 4:30 PM

1. ROLL CALL AND DECLARATION OF QUORUM

2. COMMUNICATION AND REPORTS

3. REPORT OF ATTENDANCE AT THE MEETING HELD ON OCTOBER 26, 2021

Afternoon Workshop
58 Fore Street Master Development Plan Amendment: Chann, Dunfey, Mazer, Silk and Stanley present; Dundon absent; Smith recused.
58 Fore Street Zoning Text Amendment: Chann, Dunfey, Mazer, Silk and Stanley present; Dundon absent; Smith recused.
11 Pomeroy Street: Chann, Dunfey, Mazer, Silk, Smith and Stanley present; Dundon absent.

4. REPORTS OF DECISIONS AT THE MEETING HELD ON OCTOBER 26, 2021

i. There were no public hearing items to report on.

5. NEW BUSINESS

i. Major Site Plan. 30-32 Atlantic Street; Kestrel, LLC., Applicant. (estimated time 4:30 p.m.) The Planning Board will hold a workshop to consider a proposal for a three-story, four-unit multi-family building at 30-32 Atlantic Street. The subject property is 5,235 square feet in size, is zoned R-6 Residential, and is located within the Munjoy Hill Historic District and Neighborhood Conservation Overlay District..

Memorandum
Planning and Urban Development Department

To:	Brandon Mazer, Chair and Members of the Planning Board
From:	Austen Torres Davis, Planner
Date:	November 5, 2021
Re:	Major Site Plan Application
	30-32 Atlantic Street – 4-Unit Residential Development; Kestrel, LLC.
Project #:	PL-001667-2021
Meeting Date:	November 9, 2021

I. INTRODUCTION

Kestrel, LLC has submitted a Major Site Plan application to facilitate the construction of a four-unit residential building at 30-32 Atlantic St, within the Munjoy Hill neighborhood.

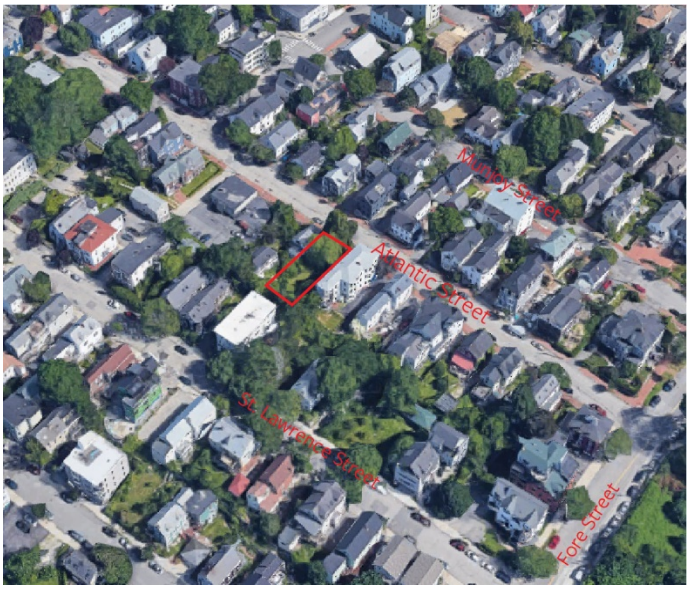


Figure 1. Development Site in Context

The project before the Board includes a single structure of three stories, with four apartments. This would be located on a residential street containing an eclectic mix of historic single-and-multifamily homes. The building is proposed to have 8,736 square feet of floor area, along with three parking spaces.

Units on the first and second floor will have two bedrooms each, while the third floor unit will have three bedrooms. Rear-facing outdoor terraces are proposed for the second and third floors.
A rooftop deck is included in the site plans that would be accessed via an outdoor stairway from the third floor terrace.

The application is being referred to the Planning Board for compliance with the City of Portland's Land Use Code Site Plan Standards, Section 14.1.

In anticipation of this Planning Board Workshop, the Planning and Urban Development Department mailed 223 notices to residences within 500 feet of the subject property. A legal advertisement ran in the October 30, 2021 and October 31, 2021 editions of the *Portland Press Herald.*

Applicant: Kent Parson, Kestrel LLC
Applicant Team: Lauren Reiter, Reiter Architecture & Design; Sam Lebel, Acorn Engineering; Kent Parson, Kestrel LLC, John Schwanda, Owen Haskell Inc.

I. PROJECT ACTIONS

Applicant's Proposal	Applicable Standards
Major Site Plan	Article V - Site Plan (Sec 14-521)
Waivers	**Citation**
Technical Manual 1.7.2.2 Applicant is requesting 2.6 feet of relief from the standard in order to allow a driveway width of 9.4 feet.	Any site with driveway access to a street shall have a minimum of 12 foot wide driveway for one-way ingress and egress.
Land Use Code Section 14.6.2.B.4&5 Landscape Preservation Applicant requesting to remove two trees 10" DBH or greater within the setback and contribute to the City's Tree Fund.	Where the planting of trees on the site is not feasible, the applicant shall contribute an amount proportionate to the cost of the required replacement trees to the City of Portland Tree Fund.

II. PROJECT DATA

SUBJECT	*DATA*
Total area of the site	5,235 square feet
Area of new lot to be created	5,235 square feet
Total Disturbed Area	5,235 square feet
Existing Zoning	R-6 Residential; Munjoy Hill Neighborhood Conservation Overlay District; Munjoy Hill Historic District
Existing Use	Vacant Land
Proposed Use	Multifamily Apartment Units
Impervious Surface Area --Existing --Proposed --Net Change	 1,097 square feet 4,178 square feet +3,081 square feet
Building Footprint --Existing --Proposed --Net Change	 0 square feet 2,632 square feet +2,632 square feet
Building Floor Area --Existing --Proposed -Net Change	 0 square feet 8,736 square feet (1,047 average square feet per dwelling unit) +8,736 square feet
Number of Units	4
Parking Spaces	3
Bicycle parking Spaces	2

III. BACKGROUND AND EXISTING CONDITIONS

Site Conditions

The subject property at 30-32 Atlantic Street is two adjoining vacant lots under common ownership, one of 2,598 square feet and one of 2,597 square feet, on which historically two structures were located. The block on which the proposed development would sit is the south-easternmost section of Atlantic Street, between Wilson and Gilbert streets on the northwest and the intersection where Fore Street becomes Eastern Promenade on the southeast.

The block sits within both the *Munjoy Hill Neighborhood Conservation Overlay District* and the *Munjoy Hill Historic District*. The block, its landscaping and housing stock, are exemplary of the character and land use of the Munjoy Hill neighborhood, with a mixture of historic single family and triple-deckers mixed throughout.

The site is on the south side of the street, sitting between a one-and-a-half story Greek Revival single family home and a three story Queen Anne style triple-decker apartment building. Both adjacent structures, as well as many others in the area, are contributing structures to the Munjoy Hill Historic District.

Figure 2. 30-32 Atlantic Street, Existing Conditions

One large Linden tree is within the sidewalk adjacent to the site, while three additional trees sit on the property itself. Another tree straddles the property line of 28 and 30-32 Atlantic Street. The Linden tree is in the public right-of-way, and as such is considered a city tree, while no trees on site are considered heritage trees. In total the removal of five trees, three of 12 in diameter at breast height (DBH), is necessary to facilitate the project. The applicant plans to replace the street tree, and pay into the city's tree fund in lieu of replacing the trees on site. Other site features to be removed and reconfigured include the curb cut and driveway.

IV. PROPOSED DEVELOPMENT

The proposed major site plan for 30-32 Atlantic Street would facilitate the development of a three-story building totaling approximately 8,736 square feet with four residential units intended to be apartments for rent. The proposed building would rise to a total height of approximately 34 feet. The roof is proposed to have a private deck and screened HVAC equipment. Three parking spaces, including one ADA designated space would be provided at the eastern edge of the lot towards the rear of the building. Parking would be accessed via an approximately 10 foot curb cut off of Atlantic Street, though the driveway's narrowest point is 9.43 feet in width.

Figure 3. Subject Parcel in Context

Associated site improvements proposed in connection with the new building include a rebuilt brick sidewalk with granite curbs, a replaced street tree, and a rain garden to alleviate stormwater runoff. Additionally, a utility pole adjacent to the current driveway will be relocated.

The building, landscaping, and parking area sit on a lot totaling 5,235 square feet in size. Approximately 4,169 square feet of impervious area is proposed in connection with this project.

Figure 4. Site Perspective from North

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

The owner of the property is Kestrel LLC., a Connecticut-based limited liability company. The applicant has submitted a Statement of Financial Capacity letter from their financial institution, TD Ameritrade, as demonstration of their financial capacity (Attachment F). A Statement of Technical Capacity has been provided by the applicant's representative, Architect Lauren J. Reiter of Cornerstone Building & Restoration, along with a summary of key members of the applicant team for the project. (Attachment G).

VII. ZONING ANALYSIS

A. DIMENSIONAL AND USE REQUIREMENTS

30-32 Atlantic Street (parcels 016-F003 and 016-F025), is located in the R-6 Residential zone and the Munjoy Hill Neighborhood Conservation Overlay District (MHNCOD). In addition to the standards that are applicable to properties in the R-6 zone, all properties within the MHNCOD shall meet the standards of Section 8.7 of the Land Use Code. As per Table 6-A in the *City of Portland Land Use Code* the proposed use of multifamily dwelling is permitted in this zone.

The R-6 and MHNCOD dimensional standards are described in Table 7-A and Table 8-E of the Land Use Code, respectively. Unlike the underlying R-6 zoning district, which allows buildings up to 45 feet in height, sites in the MHNCOD are permitted maximum heights up to 35 feet as of right, or 45 feet for buildings with three or more units on lots over 2,000 square feet that include at least one workforce housing unit. Rooftop appurtenances other than chimneys shall not exceed permitted heights, except HVAC equipment is permitted for up to five feet above maximum heights. Rear setbacks have a 10 foot minimum and side setbacks have a five foot minimum.

As per Article 19, Table 19-A, the minimum off-street parking requirement is calculated as one space per dwelling unit. However, within the R-6 zone, no off-street parking is required for the first three dwelling units as described in Table 19-B. Therefore, the applicant is required to provide a minimum of one parking space.

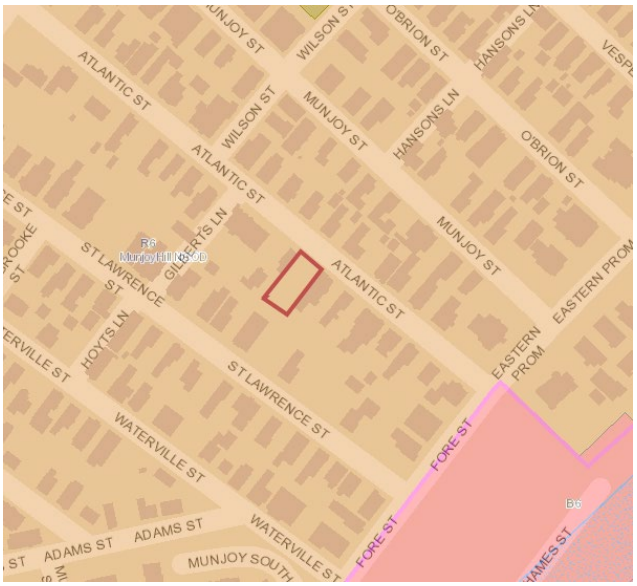


Figure 5. 30-32 Atlantic in R-6 Zone Context

Zoning Administrator Ann Machado has provided the following comments:

Regarding the height of the building, the elevation plan (A301) says the average grade is 117.34 feet. How was this determined? Building C-30 does not show the exact grade at the four corners. There is a line showing the 35 feet above the average grade, but I did not see the average grade line shown on the elevation.

Section 6.8.11.D does not allow open exterior stairways above the ground floor. The stairs from the third floor deck to the roof top deck are not allowed under this section.

The following table is provided to show the dimensional requirements of the R-6 zone and MHNCOD which are met by this proposal:

Standard	*R-6 Zoning Requirement*	*Munjoy Hill Neighborhood Conservation District Requirements*	*Proposed*
Minimum Lot Area	2,000 square feet		5,235 square feet
Minimum Lot Area Per Dwelling Unit	725 square feet		1,047 square feet
Minimum Street Frontage	20 feet		51 feet
Minimum Front Setback	5 feet	5 feet or the minimum depth of immediately abutting street-facing yard, whichever is less.	5.25 feet
Minimum Rear Setback	10 feet	Buildings up to 35 feet in height: 10 feet	10.56 feet
Minimum Side Setback (>2.5 stories)	5 feet	Buildings up to 35 feet in height: As per underlying zoning.	5.56 feet
Maximum Lot Coverage	60%		58.2%
Minimum Lot Width	20 feet		51 feet
Maximum Structure Height	45 feet	35 feet 45 feet for buildings w/ 3 or more units on lots over 2,000 SF that include at least one workforce housing unit.	34 feet
Minimum Landscaped Open Area	20%		20.4%
Minimum Off-Street Parking	1 (0 with waiver)		3 spaces
Minimum Off-Street Bicycle Storage	2 Spaces		2 Spaces

B. INCLUSIONARY ZONING COMPLIANCE

As this development will result in less than 10 dwelling units, Inclusionary Zoning regulations are not applicable to this site.

VIII. DEVELOPMENT REVIEW

A. SITE PLAN REQUIREMENTS

The applicant has submitted a recording plat for review by the City Surveyor and Corporation Counsel. Comments from Corporation Counsel are forthcoming for this item. As is customary, the final plat will need to be revised to reflect any waivers and conditions of approval that relate to the site plan. Any waivers granted must be recorded at the Registry of Deeds within two years of a Planning Board decision.

Chief Surveyor William Scott has pointed out that two easements are proposed in the plat notes, though these are not defined on the plan itself. The plat will be updated to reflect these prior to the public hearing.

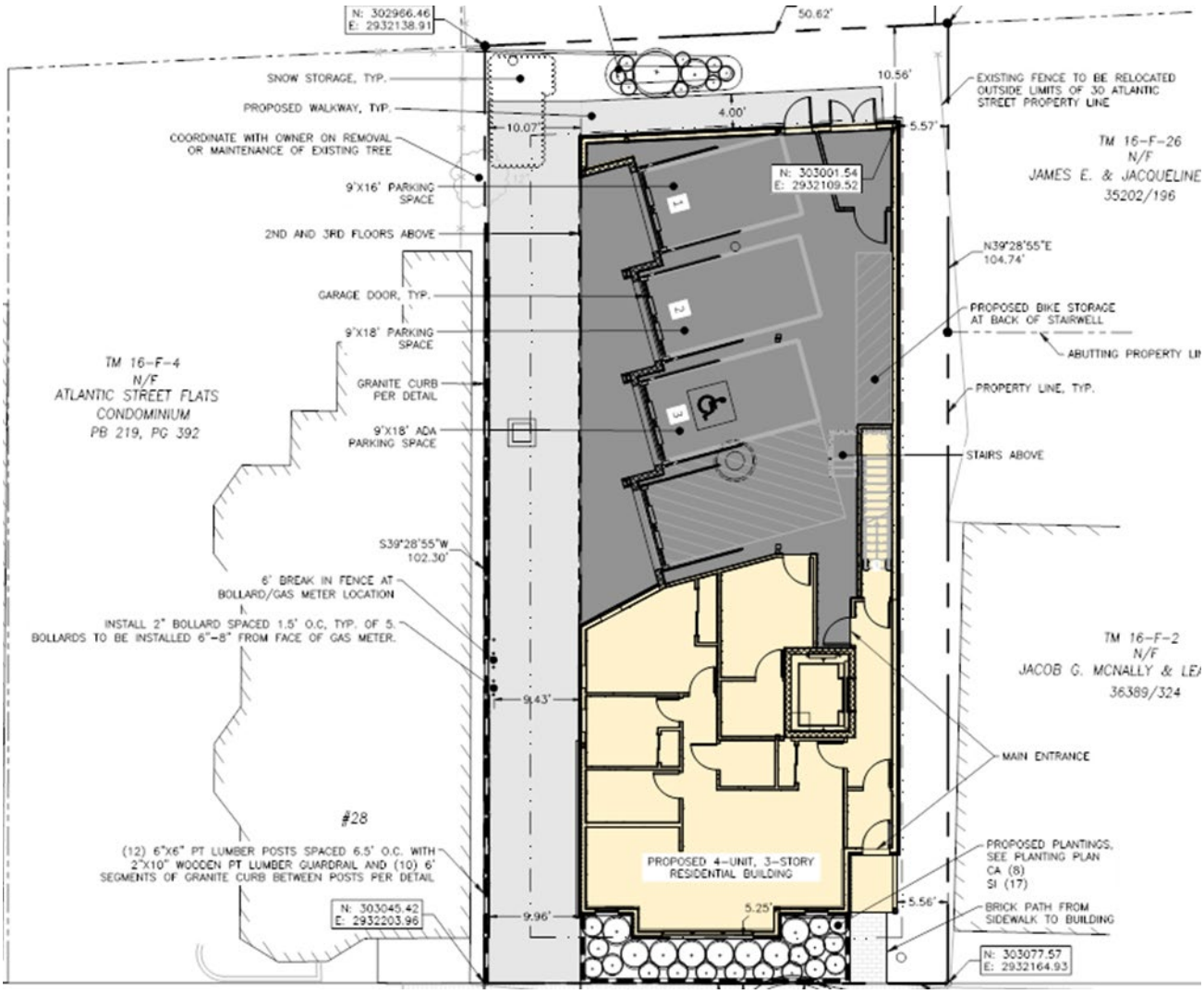


Figure 6. Recording Plat of 30-32 Atlantic Street

A. 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.

a) Transportation Standards

1. Impact on Surrounding Street Systems

The proposed project is located on Atlantic Street, which is a local road and the applicant is proposing to provide three parking spaces for a four unit residential building. The site is accessible to public transit and it is not anticipated to adversely affect surrounding street systems.

2. Access and Circulation

The applicant proposes to relocate the driveway closer to the eastern edge of the property. New sidewalk and curbs would be built, as well as a new curb cut for the driveway and walkway to the front entrance. At less than ten feet in width, the driveway does not conform to the width standards of the *Technical Manual*, and the applicant has submitted a Technical Manual waiver to allow for reduced width of 9.4 feet. The submitted waiver request does not show this 9.4 foot figure, and instead notes requests a driveway width of ten (10) feet. Staff are requesting clarification prior to any future Planning Board meetings.

A turning template has been submitted that shows egress would only be possible by reversing out of the driveway.

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 project provides four units, therefore this standard is not applicable.

4. Parking: Vehicle and Bicycle

This development proposes three parking spaces, yielding a parking ratio of .75 spaces per unit, with no changes to on-street parking. This amount is greater than the single parking space which is required for this development per zoning. The applicant proposes to include two bicycle parking spaces.. All vehicle parking is located on the ground floor tucked under the building.

Consultant Traffic Engineer Tom Errico comments as follows:

The applicant has provided a turning template from the handicap parking space. The turning template was based upon a large SUV, but it may make sense to use a van, given that it is a van accessible space (or document the template used is similar to a van). Given that the space next to the handicap space is to be used for parking, a vehicle turning template shall be provided. I would note that the provided template indicates movements are very tight and this would point to the importance of winter maintenance and maintaining the full driveway width.

The applicant has noted that the area will be used for parking unless a handicap person is a tenant. The applicant should note how parking spaces are allocated to residents (how parking will be managed).

The applicant should include a note on the landscape plan that plantings shall not be installed with a height that exceeds 4.25 feet within the sight line of motorists exiting the site.

City Engineer Keith Gray requested that the applicant provide a detail for the proposed granite planter.

In addition, DPW has concerns with the planter's proposed two foot elevation at the corner adjacent to the driveway, and specifies that this will need to be set in concrete. DPW also request that the applicant include slope arrows on the grading plan within the ROW.

b) Environmental Quality Standards

1. Preservation of Significant Natural Features

Having been originally developed in the late 1800s and having undergone subsequent demolition, the vacant site currently consists of denatured land devoid of significant natural features.

2. Landscaping and Landscape Preservation

The applicant requests a waiver for the removal of two trees on site with 10 inch DBH or greater, and to contribute an amount proportionate to the cost of replacement to the City of Portland Tree Fund. Additionally, an existing large Linden tree is located within the sidewalk right-of-way in front of 30-32 Atlantic Street. Being within the public right-of-way, the tree is not considered a heritage tree, and is therefore not subject to the City's Heritage Tree Ordinance, which applies to trees located on private property. The Linden tree is owned and managed by the City of Portland. This tree is proposed to be removed and the applicant has described the particular circumstances requiring the tree's removal.

The tree's size and location makes it probable that the root system extends into the development zone. It does not seem possible to build the structure, rebuild the sidewalk and curb, and relocating above and below ground utilities without injuring the tree.

The replacement tree is proposed to be a regal prince oak that grows in a columnar fashion.

Jeff Tarling, City Arborist, comments as follows:
The overhead utility lines preclude a columnar tree. The top would be 'topped' once it gets tall enough. 'Accolade' Cherry or honey locust could work.

In addition, all multi-family residential developments are required to provide one tree per unit. The applicant is proposing four units and is required to plant four street trees or contribute to The City's Tree Fund. The calculation for the in-lieu fee for street trees is as follows: 4 required trees, zero provided = 4 x $400 = $1,600 fee-in-lieu.

3. Water Quality, Storm Water Management and Erosion Control

The Applicant has provided a detailed Stormwater Management Report (Attachment K), as well as an Erosion and Sedimentation Control Report to meet the Basic Standards.

Lauren Swett, Consulting Stormwater Engineer, offers the following comments:
A Focal Point system is proposed for stormwater treatment. Per the Maine DEP requirements for this proprietary system, the Applicant should submit confirmation from the manufacturer that the system has been designed per their system specifications. The Applicant also notes that 80% of the developed area has been treated, but it is not clear from the project area how this is met. Calculation for this statement should be provided.

An existing wooden wall is to partially remain at the rear of the site. The Applicant should ensure that the wall can remain in place without being compromised for the installation of the below-grade components of the adjacent stormwater management system.

The Applicant is required to provide confirmation of utility ability to serve, and that remains pending.

Jodie Keene, Stormwater Coordinator, has noted that the Construction Management Plan is still in draft form and should be updated to include a general contractor (once selected).

Figure 7. Vision Statement from Portland's Plan 2030

Public Infrastructure and Community Safety Standards

1. Consistency with City Master Plans

This development is consistent with the goals and policies outlined in *Portland's Plan 2030.* The new housing development aligns with the City's vision statements and goals by increasing the overall housing supply in a contextual manner in a walkable, transit accessible location, which has the ability to enable people who work in Portland to have the option to live in Portland. Relevant vision statements and goals are provided below:

Goals:

- Housing: Increase, preserve, and modify the overall supply of housing city-wide to meet the needs, preferences and financial capabilities of all Portland residents.
- 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.
- Housing: Pursue policies to enable people who work in Portland to have the option to live in Portland.
- Environment: Adopt sustainable land use and transportation policies that support connectivity, walkable neighborhoods, and multi-modal transportation.
- Historic: Ensure appropriate balance of continuity and change as Portland grows and evolves.

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 site's landscaping reinforce ownership while its windows and relation to neighboring buildings promote natural surveillance. The lighting is sufficient to promote visibility and security.

Jason Duval, Life Safety Reviewer, has not identified any site issues for Fire safety in this project.

3. Availability and Adequate Capacity of Public Utilities

The Applicant has received a Wastewater Capacity Authorization from the Department of Public Works. Staff is awaiting the submittal of documentation of capacity to provide water.

Figure 8. View from the South East

c) Site Design Standards

1. Massing, Ventilation and Wind Impact

The new building proposed under this phase are 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 structures regarding massing so negative impacts are not anticipated.

2. Shadows

As an infill development that conforms to dimensional standards and setbacks, negative impacts regarding shadows are not anticipated.

3. Snow and Ice Loading

The applicant is proposing on-site snow storage; and has included a snow removal plan that will be utilized in larger snow storm events (*see General Site Note #7 on Sheet C-10*).

4. View Corridors

Not applicable.

5. Historic Resources

The site is within the recently established Munjoy Hill Historic District and is subject to Historic Preservation Board Review. The Historic Preservation Board held an initial workshop on October 6, 2021. It is important to note that the current application materials include a number of design revisions, some of which reflect input from the HP Board.

The findings from that meeting follow:

> *At the October 6 workshop, Historic Preservation Board members expressed general support for the proposal and noted that Ms. Reiter had provided both a thorough analysis of the*

surrounding context as well as a detailed explanation of the basis for her design solution. Given the eclectic nature of the surrounding context, Board members found the proposed structure to be generally compatible with its context in terms of height and design expression, which was drawn from the typology of the triple decker, a common building type on Munjoy Hill. Some members did note that the building filled more of the overall width of the lot than was typical of the area. This deviation from the prevailing rhythm of spacing between buildings contributed to the building appearing large for its site.

With regard to other aspects of the proposal, the staff report for the workshop flagged the fact that the elevator overrun did not meet zoning. It was understood that this threshold issue would need to be addressed in any future proposal. Most of the Board discussion focused on specific details of the proposal; Board members suggested that the design would benefit from further study and refinement in terms of architectural details.

6. Exterior Lighting

Applicants have submitted an exterior site lighting plan and cut sheets that show compliance with lighting standards.

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. This mechanical equipment will be located on the roof, shielded from view by setback and fencing.

8. Signage and Wayfinding

No signage or wayfinding is proposed in this development.

9. Zoning Related Design Standards

As this development is located in a historic district, City of Portland Historic Preservation standards supersede zoning-related design standards. A design review was conducted by Historic Preservation staff, and a meeting was held before the Historic Preservation Board. This process led to revisions that are incorporated into the current application materials.

A rooftop deck is proposed that would be accessed via an outdoor staircase from a balcony on the third floor. This is not consistent with *Use Standards* of *Outdoor Effects* (6.8.11).

Pursuant to Munjoy Hill Neighborhood Conservation Overlay District Section 8.7.4, Design Review, the following design standards shall apply in the Munjoy Hill Neighborhood Conservation District:

- ***All buildings shall use simple, traditional roof forms as illustrated in Figure 8-F, except that flat roofs are permitted in buildings of three or more units. This requirement may also be modified through Subsection 8.7.4(B) below. Dormers and cross gables are allowed but where readily visible from the public right-of-way shall be clearly subsidiary to the primary roof form.***

- Staff Comment: The proposed project is a four unit apartment building. Flat roofs are permitted in buildings of three or more units. This standard is adequately addressed.

- *The first floor shall contain active living space, such as a living room or bedroom, with windows for at least 50% of the width of the front façade in total.*

- Staff Comment: The proposed building's first floor contains active living space for greater than 50% of the building façade, this standard is considered adequately met.

IX. PUBLIC COMMENT

Notices were sent to 223 property residences within 500 feet of the site on September 24, 2021. A remote Neighborhood Meeting was held on October 5, 2021 with 5 members in attendance. Concerns raised include impacts to the street tree, the species and caliper of the proposed replacement tree, and how the recently established Munjoy Hill historic District informs the building's design.

In anticipation of this Planning Board Workshop, the applicants sent 223 notices to residences within 500 feet of the subject property.

At the time of writing this memo, the Planning Department has received two public comments (PC 1-2).

X. NEXT STEPS

At this time, staff are requesting the Board's feedback on the aforementioned topics related to:

- Waivers
- Design
- Site access
- Landscape preservation

The final submission will need to:

- Clarify Technical Manual request for driveway width waiver
- Provide capacity letter for water
- Update subdivision plat to include two easements

XI. ATTACHMENTS

PLANNING BOARD REPORT ATTACHMENTS

1. Preliminary Site Plan Review Comments from Staff

APPLICANT'S SUBMITTAL

A. Cover Sheet and Legend
AA. Turning Template Exhibit
AB. Inspection and Maintenance Plan
B. Major Site Plan Checklist
C. Right, Title, and Interest
D. Zoning Assessment
E. Summary of Written Easements
F. Code Analysis
G. Waiver Requests
H. Financial Capacity
I. Technical Capability
J. Conformity with Land Use Ordinance
K. Stormwater Management Report

L. Erosion and Sedimentation Control Report
M. Public Safety and Fire Prevention
N. Wastewater Capacity
O. Exterior Lighting
P. Architectural Design Narrative
Q. Utility Cover
R. Construction Management Report
S. Solid Waste Disposal
T. Parking Analysis
U. Neighborhood Documentation
V. Neighborhood Meeting Certification
W. Neighborhood Meeting Invitation Letter
X. Neighborhood Meeting Sign-In Sheet
Y. Neighborhood Meeting Minutes
Z. Response Letter to Preliminary Staff Comments

PLANS

Plan 1 – Cover Sheet
Plan 2 – General Notes
Plan 3 –Survey
Plan 4 – Construction Management Plan
Plan 5 – Site and Landscape Plan
Plan 6 – Utility Plan
Plan 7 – Grading Plan
Plan 8 – Site Details - 1
Plan 9 – Site Details - 2
Plan 10 – Landscape Details
Plan 11 – Utility Details - 1
Plan 12 – Utility Details - 2
Plan 13 – Drainage Details
Plan 14 – Focal Point Rail Garden Details
Plan 15 – Erosion and Sediment Control Details
Plan 16 – Foundation and First Floor Plan
Plan 17 – Second and Third Floor Plan
Plan 18 – Roof Plan
Plan 19 – Elevations
Plan 20 – Perspective
Plan 21 – Subdivision Plat
Plan 22 – Cover Sheet

PUBLIC COMMENT

PC1 – Carle Henry
PC2 – Ananda Moor Jankowski

Comments Compiled by:
Austen Torres Davis, Planner
Planning & Urban Development Department

Preliminary Comments 10/01/2021 PL-001667-2021 – 30-32 Atlantic Street – 4 Unit Residential

1. General

City Planning Staff

- Deed & Title Document does not mention specifically *30-32 Atlantic Street.*
- Please clarify – are units to be apartments or condominiums?
- Please clarify total area of site. Our municipal GIS portal shows one lot is 2,597 and the other is 2,598 square feet. Combined totaling 5,195, which differs from the 5,235 used in application. This is important for accurately calculating impervious surface ratio.

Utilities

- If power line crosses both over lot frontage and Atlantic Street, additional planning and coordination with Central Maine Power is likely necessary for wire tension etc.
  Please provide additional information about removal/relocation of utility pole.

Americans with Disabilities Act Considerations

- The driveway and parking spaces do not currently conform to ADA *van-accessible* parking space standards.
  - 9 foot width complies with ADA but aisles should be at least 5 feet in width, considering tenant may enter on either side of vehicle.
  - *Van-accessible* standards are 11 feet in width, wider than the proposed width of the driveway.
- Each floor is accessible via elevator but the roof is not. Considering the roof would only be used by those occupying the third floor apartment, it would remain inaccessible to those occupants if they need to use an elevator. *(defeating the purpose of having a rooftop deck)*

Zoning, Permitting, & Inspections Staff

- Please revise building plan to conform to required height of 35'. While HVAC equipment shielded from view is allowed to be higher than this limit, the proposed stairway bulkhead is not.
- How was the landscaped area calculated? > 20.4% is rather close to what is required.

2. TRANSPORTATION

Consulting Traffic Engineer

- The applicant shall provide vehicle turning template details that confirm vehicles can perform ingress and egress movements into and out of the parking spaces.
- A barrier should be installed that protects the abutting building from vehicle maneuvers. A wooden guard rail barrier has been installed on similar projects in the City. The turning template analysis should assume this guard rail, as should calculations of driveway dimensions.
- The City is concerned the area as part of the handicap vehicle space, to the right of space #3, will be used as a parking space. The applicant should consider strategies that address this concern.
- The plan should note changes to the number of on-street parking spaces on Atlantic Avenue.
- The applicant should consider plantings in front of the proposed building that do not impact sight distance as vehicles back into the street.

Comments Compiled by:
Austen Torres Davis, Planner
Planning & Urban Development Department

3. WATER QUALITY, STORMWATER & INFRASTRUCTURE

Public Works Staff

Construction Management Plan

- The CMP should be updated with contact information for the earthwork contractor and the general contractor.
- The CMP narrative mentions a Construction Management Plan (sheet C-03) but I do not see that in ePlan. Please provide sheet C-03.
- CMP narrative missing reference noting use of public parking spaces require street occupancy permit. Please see most recent template on City's website: https://www.portlandmaine.gov/DocumentCenter/View/18030/General-Construction-Management-Template
- The Construction Management Plan (sheet C-03) shall depict location of the material staging areas, the location on onsite temporary construction trailers, the location on onsite truck delivery holding areas, the location onsite truck washing stations, masonry mixing stations, the general location of the construction security fence and the general location of temporary construction dumpsters. An open storage areas shall be shown on the plan.
- Contractor parking along Atlantic Street is not acceptable. Parking must be provided on site or arrangements for an off-site parking location must be established. Please see the most recent template on the City's website. Parking arrangements should be noted in the CMP narrative and shown on Sheet C-03 if on-site.
- CMP narrative should include Section L: Dewatering Plans. Please see most recent template on City's website.

Site Plan

- Snow storage not sufficient – will need plan to remove off-site.
- Street / parking signs should be shown on the existing conditions plan and/or the site plan.
- Elevator sump should connect to oil/water separator.
- Will the riprap channel at rear for roof drain continue to edge of focal point system? Does the entire roof discharge to the right rear of the parcel or is some rooftop runoff being directed toward the front of the lot?
- The building's foundation is proposed 5-5.5ft from the eastern property boundary. Structural plans not provided with civil set for Planning review. If footings cross property boundary, site may need an easement for the footings.

Plan Details

- Pipe trench detail has some inconsistencies from the City's standard detail.
    - Paved areas dimensions are incorrect.
    - We do not include the rigid insulation in our spec; this will need to be approved by the City engineer and should not alter the other dimensions of the materials.
    - Please note the required width of crushed stone beside the pipe - shown as dimension "B" in the City's' detail.
- Sewer and Storm Drain Tee / Wye Connection Detail is missing the slope.
- Vertical granite curb in the City's ROW must be set in concrete.

Erosion & Sedimentation Control

- Application does not show an erosion & sedimentation control plan, only the details. Please point city staff in the right direction or submit one for review.
- Plans for supportive excavation should be provided for review to the Permitting Department with copies and/or notes in the ESC Plan.

Stormwater Management Plan and Maintenance Agreement required. Please provide a copy to Jodie Keene and Doug Roncarati for review once submitted.

Comments Compiled by:
Austen Torres Davis, Planner
Planning & Urban Development Department

4. PUBLIC SAFETY

- Line Safety Office does not see any site issues for Fire for this project.

5. LANDSCAPING & ENVIRONMENTAL QUALITY

Landscape Preservation

- The application does not include information on steps taken to avoid removing the street tree in the public right-of-way, or the cost of doing so. Were any steps taken to preserve and maintain this tree?
- Tree on site is noted as *Twin 12"* while the street tree is shown as *32"*. Please confirm adherence to tree replacement standards in Land Use Code.
- Application notes that, "The project anticipates preserving a minimum of 30% existing trees 10" or greater within the required setback." but site plan shows no existing trees to be preserved.
- Are there any plans to salvage or reuse the brick on site, those on the current sidewalk, or the granite step shown in the site survey?

City Arborist

- The City favors saving the street tree in the public right-of-way due to its location and size and wonder can the project be constructed as proposed without damaging or affecting the tree's health?
- This would include future underground utility trenches and sidewalk reconstruction.

SECTION A: COVER LETTER

May 15, 2021

Planning Division
City of Portland, Maine
389 Congress Street, 4th Floor
Portland, ME 04101

Subject: Major Site Plan & Subdivision Application
30-32 Atlantic Street Redevelopment

To Whom It May Concern:

On behalf of Kestrel, LLC, we are pleased to submit the accompanying package of submission materials related to the proposed project at 30-32 Atlantic Street. The project proposes to construct a 3-story, 4-unit residential building on an infill lot which is currently an open, unpaved lot. (Historic photos show that a 2.5 story building was once located on the site, but it is unknown when that building was demolished.)

The project site is located within the City's R-6 Zoning District as well as the Munjoy Hill Conservation Overlay District (MCHOD). And now – as of very recent City Council action – the project is also located in a Historic district. This application package is intended to meet the City's Submission Requirements as outlined in the Major Site Plan & Subdivision Application procedures, as well as to meet the other contextual goals set forth by the MHCOD.

The R-6 Infill Development Design Principles & Standards have shaped this building's design, and as such, the current design takes its inspiration from the classic triple-decker, with a dominant vertical bay on the street elevation, flat roof, brick base below the wood siding, vertically-proportioned windows, a human-scaled entrance porch, and a street facade that is 80+% living space on the ground floor (100% at upper floors), allowing for the front façade to interact with life on the street.

The project responds to a most important City Master Plan goal: providing additional housing stock to Portland, and also presents a building which is "friendly" to its context in both design and scale. Stormwater management through a rain garden, integrated planters along the street façade and a new brick sidewalk and street tree will all provide additional enhancement to this neighborhood.

If you have any questions regarding these materials or the completeness of the application materials, please let us know as soon as possible. Thank you for your review.

Sincerely,

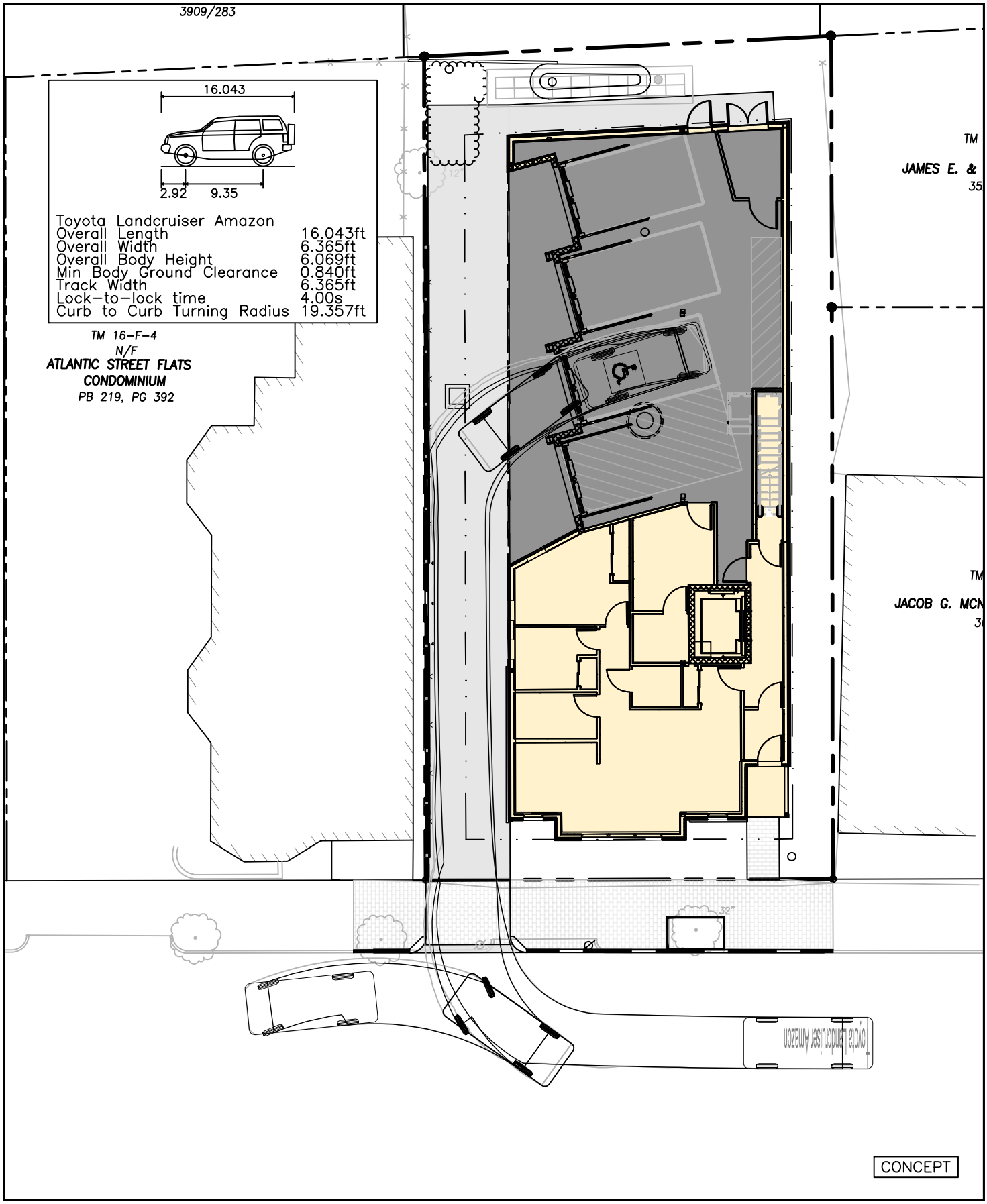
Lauren J. Reiter
Registered Architect, Maine Lic. ARC#3302

The following documents and drawings will be uploaded onto the City's electronic submission site per the procedure outlined in the application:

- ➢ Section A: Cover Letter
- ➢ Section B: Level III Final Site Plan Application & Checklist
- ➢ Section C: Right, Title, Interest
- ➢ Section D: Zoning Assessment
- ➢ Section E: Summary of Written Easements
- ➢ Section F: Code Analysis
- ➢ Section G: Waivers
- ➢ Section H: Financial Capacity
- ➢ Section I: Technical Capacity
- ➢ Section J: Conformity with Land Use Ordinance
- ➢ Section K: Stormwater Management Report
- ➢ Section L: Erosion & Sedimentation Control Report
- ➢ Section M: Fire Department Letter / Public Safety and Fire Prevention
- ➢ Section N: Wastewater Capacity Letter
- ➢ Section O: Exterior Lighting
- ➢ Section P: Architectural Design Narrative
- ➢ Section Q: Utility Cover
- ➢ Section R: Construction Management Plan
- ➢ Section S: Solid Waste Disposal
- ➢ Section T: Parking Analysis
- ➢ Section U. Photographic Documentation of Neighborhood

Drawings:

- ➢ Civil Site Plan Set, Dated 5/15/21
- ➢ Architectural Plan Set, Dated 5/15/21



THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.	FILE: 1109.5_CIVIL DATE: 10/22/21 JN: 1109.5 SCALE: AS NOTED DESIGN BY: SJL DRAWN BY: ZMS CHECKED BY: WHS	ACORN ENGINEERING, INC ACORN ENGINEERING, INC. P.O. BOX 3372 PORTLAND, MAINE 04104 (207) 775-2655	DRAWING NAME: TURNING TEMPLATE EXHIBIT PROJECT NAME: 30-32 ATLANTIC ST. REDEVELOPMENT CLIENT: KESTREL, LLC 72 PINE ST, PORTLAND, MAINE	ISSUED FOR / COMMENT RESPONSE — BY / DATE: WHS 10/22/21 REV. DATE
DRAWING NO. EX				

STORMWATER DRAINAGE SYSTEM

MAINTENANCE AGREEMENT

IN CONSIDERATION OF the site plan and subdivision approval granted by the Planning Board of the City of Portland to the proposed redevelopment located at 30-32 Atlantic Street, Portland, Maine and shown on the Subdivision Plat recorded in the Cumberland County Registry of Deeds in Plan Book _____, Page _____ (the "Plan") and associated Grading & Drainage Plan, dated 10/22/2021 prepared by Acorn Engineering, Inc. of P.O Box 3372, Portland, ME 04104 (hereinafter, the "Premises") and pursuant to a condition thereof, Kestrel, LLC, a Maine Limited liability company with a principal place of business in Portland, Maine, and having a mailing address of 72 Pine Street, Portland, Maine 04102, the owner of the Premises, does hereby agree, for itself, its successors and assigns (the "Owner"), as follows:

Maintenance Agreement

Owner, 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 field inlets, focal point, catch basin, storm drain pipes, and underdrain pipes (hereinafter collectively referred to as the "stormwater system") as shown on the Grading & Drainage Plan attached hereto as **Exhibit B** and in strict compliance with the approved Stormwater Inspection & Maintenance Plan and Stormwater Maintenance and Inspection Log, dated January 2021, copies attached as **Exhibit A and C** respectively and the annual inspection and reporting requirements of Chapter 32 of the Portland City Code.

Owner further agrees, at its own cost, to keep a Stormwater Maintenance and Inspection Log in the forms attached as **Exhibit C**. Such log shall be made available for inspection by the City of Portland upon reasonable notice and request.

This agreement is for the benefit of the City of Portland and all persons in lawful possession of the Premises and abutters thereto. The 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, including but not limited to the focal point, field inlet, catch basins, storm drain pipes, underdrain pipes, and other drainage structures thereon 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 not confer upon the City of Portland or any other person the right to utilize said stormwater system for public use or for the development of any other property. Except as may be required to comply with the terms of this Agreement, Owner shall bear no financial responsibility by virtue of this Agreement for enlarging the capacity of said system.

This Agreement shall also not be construed to allow any change or deviation from the requirements of the subdivision and/or site plan most recently and formally approved by the Planning Board 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 shall 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 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 Works 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 or residential units and mailed by certified mail, return receipt requested or ordinary mail or both to the owner of record as shown on the tax rolls 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.

[SIGNATURES ON FOLLOWING PAGE]

Dated at Portland, Maine this _____ day of _____, 2021.

Kestrel, LLC

A Maine Limited liability company

_____

Kent Parson, its Owner

STATE OF MAINE
CUMBERLAND, ss.

Date: _____

Personally appeared the above-named Kent, Owner of Kestrel, LLC, and acknowledged the foregoing instrument to be his/her free act and deed in his/her said capacity.

Before me,

_____

Notary Public/Attorney at Law

Print name: _____

Exhibit A: Stormwater Inspection & Maintenance Plan

Exhibit B: Grading & Drainage Plan

Exhibit C: Stormwater Maintenance and Inspection Log

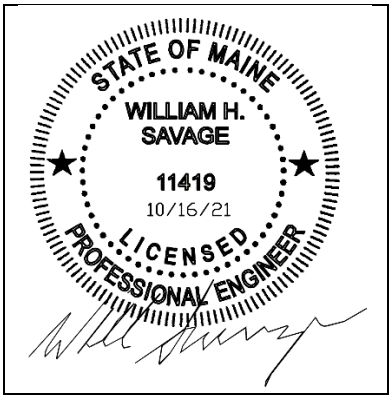
POST CONSTRUCTION - STORMWATER INSPECTION & MAINTENANCE PLAN

Prepared For:

Kestrel LLC.
30 Atlantic Street
Portland, Maine 04101

Prepared By:

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104



October 2021

RESPONSIBLE PARTY

The owner, Kestrel LLC. and or their successor shall be responsible for contracting with a qualified stormwater professional to implement the Inspection and Maintenance Plan. The qualified stormwater professional shall maintain a stormwater log (report) summarizing inspections, maintenance, and corrective action taken. The Qualified Stormwater Professional shall annually submit the Stormwater Log to the Department of Public Works prior to June 15th.

The following is an example of a qualified stormwater professional that the homeowner's association may contract through.

Organization: Will Savage, PE
Acorn Engineering, Inc
Portland, Maine

Phone: (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 inspection and maintenance criteria is based upon the Maine DEP - Stormwater Management for Maine, Volume III: BMPs Technical Design Manual. Refer to the Grading and Drainage Plan for the location of the BMPs.

PURPOSE

This Inspection and Maintenance Plan has been individually tailored to this parcel's stormwater infrastructure, site characteristics, and their respective opportunities and limitations related to reducing the pollutant load on the receiving watershed. The maintenance of a parcel's impervious surfaces and stormwater infrastructure is critical to extending the long-term performance and effectiveness of Best Management Practices (BMPs). The Inspection and Maintenance Plan represents the parcel's minimum activities to meet the permit requirements. The parcel shall still be subject to any applicable Civil Site Plans, Permit Applications, Erosion and Sedimentation Control Plans Reports, Stormwater Management Plans, Inspection and Maintenance Manuals, and all Municipal, State, and Federal rules.

OPERATION AND MAINTENANCE ACTIVITY

Focal Point & Bioretention Cell

The maintenance for the FocalPoints shall be in accordance with the attached "FocalPoint Operations & Maintenance" document. Additionally, the downstream catch basins and drainage manholes shall be inspected to confirm the structures are operation properly.

- Dig out silt (if any) and mulch and remove trash and foreign items.
- After removal of mulch and debris, measure distance from the top of the FocalPoint HPMBS engineered media soil to the flow line elevation of the adjacent overflow conveyance. If this distance is greater than that specified on the plans (typ. 6") add media (not topsoil or other) to recharge to the distance specified.
- Mulch should be replaced with aged, double shredded hardwood mulch with fines removed.
- The plant should be replaced if dead or dying. If the plant is alive, prune as necessary to encourage growth in the correct directions.
- Overflow rim should be checked after each plowing season to ensure the device is intact and in and full functional. The grate should remain clear of debris at all times.
- Any signs of rill erosion should be corrected and potentially stabilized with river stone if necessary.

The area around the unit should be cleaned. All debris should be disposed of correctly.

Sweeping:

Annual sweeping of the driveways and parking areas following the snow melt for accumulated winter sand, if necessary. Appropriately dispose of all collected material.

Storm Drains:

The storm drain shall be annually inspected for the presence of accumulated sediment or debris. Any sediment shall be removed as required.

- The equipment shall meet the following minimum specifications; power jet and water source for washing down the storm drain, vacuum attachment for catch basin cleaning, and a liquid handling method to dewater the material.
- Inspect and legally dispose of accumulated sediment and debris within the storm drains between basins. Liquids must be decanted on-site and returned to the catch basin.

Catch Basins:

Catch basins shall be inspected to confirm that the structure is operating properly.

- Inspect the presence of accumulated sediment or debris any sediment shall be removed. The equipment shall meet the following minimum specifications; power jet and water source for washing down the storm drain, vacuum attachment for catch basin cleaning, and a liquid handling method to dewater the material.

- Sediment shall be removed when accumulation is within 6 inches of the outfall pipe invert. Legally dispose of accumulated sediment and debris from the bottom of the basin, inlet grates, and inflow channels to the basin.
- If the basin outlet is designed with a hood to trap floatable materials (e.g. Snout), check to ensure watertight seal is working.
- Appropriately dispose of all collected material.

Landscaped and Vegetated Areas:

Inspect all landscaped and or vegetated slopes and embankments on an annual basis. Vegetated areas with bare areas or sparse growth (<90% coverage) shall be revegetated. Mulch shall be applied to landscaped areas, as necessary. Dead or decaying landscaping (ground cover, shrubs, trees etc.) shall be replanted in accordance with the contract documents.

INSPECTION AND MAINTENANCE TABLE

Inspection and Maintenance Frequency	Spring or Yearly	Summer	Fall	As Necessary
Sweeping	X			X
Catch Basins		X		X
Storm Drains		X		X
Field Inlets	X	X		X
Landscaped/Vegetated Areas	X			X
Focal Point	X			X

In the above chart, it is assumed the certified stormwater professional will inspect each item in the spring. Inspections outside of the spring visits can likely be conducted by the property manager.

Attachments:

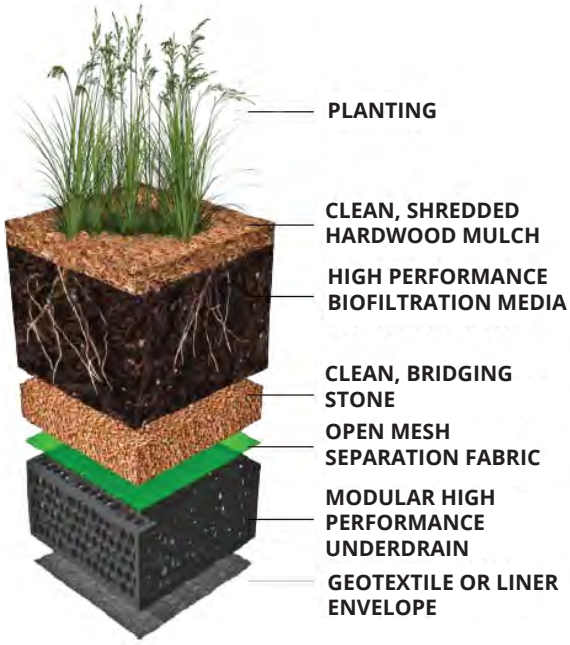
- Focal Point Biofiltration System Brochure
- R-Tank Stormwater Detention System Brochure

FOCALPOINT
BIOFILTRATION SYSTEM

STORMWATER MANAGEMENT

HIGH PERFORMANCE MODULAR BIOFILTRATION SYSTEM FOR FILTRATION OF STORMWATER

FocalPoint is an ultra-efficient, modular biofiltration system that treats and drains large volumes of stormwater runoff in a small footprint to meet post-construction stormwater treatment requirements. The biofiltration system utilizes the physical, chemical and biological mechanisms of a soil, plant and microbe complex to remove pollutants typically found in urban stormwater runoff. The system can be installed along the edge of a roadway behind curb lines, in landscaped stormwater basins and can be incorporated into an urban green infrastructure streetscapes. Infiltration flow rates for the system's standard media exceed 100" per hour. It is a complete, integrated system with a demanding specification that ensures functionality, performance and maintainability.



ADVANTAGES:

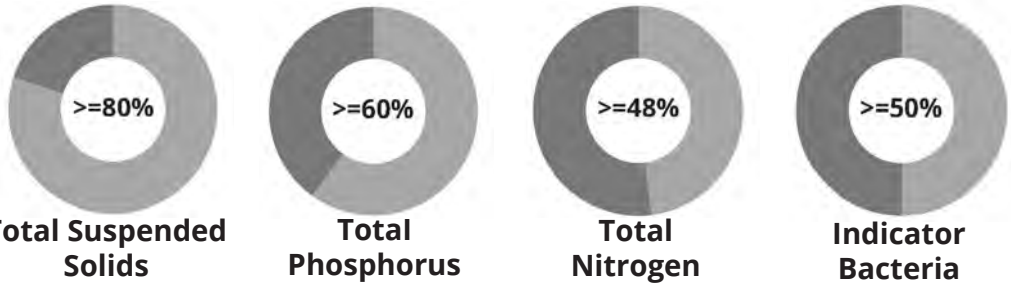
- Gain usable square footage
- Reduce material requirements and cost
- Improve property aesthetic and value
- 100"+ per hour infiltration rate
- Treat the same amount of water in <10% of the area required for traditional bioretention
- ACF provides 1st year of maintenance on system

For more information about Stormwater Management, contact Inside Sales at 800.448.3636
email at info@acfenv.com

ACF ENVIRONMENTAL

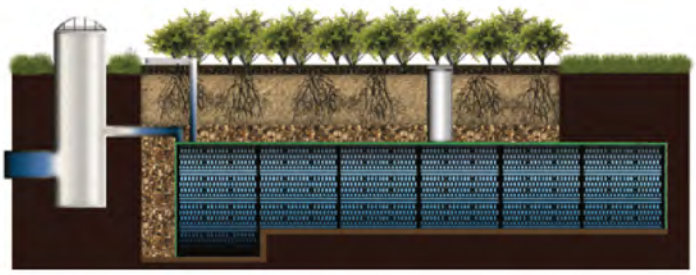
POLLUTANT REMOVAL

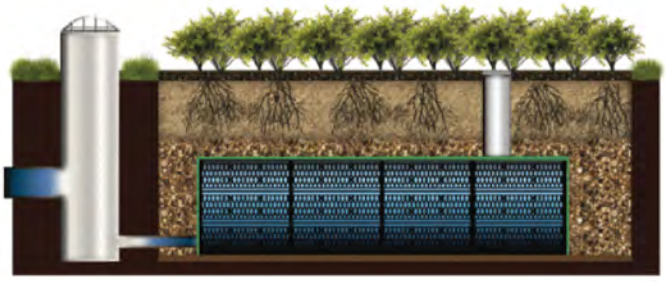
FocalPoint achieves pollutant removal rates consistent with traditional bioretention, and the option of increased removal characteristics for specific pollutant targets. The system is 3rd party field tested under TAPE (Technology Assessment Protocol – Ecology), independently field tested by the North Carolina State University, and has numerous agencies' approvals that meet state water quality standards for post construction BMPs.



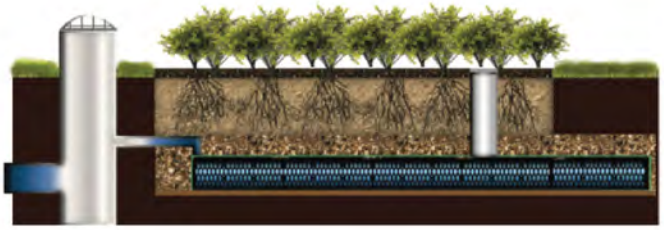
MODULAR UNDERDRAIN

FocalPoint's modular open cell underdrain system, unlike traditional underdrains, not only supports the flow rate of the media, but can be expanded beyond the footprint of the media bed to provide unlimited underground detention, infiltration and/or storage for water reuse. This can help meet channel protection, infiltration and flood control requirements.





R-Tank underdrain can be extended beyond FocalPoint footprint as shown above

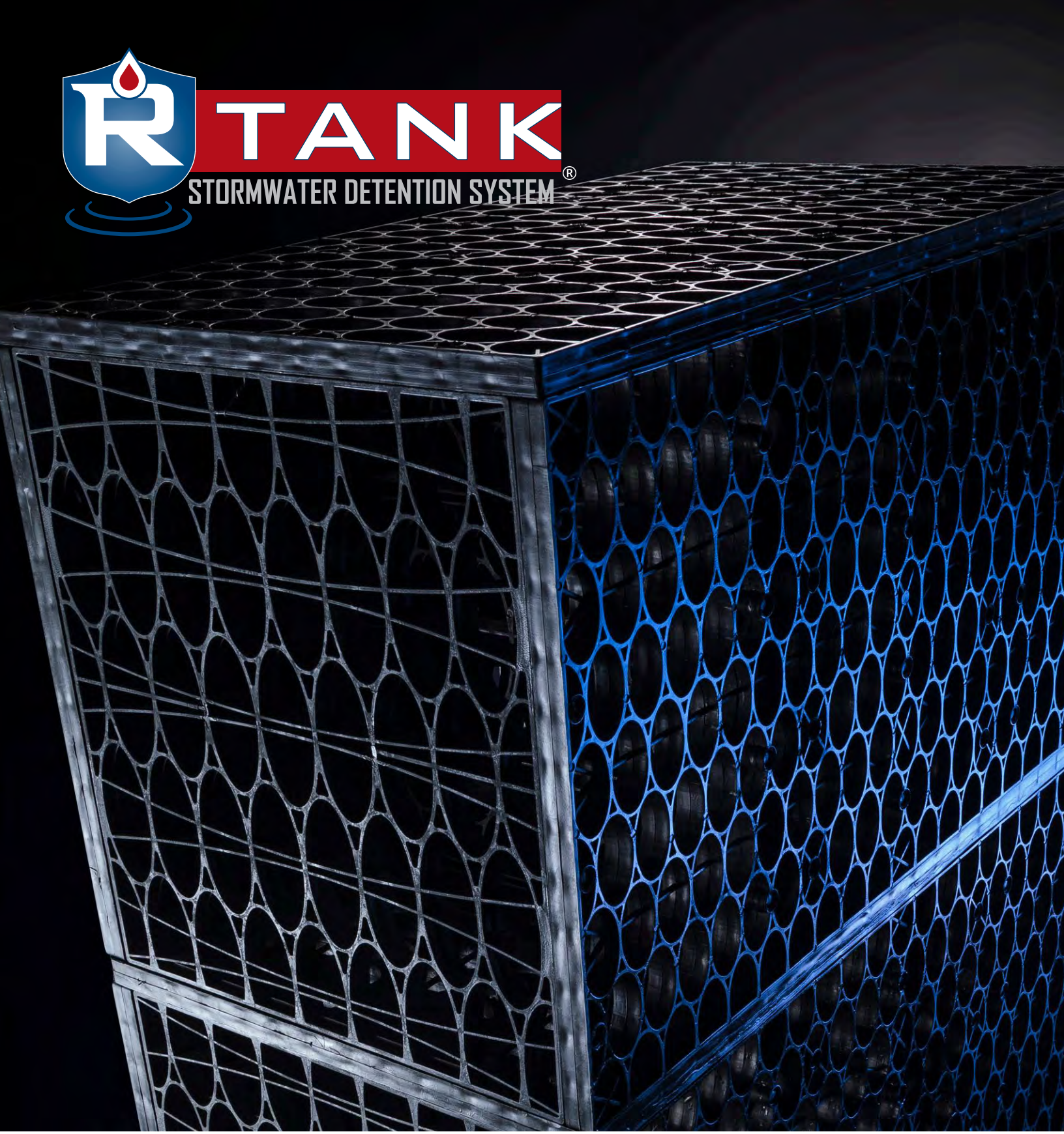


ACF ENVIRONMENTAL
LET'S GET IT DONE
800.448.3636
acfenvironmental.com

ACCESSORY PRODUCTS

Beehive Overflow Filter Riser
for collection of gross solids during major storm events

Rain Guardian Turret
for curbline pretreatment and energy dissipation



LD HD SD UD XD

LET'S GET IT DONE®

ACF ENVIRONMENTAL

STORMWATER MANAGEMENT

IS YOUR STORMWATER SYSTEM TAKING UP TOO MUCH SPACE?

Reduce the size with the R-Tank System, an efficient and versatile underground stormwater storage system. This system will reduce your underground stormwater storage system footprint to resolve a utility conflict or free up space for a future expansion.

It will also provide additional options for vehicular loading and cover depths, and deliver greater installation versatility.

DOES YOUR PROJECT REQUIRE A UNIQUE SOLUTION DUE TO DEPTH OR TRAFFIC LOADS?

With five different module configurations, R-Tank provides system height options from 2” to over 7’ deep. It also delivers support for HS-20 and HS-25 traffic, with cover depths from 6” to over 16’.

With an unlimited array of system footprints and configurations, R-Tank solves tough stormwater problems by adapting to the needs of your site - whether your’re designing a project at the beach with minimal depth over a water table or a deep system in the hills.

R TANK®

R-TANK®

BENEFITS

HIGH CAPACITY
- 95% void internal area

STRENGTH
- Easily supports traffic loading from parking lots and roads
- Module options for HS-20 and HS-25 rating with cover depths from 6 inches to 16 feet

DESIGN & CONSTRUCTION VERSATILITY
- Modules can be combined into various shapes efficiently and effectively use space
- Varied height from 2 inches to 7 feet

INCREASED INFILTRATION AND EXILFILTRATION
- Outer shell is 90% open
- Increases groundwater recharge, reducing post-construction discharge volumes

EASY TO TRANSPORT
- Can be supplied unassembled for reduced delivery costs

LIGHTWEIGHT AND QUICK TO INSTALL
- Installed by hand; no cranes required
- Reduces site access delays

RECYCLED CONTENT
- Manufactured with recycled polypropylene

R TANK LD®

- Light Duty module (30 psi)
- Ideal for applications in green space
- Not rated for vehicular traffic
- 12" Minimum cover, 36" maximum cover
- Four internal plates

R TANK HD®

- Heavy Duty module (33.4 psi)
- Standard module for HS-20 traffic applications
- 20" Minimum cover,
- 84" Maximum cover
- Five internal plates

R TANK SD®

- Super Duty module (42.9 psi)
- Higher safety factors for shallow traffic applications and deeper cover
- 18" Minimum cover,
- 120" Maximum cover
- Five internal plates

R TANK UD

- Ultra Duty module (134.2 psi)
- Traffic loads with 12" of cover
- Available from 14" – 66" tall
- Ideal for high water table sites

R TANK XD®

- Extreme Duty module (240.2 psi)
- Traffic loads with 6" cover
- 16.5' maximum cover
- Available from 2" - 10' tall
- 90% void

DESIGN CONSIDERATIONS

Many factors will influence the design of the R-Tank® system. While this list is not intended to be all-inclusive, the following design considerations are worth highlighting:

1. PRE-TREATMENT

Removing pollutants from runoff before they enter an underground detention system is the smart way to design & build a system. Trash Guard Plus® (see page 6) is a great tool for this. Be sure the system you select will remove, heavy sediments, gross pollutants (trash) and biodegradable debris.

2. BACKFILL MATERIALS

Backfill materials should be stone (<1.5" in diameter) or soil (GW, GP SW or SP per the Unified Soil Classification System). Material must be free from lumps, debris and sharp objects that could cut the geotextile. See the R-Tank® narrative specification section 2.03 for additional information.

3. RUNOFF REDUCTION

Most designs incorporate an outlet to drain the system at a controlled rate and/or an overflow to prevent flooding in extreme events. Any infiltration that can be achieved on the site should also be taken advantage of. Consider raising the invert of your outlet or creating a sump to capture and infiltrate the water quality volume whenever possible.

4. WATER TABLE

While installing R-Tank® below the water table is manageable, a stable base must be created to account for the system's ability to drain water out or limit its ability to enter the system. If a liner is used to prevent ground water from entering, measures must be taken to prevent the system from floating.

5. CONSTRUCTION LOADS

Construction loads are often the heaviest loads the system will experience. Care must be taken during backfilling and compaction (see specification section 3.05), and post-installation construction traffic should be routed around the system (Install Guide step 12).

6. LATERAL LOADS

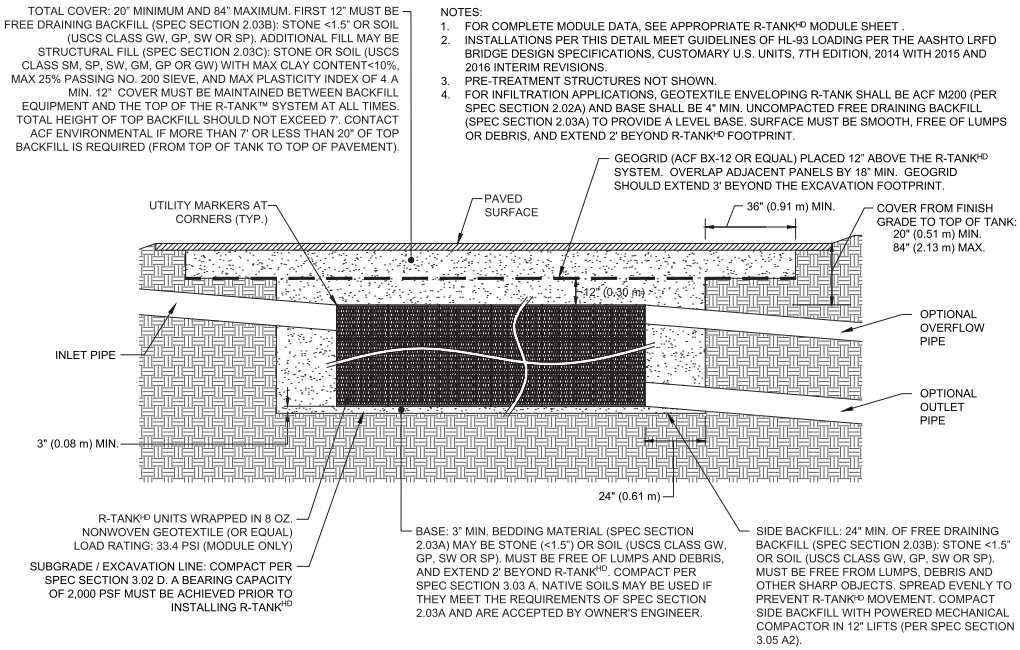
As systems get deeper, the loads acting on the sides of the tank increase. While vertical loads often control the design, lateral loads should also be considered.

7. R-TANK MODULES

Selecting the right module for your application is critical. See page 3 and the specs on the back of this brochure, for details. Our team is also here to help!

8. LOAD MODELING

A safety factor of >1.75 is required when designing an R-Tank System using the AASHTO LRFD Bridge Design Specifications. It is also necessary to run your own loading model with specific site requirements. Example models can be found in our Tech Note on loading capabilities, and minimum cover requirements can be found in the specs on the back of this brochure.



LOW IMPACT DESIGN & GREEN INFRASTRUCTURE

As much of the nation's Gray Infrastructure continues to decay, new concepts for rebuilding it are emerging through Green Infrastructure (GI) and Low Impact Development (LID). This type of reconstruction moves beyond traditional systems that do one thing well, to systems that accomplish multiple objectives simultaneously.

ACF Environmental has several technologies that dovetail with the goals of LID and GI and can play a significant role in the redevelopment process.

SPACE EFFICIENT SUBSURFACE STORAGE

R-TANK®

Pipe and stone are used in traditional systems to move and store runoff. R-Tank accomplishes the same purpose with several additional benefits.

- Stores and moves runoff
- Moves water slowly, increasing time of concentration
- Open system encourages infiltration
- Fully accessible for maintenance
- Stores 138% more water than stone
- Maximizes storage potential of GI practices
- Easily handles traffic loads
- Ships flat to reduce site disturbance

RUNOFF REDUCTION TECHNIQUES

PERMEABLE PAVEMENTS

Traditional pavements move vehicles efficiently, but are easily damaged by stormwater. ACF Environmental specializes in permeable pavements that handle traffic loads, while providing surface infiltration rates 10x higher than traditional pervious pavements, helping reduce the expense of long-term maintenance.

- Handles all vehicular loads
- Drains ten times faster than competing pervious pavements
- Reduces long-term maintenance costs
- Encourages infiltration
- Pair with R-Tank® to maximize water storage and transport

VEGETATED/ BIOLOGICAL TREATMENT SYSTEM

FOCALPOINT

Traditional landscaping adds aesthetic value to projects, but has more potential. Many developers turn to bioretention, but are forced to surrender massive land areas and dedicate significant future funds to maintenance. FocalPoint reduces the space requirements and maintenance costs of bioretention by up to 90% while providing similar pollutant removal.

- Adds aesthetic value to properties
- Cleans runoff to improve water quality
- Reduces space requirements and maintenance costs of traditional bioretention systems
- Encourages infiltration to reduce volume of water discharged
- Pairs with R-Tank® to maximize water storage and transport

R-Tank maximizes the storage capabilities of bioretention and permeable pavement systems.

MAINTENANCE

DESIGNING AN R-TANK SYSTEM WITH LONGEVITY & MAINTENANCE IN MIND IS A THREE-STEP PROCESS:

1. PREVENT

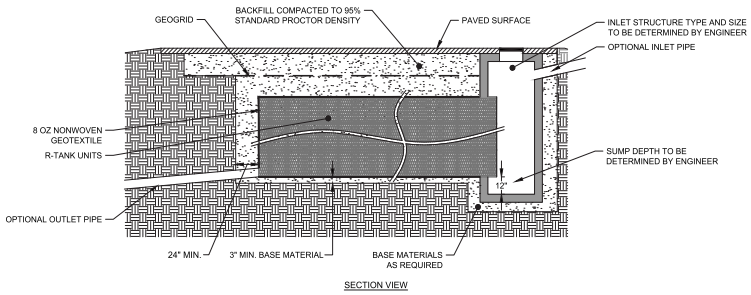
Keep debris and sediment out of the system by pre-treating runoff with the Trash Guard Plus® unit (see below). For a more centralized approach, you could consider having the R-Tank units penetrate the connecting structure, which allows the use of the R-Tank® as its own trash screen. This works best with a structure that includes a sump (see Inlet Connection drawing below).

2. ISOLATE

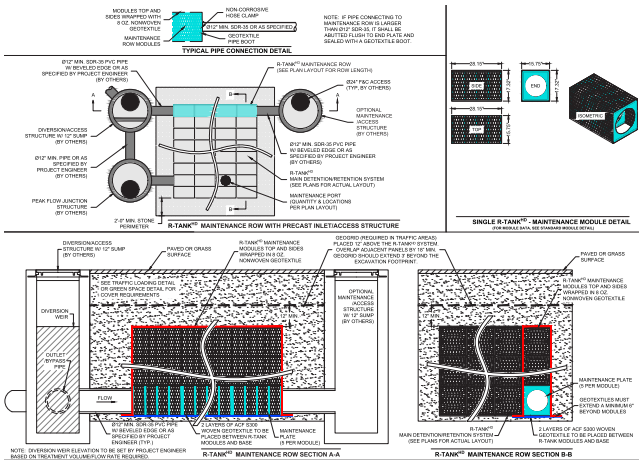
Trap solid pollutants inside the maintenance row (see Maintenance Row drawing below) where they can be easily removed, using the Maintenance Modules (available in LD, HD, and UD only). These modules are wrapped in geotextile to retain solids and are fully accessible by conventional jet-vac systems to remove captured pollutants.

3. PROTECT

Ensure a long system life by including maintenance ports to remove any pollutants that evade the pre-treatment system and maintenance row. Maintenance ports should be specified within 10' of inlet and outlet connections, and roughly 50' on center (see detail on page 7).



INLET CONNECTION



MAINTENANCE ROW

MAINTENANCE PREVENTION

TRASH GUARD PLUS ®

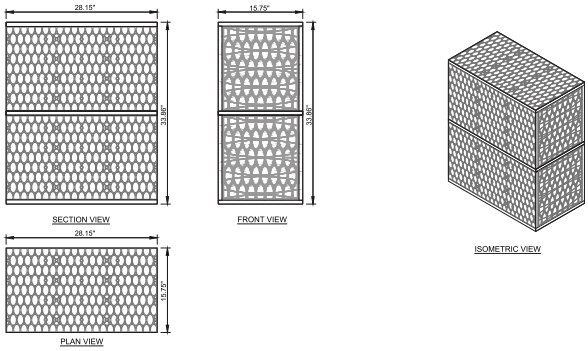
Trash Guard Plus® is a patented stormwater pretreatment device that captures debris, sediment and floatables. Easy to install and maintain, it is a fraction of the cost of other pretreatment devices.

BENEFITS

- Simple retrofit to existing catch basins
- Installs without heavy equipment
- Quick and easy assembly
- Adjusts to irregular catch basin bottoms and/or walls
- Eliminates stormwater trash at public parks, beaches, and waterways
- Removes harmful nutrients and regulated metals

TYPICAL DESIGN

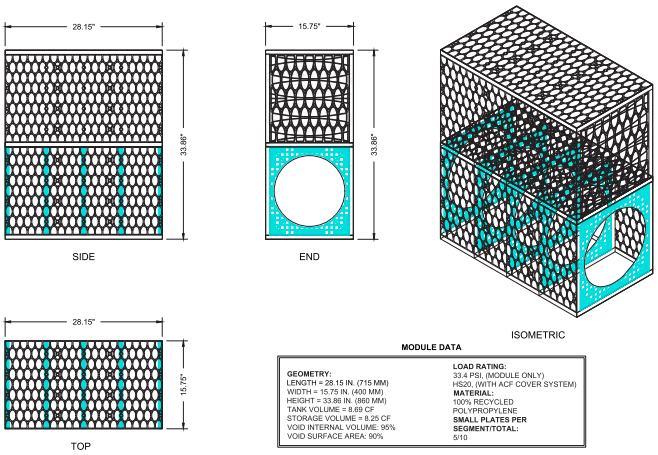
MODULE DRAWING - DOUBLE



MODULE DATA

GEOMETRY: LENGTH = 28.15 IN. (715 MM) WIDTH = 15.75 IN. (400 MM) HEIGHT = 33.86 IN. (860 MM) TANK VOLUME = 8.69 CF STORAGE VOLUME = 8.25 CF VOID INTERNAL VOLUME: 95% VOID SURFACE AREA: 90%	**LOAD RATING**: 33.4 PSI, (MODULE ONLY) HS25, (WITH ACF COVER SYSTEM) **MATERIAL**: 100% RECYCLED POLYPROPYLENE **SMALL PLATES PER SEGMENT/TOTAL**: 5/10

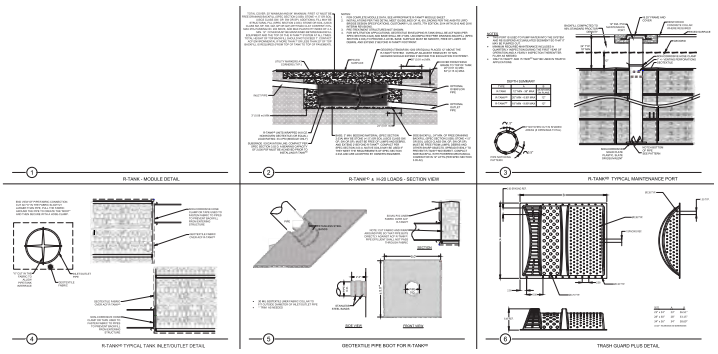
MAINTENANCE MODULE - DOUBLE



MODULE DATA

GEOMETRY: LENGTH = 28.15 IN. (715 MM) WIDTH = 15.75 IN. (400 MM) HEIGHT = 33.86 IN. (860 MM) TANK VOLUME = 8.69 CF STORAGE VOLUME = 8.25 CF VOID INTERNAL VOLUME: 95% VOID SURFACE AREA: 90%	**LOAD RATING:** 33.4 PSI, (MODULE ONLY) HS20, (WITH ACF COVER SYSTEM) **MATERIAL:** 100% RECYCLED POLYPROPYLENE **SMALL PLATES PER SEGMENT/TOTAL:** 5/10

COMPOSITE DETAILS



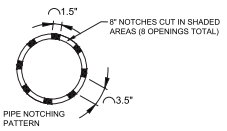
MAINTENANCE PORT

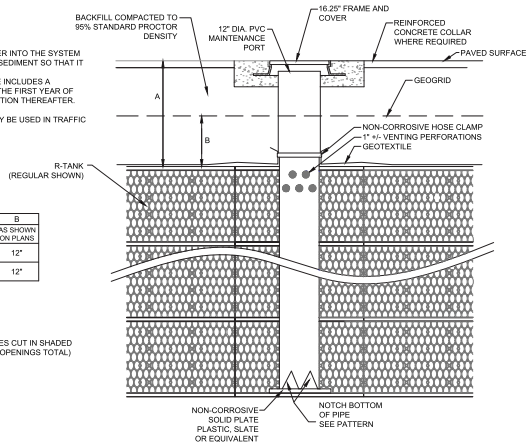
NOTES

- THIS PORT IS USED TO PUMP WATER INTO THE SYSTEM AND RE-SUSPEND ACCUMULATED SEDIMENT SO THAT IT MAY BE PUMPED OUT.
- MINIMUM REQUIRED MAINTENANCE INCLUDES A QUARTERLY INSPECTION DURING THE FIRST YEAR OF OPERATION AND A YEARLY INSPECTION THEREAFTER. FLUSH AS NEEDED.
- ONLY R-TANK® AND R-TANK^{SD} MAY BE USED IN TRAFFIC APPLICATIONS.

DEPTH SUMMARY

TYPE	A	B
R-TANK	12" MIN - 36" MAX	AS SHOWN ON PLANS
R-TANK®	20" MIN - 6.99' MAX	12"
R-TANK^{SD}	18" MIN - 9.99' MAX	12"





SELECTING THE RIGHT R-TANK MODULE

Cover Depth (inches)*	LD	HD	SD	UD	XD
Min. 6"	Green Space - No Traffic	Green Space - No Traffic	Green Space - No Traffic	Green Space - No Traffic	HS-20
12"	Green Space - No Traffic	Green Space - No Traffic	Green Space - No Traffic	HS-20**	HS-20
14"	Green Space - No Traffic	Green Space - No Traffic	Green Space - No Traffic	HS-20	HS-20
18"	Green Space - No Traffic	Green Space - No Traffic	HS-20	HS-20	HS-20
20"	Green Space - No Traffic	HS-20	HS-20	HS-20	HS-20
24"	Green Space - No Traffic	HS-20	HS-20	HS-20	HS-20
36"	Green Space - No Traffic	HS-20	HS-20	HS-20	HS-20
48"		HS-20	HS-20	HS-20	HS-20
60"		HS-20	HS-20	HS-20	HS-20
72"		HS-20	HS-20		HS-20
84"			HS-20		HS-20
120"			HS-20		HS-20
160"					HS-20
Max. 200"					HS-20

HS-20 designation based on AASHTO LRFD Bridge Design Spec for single lane traffic. HS-25 loading is available. Call ACF for details.
*Cover depth is measured from top of module to finished grade or top of pavement
**The UD module requires STONE backfill (not soil) on sides at this depth

R-TANK SPECIFICATIONS

LD HD

DIMENSIONS & CAPACITY

Module (Segments)	Width (inch)	Length (inch)	Height (in/ft)	Volume (cf)	Capacity (cf)	Weight* (lbs)
Mini	15.75	28.15	9.45”/0.79’	2.42	2.30	10.1/10.9
Single(1)	15.75	28.15	17.32”/1.44’	4.44	4.22	15.7/17.3
Single + Mini(1.5)	15.75	28.15	25.98”/2.17’	6.67	6.33	23.6/25.9
Double (2)	15.75	28.15	33.86”/2.82’	8.69	8.25	29.1/32.3
Double + Mini(2.5)	15.75	28.15	42.52”/3.54’	10.91	10.36	37.0/41.0
Triple (3)	15.75	28.15	50.39”/4.20’	12.93	12.28	42.5/47.4
Triple + Mini(3.5)	15.75	28.15	59.06”/4.92’	15.15	14.39	50.4/56.0
Quad(4)	15.75	28.15	66.93”/5.58’	17.17	16.31	55.9/62.4
Quad + Mini(4.5)	15.75	28.15	75.59”/6.30’	19.39	18.42	63.8/71.0
Pent(5)	15.75	28.15	83.46”/6.96’	21.41	20.34	69.3/77.4

*Weights shown are for LD/HD modules.

SD

DIMENSIONS & CAPACITY

Module (Segments)	Width (inch)	Length (inch)	Height (in/ft)	Volume (cf)	Capacity (cf)	Weight (lbs)
Single (1)	15.75	28.15	9.45”/0.79’	2.42	2.30	10.95
Double (2)	15.75	28.15	18.12”/1.51’	4.64	4.41	19.58
Triple (3)	15.75	28.15	26.79”/2.23’	6.86	6.52	28.21
Quad (4)	15.75	28.15	35.46”/2.96’	9.08	8.63	36.84
Pent (5)	15.75	28.15	44.13”/3.68’	11.30	10.74	45.47
Hex (6)	15.75	28.15	52.80”/4.40’	13.52	12.84	54.10
Septa (7)	15.75	28.15	61.47”/5.12’	15.74	14.95	62.73
Octo (8)	15.75	28.15	70.14”/5.85’	17.96	17.06	71.36
Nono (9)	15.75	28.15	78.81”/6.57’	20.18	19.17	79.99
Decka (10)	15.75	28.15	87.48”/7.29’	22.40	21.28	88.62

UD

DIMENSIONS & CAPACITY

Module (Segments)	Width (inch)	Length (inch)	Height (in/ft)	Volume (cf)	Capacity (cf)	Weight (lbs)
Single (1)	23.62	23.62	14.17”/1.18’	4.57	4.35	21.2
Double (2)	23.62	23.62	27.17”/2.26’	8.77	8.33	39.0
Triple (3)	23.62	23.62	40.16”/3.35’	12.97	12.32	56.8
Quad (4)	23.62	23.62	53.15”/4.43’	17.16	16.30	74.6
Pent (5)	23.62	23.62	66.14”/5.5’	21.35	20.29	92.4

XD

DIMENSIONS & CAPACITY

Module (Segments)	Width (inch)	Length (inch)	Height (inch)	Volume (cf)	Capacity (cf)	Weight (lbs)
Single (1)	19.68	23.62	1.97	0.53	0.48	4
Double (2)	19.68	23.62	3.94	1.06	0.95	8
Triple (3)	19.68	23.62	5.91	1.59	1.43	12
Quad (4)	19.68	23.62	7.87	2.12	1.91	16
Pent (5)	19.68	23.62	9.84	2.65	2.38	20

Note: XD modules may be stacked up to 10’ tall (60 layers).

SPECIFICATIONS

Item	Description	LD	HD	SD	UD	XD
		Value	**Value**	**Value**	**Value**	**Value**
Void Area	Volume available for water storage	95%	95%	95%	95%	90%
Surface Area Void	% of exterior available for infiltration	90%	90%	90%	90%	90%
Compressive Strength	ASTM D 2412/ ASTM F 2318	30.0 psi	33.4 psi	42.9 psi	134.2 psi	240.2 psi
Unit Weight	Weight of plastic per cubic foot of tank	3.29 lbs/cf	3.62 lbs/cf	3.96 lbs/cf	4.33 lbs/cf	7.55 lbs/cf
Rib Thickness	Thickness of load-bearing members	0.18”	0.18”	0.18”	-	-
Service Temperature	Safe temperature range for use	-14 - 167º F	-14 - 167º F	-14 - 167º F	-14 - 167º F	-14 - 167º F
Recycled Content	Use of recycled polypropylene	100%	100%	100%	100%	100%
Minimum Cover	Cover required for HS-20 loading	Not traffic rated	20”	18”	12” - 14”	6”
	Cover required for HS-25 loading	Not traffic rated	24”	18”	15” - 17”	6”
Maximum Cover	Maximum allowable cover depth	36”	6.99’	9.99’	5.0’	16.7’

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.

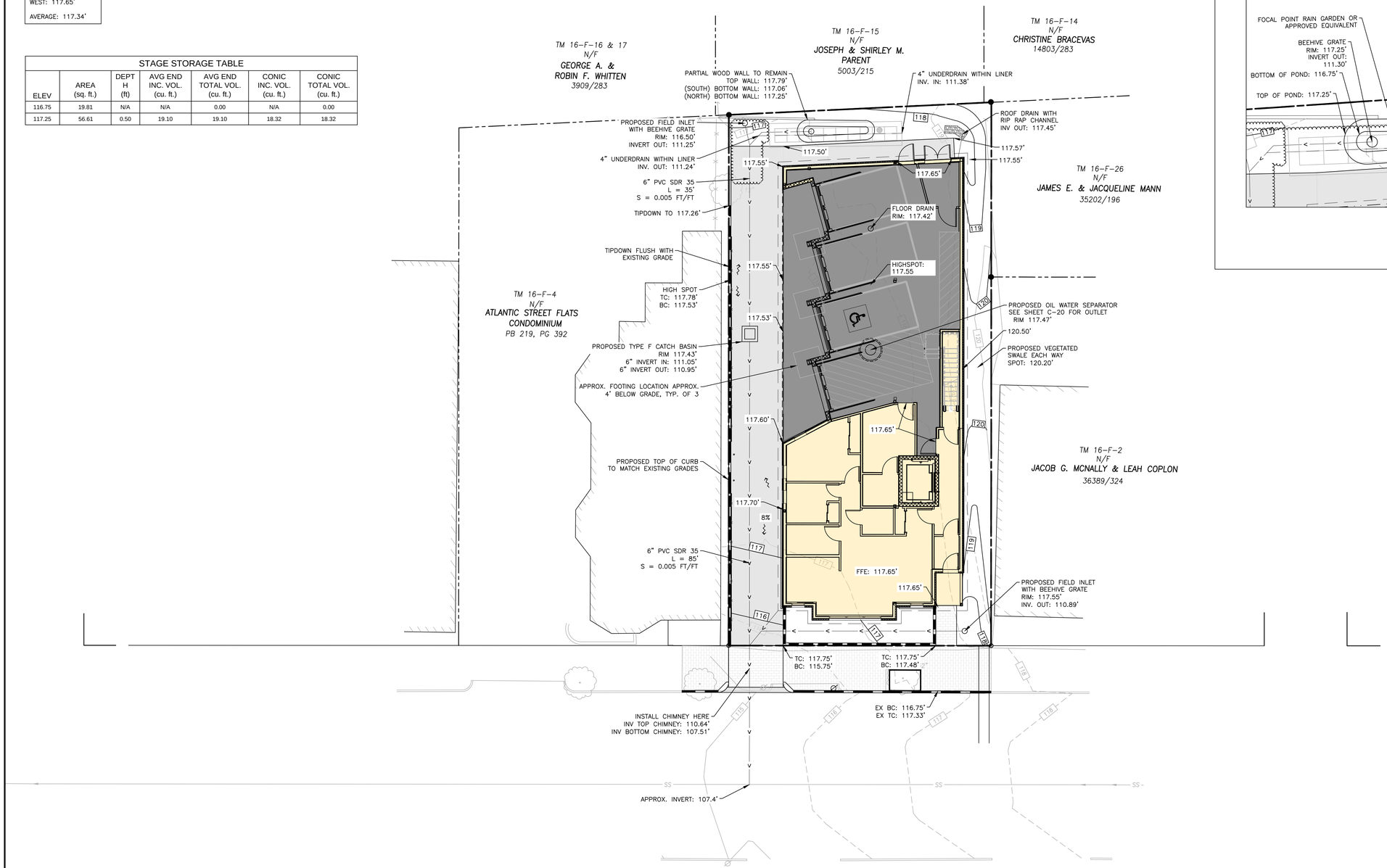
BUILDING ELEVATIONS

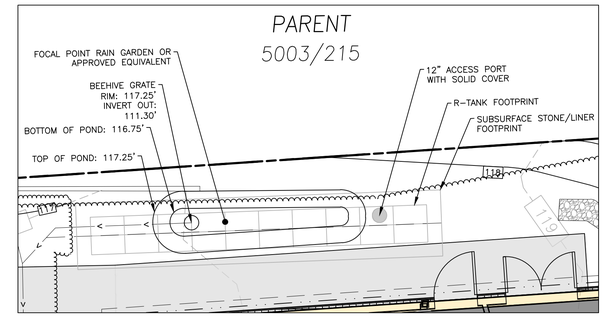
NORTH: 117.87'
EAST: 116.30'
SOUTH: 117.55'
WEST: 117.65'

AVERAGE: 117.34'

STAGE STORAGE TABLE

ELEV	AREA (sq. ft.)	DEPTH (ft)	AVG END INC. VOL. (cu. ft.)	AVG END TOTAL VOL. (cu. ft.)	CONIC INC. VOL. (cu. ft.)	CONIC TOTAL VOL. (cu. ft.)
116.75	19.81	N/A	N/A	0.00	N/A	0.00
117.25	56.61	0.50	19.10	19.10	18.32	18.32





FOCAL POINT INSET
1" = 5'

SCALE: 1" = 10'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL	1/8/21
MAJOR SITE PLAN	SJL	9/22/21
COMMENT RESPONSE	SJL	10/22/21

DRAWING NAME: GRADING & DRAINAGE PLAN

PROJECT NAME/ADDRESS: 30-32 ATLANTIC STREET DEVELOPMENT

CLIENT/OWNER OF RECORD: KESTREL LLC.
72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS TO THIS PLAN, WHETHER OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3422 PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1109.5_CIVIL
JN:	1109.5
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	ZMS
CHECKED BY:	SJL/WHS

STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
LICENSED
PROFESSIONAL ENGINEER
10/15/21

DRAWING NO.
C-30

MaineDOT - Stormwater Control BMP Inspection Log

FILTRATION BMP:			
Location: 30 Atlantic Street, Portland, ME 04101		Latitude:	43.664667
		Longitude:	-70.244474
Description of Located Point: Located to the rear of the site, southwest of the building		Inspector:	
		Date of Inspection:	
		Weather Conditions:	
DOT Region:			
MATS Asset Number:	WIN:	Design Drawings:	

Maintenance Items	Inspect In Spring	Inspect In Fall	Inspect As Necessary		Maintenance Requested (Date)	Maintenance Completed (Date)	Summary of Maintenance Required
Focal Point Rain Garden							
Soil filter retains the design volume for a drain down time greater than 24-hours and less than 48-hours	☑	☑	☐	☐ Yes ☐ No ☐ N/A			
Permeability is between 0.13 and 0.25 in/hr for a bio-retention cell and between 0.38 and 0.75 in/hr for an underdrained ditch	☐	☑	☐	☐ Yes ☐ No ☐ N/A			
Underdrained ditch (if any) has permanent check dams in good, working condition	☐	☑	☐	☐ Yes ☐ No ☐ N/A			
Filter area is properly mulched, showing no bare spots.	☐	☐	☑	☐ Yes ☐ No ☐ N/A			
Site is free of unwanted vegetative growth. In rain garden, mulch layer is at least 3" thick	☐	☐	☑	☐ Yes ☐ No ☐ N/A			
Sediment and plant debris are not within 6" of the top of the embankment	☐	☐	☑	☐ Yes ☐ No ☐ N/A			
Overflow rim is intact and functional	☐	☑	☐	☐ Yes ☐ No ☐ N/A			
If applicable, plantings are in good condition and do not show signs of rot or decay	☐	☑	☐	☐ Yes ☐ No ☐ N/A			
General							
Access to facility is adequate	☐	☑	☐	☐ Yes ☐ No			

MaineDOT - Stormwater Control BMP Inspection Log

Maintenance Items	Inspect In Spring	Inspect In Fall	Inspect As Necessary		Maintenance Requested (Date)	Maintenance Completed (Date)	Summary of Maintenance Required
				☐ N/A			
Photographs of most recent site inspection are included	☐	☑	☐				Photographs are attached.
Additional Comments:							

Stormwater Control BMP Inspection Log

CATCH BASINS:			
Location: 30 Atlantic Street, Portland, ME 04101		Latitude:	43.664667
		Longitude:	-70.244474
Description of Located Point: Located within the drive aisle, southeast of the building		Inspector:	
		Date of Inspection:	
		Weather Conditions:	
Days since last precipitation:			
Quantity of last precipitation:		Design Drawings:	

Maintenance Items	Inspect In Spring	Inspect In Fall	Inspect As Necessary		Maintenance Requested (Date)	Maintenance Completed (Date)	Summary of Maintenance Required
Catch Basins							
Catch basin is working properly and is free of debris and sediment	☑	☑	☑	☐ Yes ☐ No ☐ N/A			
Basin outlet hood (if any) is working properly.	☑	☐	☑	☐ Yes ☐ No ☐ N/A			
Inter-basin storm drain is functioning properly and free of sediment and debris.	☑	☐	☑	☐ Yes ☐ No ☐ N/A			
Catch basin sediment further than 6" from invert out. If closer	☑	☐	☑	☐ Yes ☐ No ☐ N/A			
No sign of illicit discharge is present	☑	☐	☑	☐ Yes ☐ No ☐ N/A			
General							
Access to facility is adequate	☑	☐	☐	☐ Yes ☐ No ☐ N/A			
Photographs of most recent site inspection are included	☑	☐	☐				Photographs are attached.
Additional Comments:							

STORMWATER MAINTENANCE AND INSPECTION LOG

STORMWATER PIPE:	
Location: 30 Atlantic Street, Portland, ME 04101	Latitude: 43.664667
	Longitude: -70.244474
Description of Located Point:	Inspector:
	Date of Inspection:
	Weather Conditions:
Days since last precipitation:	MEDEP Permit #:
Quantity of last precipitation (in):	Design Drawings:

Maintenance Items	Inspect In Spring	Inspect In Fall	Inspect As Necessary		Maintenance Requested (Date)	Maintenance Completed (Date)	Summary of Maintenance Required
Inlets, Outlets, & Storm Drains							
Pipe is free of obstruction, accumulated sediment and debris	☐	☐	☑	☐ Yes ☐ No ☐ N/A			
Pipe inlet and outlet is free of obstruction, accumulated sediment and debris	☑	☑	☐	☐ Yes ☐ No ☐ N/A			
Pipe, inlet and outlet is free of collapses and structural damage	☑	☑	☐	☐ Yes ☐ No ☐ N/A			
Outlet and inlet are properly conveying stormwater and no erosion is visible	☑	☑	☐	☐ Yes ☐ No ☐ N/A			
General							
Access to facility is adequate	☑	☑	☐	☐ Yes ☐ No ☐ N/A			
Photographs of most recent site inspection are included	☑	☑	☐				Photographs are attached.
Additional Comments:							

SECTION B. CHECKLIST

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 See Drawings	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 See Drawings	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

SECTION C: RIGHTS, TITLE & INTEREST

Please see attached documents for evidence of rights, title and interest of Kestrel, LLC to the property known as 30-32 Atlantic Street, Portland, Maine.

SECTION C. RIGHT / TITLE / INTEREST:

DLN: 1002040113810

AFTER RECORDING RETURN TO:
Charlie Katz-Leavy, Esq.
Jensen Baird Gardner & Henry
P.O. Box 4510
Portland, Maine 04112-4510

WARRANTY DEED
(Maine Statutory Short Form)

KNOW ALL PERSONS BY THESE PRESENTS, that I, **MARY FRANCES CONNOLLY,** having a mailing address of 28 Atlantic Street, Unit 1, Portland, Maine 04101 ("Grantor"), for consideration paid. GRANT to **KESTREL, LLC**, a Connecticut Limited Liability Company, having a mailing address of 118 Rowley Drive, Stonington, Connecticut 06378 ("Grantee"), with WARRANTY COVENANTS, a certain lot or parcel of land, with any buildings and improvements thereon, located in the City of Portland, County of Cumberland and State of Maine, as more particularly described in Exhibit A attached hereto.

Meaning and intending to convey and hereby conveying a portion of the premises described in a Quitclaim Deed from Michael Vancleef Delahunt to Mary Francis Connolly, dated September 25, 2009 and recorded in Book 27292, Page 173, and a Corrective Quitclaim Deed to Mary Frances Connolly, dated September 29, 2011 and recorded in the Cumberland County Registry of Deeds, in Book 29016, Page 297.

IN WITNESS WHEREOF, the said Mary Frances Connolly has caused this instrument to be signed and sealed this 29 day of September, 2020.

Bethany A. W. Gain
Witness

Mary Frances Connolly
Mary Frances Connolly

STATE OF Maine
COUNTY OF Cumberland, ss.

September 29, 2020

Personally appeared the above named Mary Frances Connolly and acknowledged the foregoing instrument to be her free act and deed.

Before me,

Bethany A W Gain
Notary Public/ ~~Attorney At Law~~
Printed Name:
Commission Expiration

BETHANY A.W. GAIN
Notary Public-Maine
My Commission Expires
December 12, 2026

MAINE

Department of the Secretary of State

Bureau of Corporations, Elections and Commissions

Multiple Annual Report Filing

Limited Liability Company Record Information

DCN Number	2210019175664
Charter Number	20210373FC
Legal Name	KESTREL, LLC
Registered Agent and Registered Office	CHARLES M. KATZ-LEAVY PO BOX 4510 PORTLAND, ME 04112-4510
Home Office Address	118 ROWLEY DRIVE STONINGTON, CT 06378-Y

Please review transaction information below and make any necessary edits before submitting.

Brief Statement of the Character of the Business — Edit this section

REAL ESTATE AND RENTAL LEASING

Members, Managers or other Authorized Persons — Edit this section

KENT PARSON
118 ROWLEY DRIVE, STONINGTON, CT 06378

Authorizing Party — Edit this section

TITLE REGISTERED AGENT

NAME CHARLES M. KATZ-LEAVY

EMAIL ADDRESS ckatzleavy@jbgh.com

Submit filing NOW

Save for later

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DOC :62385 BK:37252 PG:291
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
10/01/2020, 09:59:40A
Register of Deeds Nancy A. Lane E-RECORDED

EXHIBIT A

Legal Description

Two certain lots or parcels of land situated on the southwesterly sideline of Atlantic Street in the City of Portland, County of Cumberland and State of Maine bounded and described as follows:

PARCEL ONE:

A certain lot or parcel of land, with any improvements thereon, situated on 30 Atlantic Street in said Portland, Maine, bounded and described as follows:

Beginning at a point on the southwesterly sideline of Atlantic Street, said point marking the northeasterly corner of land now or formerly of Michael F. Connolly and Norma I. Connolly; thence in a generally northerly direction 25 feet; thence in a westerly direction parallel to and maintaining a distance of 25 feet to land now or formerly of Rudolph Ferrante and Eleanor Ferrante, 100 feet, more or less; thence in a southerly direction 25 feet to northwesterly corner of land of said Michael F. Connolly et al; thence in a general easterly direction 100 feet more or less to the point of beginning.

PARCEL TWO:

A certain lot or parcel of land, with any improvements thereon, situated on 32 Atlantic Street in said Portland, Maine bounded and described as follows:.

Beginning at the southwesterly side of Atlantic Street, said point marking corner of land formerly of Florence Britting; thence southerly on Atlantic Street for 25 feet, more or less, to a point owned on July 22, 1970 by Michael F. Connolly and Norma I. Connolly; thence in a westerly direction on a course parallel to and maintaining a distance of 25 feet to land now or formerly of Rudolph Ferrante and Eleanor Ferrante, 100 feet, more or less; thence in a northerly direction to land formerly of Florence Britting; thence in an easterly direction 100 feet more or less to the point of beginning.

SECTION D: ZONING ASSESSMENT

May 15, 2021

Zoning Analysis for Zone R-6 (All Projects) & Munjoy Hill Conservation Overlay District

	Required	Proposed
Lot Size	2,000 SF	5,235 SF
Area per Dwelling Unit (D.U.)	725 SF	1,047 SF
Minimum Street Frontage	20’	51’
Front Yard Minimum	5’	5.25’
Front Yard Maximum	NA	NA
Rear Yard	10’	10.56
Yard Right (north)	5’	5.56’
Yard Left (south)	5’	10.07’
Side Street Setback	NA	NA
Step Back	NA	NA
Maximum Lot Coverage	60%	58.2%
Minimum Lot Coverage	NA	NA
Maximum Height if no Workforce unit	35’	< 35’
Open Space	20%	20.4%
Maximum Impervious Area	80%	79.6%
Pavement Setback	NA	NA
Floor Area Ratio	NA	NA
Off-Street Parking Spaces	1 space/unit after 3 units = 1	3
Loading Bays	NA	NA
Maximum width of garage on front facade	9’ or 40% of width	NA (garage located on side of building)

SPACE & BULK STANDARDS for Zone R6

	Required	Proposed
Minimum Lot Size	2,000 SF	5,235 SF
Minimum Street Frontage	20’	51’
Minimum Front Yard Setback	5’	5.25’
Minimum Side Yard Setback	5’	5.56’
Minimum Rear yard Setback	10’	10.56’
Maximum Lot Coverage	60%	58.2%
Minimum Lot Width	20’	51’
Maximum Building Height	35’	< 35’
Minimum Landscaped Open Area	20%	20.4%
Maximum Number of Dwelling Units	725 SF/Unit = 7	4
Residential Parking	1 space after 3 units = 1	3
Minimum Inside Bicycle Storage spaces	2 spaces/5 D.U. = 2	2

E. Summary of Written Easements

There are no existing easements identified on the Boundary & Topographic Survey prepared by Owen Haskell, Inc.

Proposed easement(s) are under review.

SECTION F: CODE ANALYSIS

30-32 ATLANTIC STREET, PORTLAND ME – CODE SUMMARY

BUILDING AREA

Building Footprint:	2,632 SF
Building Gross:	8,736 SF
R-2 Gross:	7,384 SF
Parking Gross:	1,352 SF

IBC 2015 CODE OVERVIEW
Use & Occupancy: Mixed Use- R-2 (Apartments), S-2 Enclosed Parking Garage Construction Type: VA
Sprinkler: Yes
Note: in accordance with Table 602 and Section 705.5:
Proposed Fire Separation Distance of north exterior walls equals 5.56 feet. Therefore, Exterior Wall Rating at this wall = 1 hour .
Proposed South and West walls have fire separations of 10.07 feet and 10.56 feet, respectively. Therefore, Exterior Wall Rating at these walls = 1 hour from interior side only.

NFPA 2018 CODE OVERVIEW
Use & Occupancy: Mixed Use- New Apartment Building, Storage- Enclosed Parking Garage
Construction: Type V
Sprinkler: Yes

IECC 2009 CODE OVERVIEW- See Chapter 13 of IBC 2015

DETAILED CODES REVIEW (IBC / IECC / NFPA)

I. IBC 2015 DETAILED CODE REVIEW- Comply with all chapters in their entirety as applicable

Ch. 3. Use & Occupancy Classification
310.4. Residential Group R-2 (Apartments)
311.3. Low-Hazard Storage Group S-2 (Parking Garages, open or closed)

Ch. 4. Special Detailed Requirements Based on Use and Occupancy
Section 406 Motor Vehicle-Related Occupancies
406.6 Enclosed Parking Garages
406.6.1 Height and Areas: See Sections 504, 506 and 507
406.6.2 A Mechanical Ventilation System shall be provided in Accordance with the International Mechanical Code
406.6.3 An Enclosed Parking Garage shall be Equipped with an Automatic Sprinkler System in accordance with Section 903.2.10.

Ch. 5 General Building Height and Areas
Table 504.3 Building Height for R/ S13R (Building equipped with an automatic sprinkler system per Section 903.1.2), Type VA construction: max. height = 60'-0"
Table 504.4. Number of Stories: R-2/ S13R (see note above), Type VA construction: max. 4 Stories above grade

Table 506.2 Building Area: R-2/S13R, Type VA construction: max. 12,000 s.f per floor
Table 508.4. Required Separation of Occupancies: Required Separation between Occupancies R-2 & S-2 = 1 hour
508.4.4.1. Required separators between adjacent occupancies shall be Fire Barriers in accordance with Section 707 and/ or Horizontal Assemblies in accordance with Section 711

Ch. 6. Types of Construction

Table 601. Type VA
- Primary Structural Frame- 1 hour
- Bearing Walls Exterior- 1 hour
- Bearing Walls Interior- 1 hour
- Non-bearing Walls and Partitions, Exterior- per Table 602
- Non-bearing Walls and Partitions, Interior – no rating
- Floor Construction and Associated Secondary Members- 1 hour
- Roof Construction and Associated Secondary members- 1 hour

Table 602. Fire Resistance Rating for Exterior Walls based on Fire Separation Distance
- X less than 5'-0"- 1 hour
- X greater than or equal to 5'-0" and Less than 10'-0"- 1 hour
- X greater than or equal to 10'-0" and Less than 30'-0"- 1 hour, if greater than 10'-0" then rating is from interior only.
- Where Table 705.8 permits non-bearing exterior walls with unlimited area of unprotected openings, required fire resistance of exterior walls is 0 hours

602.5 In Type V construction, structural materials, exterior and interior walls are of any materials permitted by this code.

Ch.7. Fire and Smoke Protection Features

704.1 Structural members and assemblies shall comply with Table 601 for required fire ratings.
704.2 Where columns are required to be fire-rated, the entire column shall be encased for the full height of the column, including connections to other structural members and/or where extending through a ceiling.
705.2. Projections such as cornices and exterior balconies beyond the exterior wall shall conform to this section and Section 1406.

Table 705.2 Minimum distance of Projections
- 0' to 2' fire separation: no projections allowed.
- 2' $\geq$ 3' : 24 inches
- 3' $\geq$ 30' : 24 inches plus 8" for every foot beyond 3'

705.2.2 Projections from Type V construction shall be of any approved material
705.2.2. Projections from Type V construction (including Balconies) may be of any approved material.
705.2.3 Combustible projections extending to within 5' of fire separation distance shall be not less than 1-hour construction.
705.5 Fire Resistance Rating of Exterior Walls with a Fire separation distance of less than or Equal to 10'-0" shall be Rated for Exposure to Fire from Both Sides.

Table 705.8. Maximum Area of Exterior Wall Openings / Unprotected, Sprinklered / Distance to lot line
- Openings not permitted less than 3'
- Unprotected openings 3' to less than 5' in sprinklered building: 15% allowable area
- Unprotected openings 5' to less than 10' in sprinklered building: 25% allowable area
- Unprotected openings 10' to less than 15' in sprinklered building: 45% allowable area
- Unprotected openings 15' to less than 20' in sprinklered building: 75% allowable area
- Unprotected openings more than 20' in sprinklered building: No limit

707 Fire Barriers / Fire-Resistance Rating

Shaft Enclosures- Comply with Section 713.4.
Interior exit Stairway and ramp construction- Comply with section 1023.1.
Enclosures for Exit Access Stairways- Comply with section 713.4.
Exit Passageway- Comply with section 1024.3
Horizontal Exit- Comply with section 1026.1

707.3.7 Incidental Uses- Comply with Table 509

707.3.9 Separated Occupancies- Comply with Table 508.4 based on the occupancies being separated. R/ S-2= 2 Hour

Table 707.3.10. Fire Resistance separating Occupancies R and S-2 = 2 hours.

707.4 Exterior Walls- Where exterior walls serve as part of a required fire resistance-rated shaft of stairway enclosure or separation, comply with section 705 for exterior walls.

707.5 Continuity- Fire barriers shall extend from the top of the foundation or floor/ceiling assembly below to the underside of the floor or roof sheathing, slab, or deck above and shall be securely attached hereto. Such fire barriers shall be continuous through concealed spaces, such as the space above suspended ceilings. Joints and voids at intersections shall comply with sections 707.8 and 707.9.

707.5.1 Supporting Construction- Supporting construction of fire barriers shall be protected to afford the required fire-resistance rating of the fire barrier supported. Hollow vertical spaces within the fire barrier shall be fire blocked the full height of the support structure in accordance with section 718.2 at every floor and at the roof.

707.7 Penetrations- Comply with section 714. Penetrations into exit access stairways, interior exit stairways and exit passageways shall be allowed only where permitted by section 1019, 1023.5 and 1024.6, respectively.

707.8 Joints comply with section 715.

707.9 All voids at intersections of fire-resistance rated assemblies shall be filled with an approved material or system.

708.1 Fire Partitions

Separation Walls as required by section 420.2
Corridor walls as required by section 1020.1
Elevator Lobby separation as required by section 3006.2.
Fire-Resistance Rating Fire partitions shall have fire -resistance rating of not less than 1 hr.
Exceptions: 1. Corridor walls permitted to have a ½ hour fire-resistance rating by Table 1020.1. Occupancy R, Occupant load served by corridor with sprinkler system= 0.5 hours.

708.4 Fire barriers shall extend from the top of the foundation or floor/ceiling assembly below to the underside of the floor or roof sheathing, slab, or deck above and shall be securely attached hereto. Supporting construction shall be protected to maintain required fire-resistance.

708.9 Ducts and air transfer openings- Penetrations in a fire partition by ducts and air transfer openings shall comply with section 717.

711.2.3 At Horizontal Assemblies, supporting construction shall match fire-resistance rating of horizontal assembly being supported.

711.2.4.1 Separating Mixed Occupancies: comply with section 508.4 based on the occupancies being separated.

711.2.4.3 At Dwelling Units and Sleeping Units, horizontal assemblies serving as dwelling unit or sleeping unit separations shall not be less than 1-hour.

712.1.12 Vertical openings containing Exit Access Stairways and Ramps shall comply with section 1019. Horizontal fire doors shall achieve rating not less than the assembly being penetrated and shall be permanently labeled. Access doors shall be permitted in roof/ceiling in fire stair, provided that doors are tested per ASTM 119 or UL 263 and permanently labeled.

713.2 Shaft enclosures shall have a fire-resistance rating of not less than 2-hours where connecting four or more stories and *not less than one hour where connecting less than 3 stories.*

713.5 Shaft enclosures shall be constructed as fire barriers in accordance with section 707 or horizontal assemblies constructed in accordance with section 711 or both, and shall have continuity in accordance with section.
713.6 Where exterior walls servs as part of shaft enclosure, wall shall comply with Section 705, and fire-resistance rating of enclosure does not apply. However, exterior walls at interior fire stairs shall comply with Section 1023.7.
713.8 -- 713.10: Shaft Penetrations shall comply with section 714. Joints- comply with section 715. Ducts and air transfer openings- Penetrations in a fire partition by ducts and air transfer openings shall comply with section 717. Comply with entire section 714 to protect through penetrations and membrane penetrations of horizontal assemblies and fire-resistance rated wall assemblies.
713.14 Elevators shall be constructed in accordance with Section 713 and Chapter 30.
714.3 Penetrations into or through fire wall, fire barriers and fire partitions shall comply with Sections 714.3.1 through 714.3.3.
714.4 Penetrations of a fire-rated floor, floor/ceiling assembly, or ceilings or roof/ceiling assembly shall be protected in accordance with Sections 714.4.1—714.4.4.
715.1 Joints installed in fire-rated walls, floors or floor/ceiling assembly, or roof or roof/ceiling assembly shall be protected by approved Fire Resistant Joint Systems that maintain the required ratings. Fire resistant joints not required where shaft enclosure is already protected, and at walls allowed to have unprotected openings. Comply with all of Section 715,
Table 716.5 Opening Fire Protection Assemblies

Fire doors at Shafts & interior exit stairways with wall rating 2 hours: Min. Fire Door Rating- 1 ½ hour with maximum vision panel size of 100 sq. in.
Fire Doors at Corridor Walls with wall rating 0.5 hours: Min. Fire Door Rating- 1/3 hour, Door Vision panel size= max. Size tested.
Fire Doors at Exterior Walls with wall rating 1 hours: Min Fire Door Rating- 3/4 hour with maximum vision panel size of 100 sq. in.

716.5.9 Fire doors shall be latching and self-or automatic closing in accordance with Section 716.
717 At Ducts and Air Transfer Openings in rated assemblies, comply with entire section 717.
718 At Concealed Spaces, fireblocking and draftstopping shall comply with entire section 718
718.2 Fire blocking in combustible construction shall be installed to cut off concealed draft openings (both vertical and horizontal) and shall form an effective barrier between floors, between a top story and a roof or attic space, fire blocking shall be installed in the locations and in the manner specified in sections 718.2.2 through 718.2.7. Fire blocking shall be provided in concealed spaces between stair stringers at the top and bottom of a stair, and enclosed spaces under stair shall comply with Section 1011.7.3.
718.3.2 Draftstopping is required in R-2 building with 3 or more dwelling units, to be located above and in-line with the dwelling unit separations, unless building is equipped with automatic sprinkler system conforming with Section 903.1.1.
720 Thermal and Sound-Insulating Materials shall comply with entire section 720.
Table 721.1(2) Prescriptive Fire Resistance @ Partitions

CMU provides 1-hour fire resistance in 2.1" – 2.8" (depending on type)
Solid Concrete provides 1-hour fire resistance in 2.5" – 3.5" (depending on type)
Interior wall: 2x4 wood studs with 5/8" Type X gypsum board each side provides 1-hour fire resistance (See Table 721.1(2), item #14-1.3 for details) (4-3/4" th. Wall)
Exterior wall: 2x6 wood studs with 2 layers 5/8" Type X gypsum board each side and 5.5" mineral wool in cavity provides 2-hour fire resistance (See Table 721.1(2), item #15-1.16 for details) (8" th. Wall)
Exterior wall rated for fire resistance from interior only: 2x6 wood studs with 1 layer 5/8" Type X gypsum board on interior side and R19 mineral fiber in cavity provides 1-hour fire resistance (See Table 721.1(2), item #16-1.3 for details) (6.5" th. Wall)

722.2.1.4.3 and 722.3.2.3 For an exterior wall with a fire separation distance great than 5 feet, the fire shall be assumed to occur on the interior side only.
Table 722.3.2 Fire resistance ratings of different types of CMU
Table 722.6.2(1) Time assigned to Wallboard membranes
5/8" Type X Gypsum Wallboard = 40 minutes
Table 722.6.2(2) Time assigned to Wood Frame
Wood Studs @ 16" OC = 20 minutes
Table 722.6.2(5) Time assigned to Additional Protection
Fill spaces in wood stud walls with glass fiber mineral wool batts or cellulose insulation = 15 minutes
722.6.2.3 For an exterior wall with fire separation greater than 10 feet, the wall rating is assigned the rating dependent on interior membrane and framing. The membrane on the outside shall consist of sheathing, sheathing paper and siding as described in Table 722.6.2(3).
722.6.5 Table 722.6.2(%) indicates additional time increments that can be added to fire resistance where glass fiber, rockwool, slag mineral wool or cellulose is incorporated into the assembly.

Ch.8. Interior Finishes- Comply with Entire Chapter
Table 803.11 Class C finishes allowed in Sprinklered R2 building, including interior exit stairways, corridors and enclosures for exit access stairways.
804.4.2 Floor coverings in stairways, exit passageways, and corridors in R2 building shall be minimum Class II.

Ch.9. Fire Protection Systems - Comply with Entire Chapter
901.6.1 Automatic Sprinkler System- Automatic Sprinkler Systems shall be monitored by an approved supervising station.
901.6.2 Fire Alarm Systems required by the provisions of section 907.2 and sections 907.2 and 907.9 of the International Fire Code shall be monitored by an approved supervising station in accordance with section 907.6.6.
903.2.8 Group R- An automatic sprinkler system installed in accordance with section 903.3 shall be installed throughout buildings with a Group R fire area
903.2.10 Group S-2 enclosed parking garages- An automatic sprinkler system shall be provided throughout buildings classified as enclosed parking garages in accordance with section 406.6 where the enclosed parking garage is located beneath other groups.
903.3.1.2 NFPA 13R Sprinkler Systems- Allowed in Group R occupancies up to and including 4-stories in height and do not exceed 60 feet in height above the grade plane shall be permitted to be installed throughout.
903.3.1.2.1 Sprinkler protection shall be provided for Balconies, Decks and ground floor patios of Dwelling Units and Sleeping Units of Type V construction.
903.3.2 Quick Response and Residential sprinklers- Required in Dwelling units and sleeping units in R occupancies.
906.1. Each dwelling unit shall have a portable fire extinguisher min. rating of 1-A:10-B:C where required by international Fire Code in Table 906.1
907 Fire Alarm and Detection Systems- Comply with entire section 907
907.1.2 and 907.1.2 Construction Documents and Shop Drawings for fire alarm systems shall be submitted for review and approval prior to system installation.
907.2. Manual fire alarm box is not required for R-2 building unless required for the fire code official.
907.2.9 Group R-2 Fire Alarm systems and smoke alarms shall be installed in group R-2 occupancies as required in sections 907.2.9.1 through 907.2.9.3
907.2.9.1 Manual Fire Alarm System is required where a dwelling unit or sleeping unit is located three or more stories above the lowest level of exit discharge.

907.2.11 Single and Multiple-station smoke alarms must comply with UL 217 and install in accordance with section 907.2.11.2
907.2.11.3 In Group R-2 buildings, provide Single or Multiple-station smoke alarms at all the following locations:

On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of the bedrooms
In each room used for sleeping purposes.
In each story within a dwelling unit.

907 2.11.4 Smoke alarms shall be installed not less than 3 feet of a bathroom door with shower or tub.
907.5.2.3.3 In R-2 buildings required to have a fire alarm systems by Section 907, all dwelling units shall be provided with the capability to support visual alarm notification appliances in accordance with Chapter 10 of ICC A117.1
912.1 Fire Department Connections shall be installed in accordance with the NFPA standard applicable to the system design and shall comply with sections 912.2 through 912.6.
914 Emergency Responder Safety Features- Comply with entire section 914
915.1.2 Carbon Monoxide Detection shall be provided in R occupancies that contain a fuel-burning appliance or fireplace.

Ch.10. Means of Egress

1003.2 Means of egress shall have a ceiling height not less than 7'-6", and stair headroom as per Section 1011.3.
Table 1004.1.2 Occupant Load: Maximum Floor area for Residential Occupancy = 200 Gross Sq. Ft. per occupant
1005.3.1 Stairway width: occupant load of each floor = .3" per occupant. As per Section 1011.1, min. width = 36" and headroom clearance not less than 80".
1005.3.2 Other egress areas: width = .2" per occupant
1005.7.1 Doors when open onto egress path, shall not reduce required width by more than 7".
Doors in any positions shall not reduce the required width by more than one half. These restrictions do not apply to induvial dwelling units in R-2.
1006 Number of Exits and Exit access doorways 1006.3 Egress from stories or occupied roofs.
1006.2.1.1 R-2, one means of egress allowed from dwelling unit if sprinklered building and common path of egress is less than 125'. (Max occupant load of 10.)
Table 1006.3.1 Minimum number of exits or access to exits per story, Occupant load per story: 1-500, Minimum number of exits or access to exits from story: 2.
1006.3.2 Single exit allowed where rooms, areas & spaces discharge directly to exterior @ first floor; required emergency escape openings; max. distance to exit = 75'.
1006.3.2/Table 1006.3.2(1): R-2 building can have one exit as long as building is sprinklered, maximum 3 stories, less than 4 units per floor, automatic sprinkler and exit travel less than 125 feet.
1007 Exit or exit access doorway configuration- Comply with entire section 1007
1007.1.1 Where two exits required: in automatic sprinklered building, distance between exits shall not be less than one third of full floor, measured on a diagonal. Distance is measured to closest riser. If hall walls are 1-hr. rated, straightest point between exits may be used. (See 1007.1.1.1 for measuring.)
1008.1 Illumination shall be provided in means of egress in accordance with Section 1008.2.
1008.3.2 Emergency lighting is required at exit hallways and stairs if two exits are required
1010.1 Doorway widths. All doors in path of egress and to accessible spaces must be minimum 32" clear width. Other doors do not have minimum width requirement but must be min. 78" in height.
1010.1.6 Landings shall have width not less than the width of the stairway or the door, whichever is greater.

1010.1.8 Doors in series shall be minimum 48” apart plus the width of a door swinging into the space.
1010.1.9.1 Door hardware shall comply with this section.
1011 Stairways- Comply with entire section 1011
1011.2 Width and Capacity- Stairways serving an occupant load of less than 50 shall have minimum clear width of 36”.
Note: Occupant load is 8736 SF/ 200 gross SF= 44 people, Minimum Width of Stair = 36”
1011.3 Headroom- Minimum headroom clearance of 80 inches required.
1011.5.2 Stair Treads and risers- Maximum Riser height shall be 7” and minimum riser height shall be 4”, Minimum rectangular tread depth shall be 11” from riser to nosing. *Stairs within dwelling units may have maximum riser height of 7-3/4” and minimum tread depth of 10”.*
1011.6 Stairway landings- Width of landing shall be not less than the width of the stairways served. Doors opening on a landing shall not reduce width to less than ½ the required width.
1011.11 Handrails- Required on both sides of stair and shall comply with section 1014, except railings on one side permitted where stair is within dwelling unit.
Section 1011.12 In 4-story or more buildings, one stair must go to roof. Buildings without occupied roof access are permitted to have ships ladder or permanent ladder. Roof hatch shall not be less than 16 SF. Provide guards where roof hatch is less than 10 feet from roof edge.
Section 1011.12.2 Where stairway is provided to roof, access to roof shall be through a penthouse complying with Section 1510.2.
1013.1 Exit Signs are required in path of egress travel and shall be readily visible from any direction of egress travel. Comply with Section 1013. Exist signs are not required at main, obvious exterior exits.
1014.1 Handrails shall be not less than 34” and not higher than 38” and shall comply with entire section 1014.
1015.1 Guards are required at stairs and landings that are more than 30” to grade or floor below. Where required, guards shall be 42” high except at the open side of stairs, guards may be not less than 34” high. Guards shall be required where equipment requiring service is within 10’ of a roof edge or a roof hatch is within 10’ of roof edge. Comply with entire section 1015 .
1015.8 Windows must have opening control devices where window sill is less than 36” above finish floor and greater than 6' above grade or other surface below at the building exterior.
1016.2 Exit access through elevator lobby is permitted. Level of protection is not required to extend to the exit.
1016.2.3 Egress shall not pass through sleeping areas, bathrooms or rooms that can be locked.
Table 1017.2 Exit Access Travel Distance. Refer to NFPA 101-2009, Table A7.6. For Occupancy R, With Sprinkler System= 250 feet where building equipped throughout with an automatic sprinkler system.
Table 1020.1 Corridor Fire-Resistance Rating for Occupancy: R, Occupant Load Greater than 10, With Sprinkler System= 0.5 Hrs
1020.1.2. Fire resistance rating is not required for corridors within a dwelling unit in R buildings.
Table 1020.2 Minimum Corridor Width- Occupancy: R, Min. Width w/ Occupant load less than 50 (total= 48)= 36"
1020.4 Dead end corridors shall be max. 50 feet in length in sprinklered building.
1022 Exits- Comply with entire section 1022
1023 Interior Exit Stairways and Ramps- Comply with entire section 1023
1023.2 Stairs connecting 4 stories or more must be 2-hr. rated.
1023.7 Exterior walls of interior exit stairways shall comply with Section 705 for exterior walls, but shall not have a fire resistance rating of less than 1 hour within 10 feet horizontally and vertically of the exit stair.

1023.8 If an exit stair continues below the level of discharge, an approved barrier shall be provided at the discharge level to prevent people from unintentionally continuing to levels below exterior discharge.
1023.9 Signage shall be provided in stairs connecting more than three stories in compliance with this Section.
1024 Exit passageways shall not be used for any purpose other than as a means of egress and as circulation. Comply with all other provisions of this Section.
1030.1 – 1031.4 In addition to egress stairs, an emergency escape and rescue (E&R) shall be provided in sleeping rooms (bedrooms) in R2 occupancies below the fourth story above grade. Emergency E&R openings shall have minimum net clear opening of 5.7 SF, except at grade floor where net opening shall be minimum 5 SF, and shall have sill height at maximum 44" above floor.

Ch.11. Accessibility
1104 Accessible Entrances
1104.1 At least one accessible route shall be provided to the building entrance from public sidewalks & accessible parking.
1105.1.1 Parking Garage entrance from exterior and from within Garage to building's main entry shall be accessible.
1105.1.7 At least one accessible entrance shall be provided to each dwelling unit.
Table 1106.1 Accessible parking spaces: for 1-25 Parking Spaces, required minimum number of accessible spaces= 1
1107.2. Design- Dwelling Units and Sleeping Units that are required to be accessible units, type A and B units shall comply with the applicable portions of chapter 10 of ICC A117.1
1107.3 Accessible spaces in Type A or B units shall include toilet/bathing room, kitchen living and dining area and exterior spaces such as terraces.
1107.5.1.2. In a structure with 4 or more dwelling units , every dwelling unit shall be a Type B unit.
Table 1107.6.1.1 In a building of 25 units or less, no units are required to have roll-in showers.
1111.1 Signage- Accessible parking space(s) shall be marked by the International Symbol of Accessibility.
1111.3 Floor level signage shall be provided in accordance with Section 1023.9 in exit stairs.

Chapter 12 Interior Environment-
Section 1203 Ventilation. Comply with this section.
Section 1204 Temperature Control. Comply with this Section.
Section 1205 Lighting. Comply with this Section
1207.2 Air-borne sound. Walls, partitions, and floor/ceiling assemblies separating dwelling units from each other or from public or service areas shall have a sound transmission class (STC) of not less than 50 (45 if field tested) for air-borne noise when tested in accordance with ASTM E 90. Penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated, or otherwise treated to maintain the required ratings. This requirement shall not apply to dwelling unit entrance doors; however, such doors shall be tight fitting to the frame and sill.
Section 1208 Interior Space Dimensions. Comply with this Section

Chapter 13 Energy Efficiency
1301 General- Buildings shall be designed and constructed in accordance with the International Energy Conservation Code 2009.

Chapter 14 Exterior Walls
Section 1403 Performance requirements. Comply with this Section.
Section 1404 Materials. Comply with this Section.

Section 1405 Installation of Wall Coverings. Comply with this Section.
Table 1406.2.1.1.2 With a fire separation of 10 feet, combustible exterior wall covering shall have Tolerable Level Incident Radiant Heat Energy(kW/m2) of 8.9. With a fire separation of 5 feet, combustible exterior wall covering shall have Tolerable Level Incident Radiant Heat Energy(kW/m2) of 12.5.

II. IECC 2009 DETAILED CODE REVIEW - Comply with all chapters in their entirety as applicable

Chapter 3 General Requirements
301 Climate Zones
Table 301.1 Climate Zones, Main, Cumberland County, 6A
Table 402.1 Climate Zone 6
Minimum R-values
Windows: U value: .035
Wood Frame Walls: R20 cavity or 13 cavity+5 continuous
Mass Wall: 15/19
Ceiling: R 49
Floor: R 30
Basement Wall: R15 (continuous) or R19 cavity
Slab R10

Chapter 5 Commercial Energy Efficiency- Comply with entire Chapter 5
501.1 Scope
Commercial buildings shall meet either the requirements of ANSI/ASHRAE/IESNA Standard 90.1, Energy Standard for Buildings, Except for Low Rise Residential Buildings, or the requirements contained in this chapter.
502 Building Envelope Requirements
502.1.1 Insulation and Fenestration criteria. The building thermal envelope shall meet the requirements of Tables 502.2 (1) and 502.3 based on Climate Zone 6A.
Table 502.2 (1)- Building Envelope Requirements- Opaque Assemblies
Climate Zone- 6A
Roofs- Attic and Other- Group R, R-38
Walls Above Grade- Wood Framed and Other- Group R, R- 13 + R-7.5 ci.
Walls Below Grade- Below Grade Wall- Group R, R-7.5 ci. Floors- Joist/ Framing (Steel/ Wood)- Group R, R-30
Slab-on-Grade- Unheated Slabs- Group R, R-15 for 24” Below
Opaque Doors- Swinging, Roll-up or Sliding- Group R, U- 0.50.
Table 502.3 Building Envelope Requirements: Fenestration Vertical Fenestration (40% Maximum of above-grade wall)- Proposed = 25.7%
Climate Zone- 6A
Framing Materials other than metal- U-Factor = 0.35 SHGC all Frame types: PF less than 0.25= 0.40

III. NFPA 2018 DETAILED CODE REVIEW-Comply with all chapters in their entirety as applicable.

Chapter 6 Classification of Occupancy and Hazard of Contents
Classification of Occupancy
6.1.8.1.5 New Apartment Building
6.1.13 Storage- Enclosed Parking Garage
Separated Occupancies

Table 6.1.14.4.1 (b)- Apartment Buildings, Storage= 2 Hours, 1 hour allowable reduction where building is protected throughout by an approved automatic sprinkler system in accordance with 9.7.1.1 and supervised in accordance with 9.7.2.
6.2.2.2 Classification of Hazard of Contents: Low Hazards

Chapter 7 Means of Egress

Exit Access Corridors- Corridors used as an exit access and serving an occupant load exceeding 30 shall be separated by walls having not less than a 1- Hour fire-resistance rating in accordance with Section 8.3
Exits- Comply with section 8.2 and the following: 2, Minimum 2-hour fire resistance rating where the exit connects four or more stories, unless one of the following conditions exists: (c) Minimum 1 hour enclosures in accordance w/ 30.2.2.1.2 shall be permitted as an alternative to the requirement of 7.1.3.2.1
7.2.2.2.1.2 Minimum New Stair Width where the total occupant load of all stories served is less than 50, the minimum width clear of all obstructions, except obstructions 4 ½" at or below handrail height on each side, shall be 36".
Table 7.2.2.2.1.1 (a) New Stairs Minimum Width- 36"
Max. Ht. of Risers- 7" Minimum Ht. of Risers- 4" Minimum Tread Depth- 11" Minimum headroom- 6'-8"
Maximum ht. Between landings- 12 ft.
Landing- 7.2.1.4.3.1 Door Leaf Encroachment- During door swing, any door leaf in a means of egress shall leave not less than one-half of the required width of a landing unobstructed and shall project not more than 7" into the required width of the landing, when fully open.
7.2.2.4.4 Handrail Details- New handrails on stairs shall be not less than 34" and no more than 38" measured vertically from the leading edge of the tread.
7.2.2.5.4.1 Stairway Identification- New enclosed stairs three or more stories shall comply with A-M for signage.
7.2.2.5.4.3 Stairway Tread and Landing markings
7.3.1.2 Occupant Load Factor, Use Apartment, 200 Sq. Ft- 9,600 s.f/ 200 sq. ft. per person = 48 total occupants
Table 7.3.3.1 Capacity Factor, Stairways, width per person - 0.3 inch width per person x 48 =14.4" width required. Level Components, width per person- 0.2 inch width person x 48 =9.6" width required.
Minimum Width- The minimum width of any means of egress shall be not less than 36".
Number of Means of Egress- Not less than 2 from any story
7.4.1.6 Elevator Landing and Lobby Exit Access- Each elevator landing and lobby shall have access to at least one exit.
7.5.1.3.3 In buildings protected throughout by an approved , supervised automatic sprinkler system in accordance with section 9.7, the minimum separation distance between two exits or exit accesses, or exit discharges shall be not less than one-third the length of the maximum overall diagonal dimension of the building or area being served.

Chapter 8 Features of Fire Protection

Table 8.3.4.2 Minimum Fire Protection ratings for Opening Protectives Elevator Hoistways - Walls= 2 hours, Fire Door Assemblies= 1 ½ hours,
Vertical Shafts (Stairways) - Walls= 2 hours, Fire Door Assemblies= 1 ½ hours.
Exit Access Corridors - Walls= 1 hour, Fire Door Assemblies= 1/3 hours, Fire Window Assemblies= ¾.
Smoke Barriers - Walls= 1 hour, Fire Door Assemblies= 1/3 hours, Fire Window Assemblies= ¾.

Chapter 9 Building Service and Fire Protection Equipment - Comply with entire Chapter 9

Chapter 10 Interior Finish, Contents and Furnishings- Comply with entire Chapter 10

Chapter 29 Parking Garages
29.1.1 New Parking garages shall comply with this Chapter and Section 42.8 of NFPA.
29.1.2. New parking garages shall also comply with NFPA 88A
Reference: **NFPA 2015, Section 88A, Chapter 6 Building Service & Fire Protection**
6.4.1 Automatic Sprinkler systems shall conform to NFPA 13.

Chapter 30 New Apartment Buildings- Comply with entire Chapter 30

30.2.1.3
Where bathtubs, bathtub-shower combinations, or showers are present, grab bars shall be provided in accordance with the provisions of 24.2.8.
NOTE: Per ANSI 117: 1004.11.1. Reinforcement shall be provided for the future installation of grab bars at toilets and shower seats at shower compartments. Reinforcement shall be provided for the future installation of grab bars and seats complying with those requirements.
30.2.2.12 Areas of Refuge- Areas of Refuge are not required in Buildings protected throughout by an approved supervised automatic sprinkler system in accordance with 30.3.5.
30.2.5.3.2 No common path of travel shall exceed 50 ft. in Buildings protected throughout by an approved, supervised automatic sprinkler system installed in accordance with 30.3.5.
30.2.6.2 Travel Distance within a dwelling unit to a corridor shall not exceed 125 ft. in Buildings protected throughout by an approved supervised automatic sprinkler system.
30.2.6.3.2 In Buildings protected throughout by an approved automatic sprinkler system installed in accordance with 30.3.5, the travel distance from a dwelling unit entrance door to the nearest exit.
30.2.6.4 The travel distance, from areas other than those within living units, to the exit, shall not exceed 250'-0" in Buildings protected throughout by an approved supervised automatic sprinkler system.
Illumination of Means of Egress- Comply with section 7.8
Emergency Lighting- Comply with section 7.9.
Protection from Hazards
Table 30.2.3.1.1 Hazardous Area Protection
Storage Rooms outside of Dwelling Units- 1-hour and sprinklers.
Trash Collection Rooms- 1-hour and sprinklers.
Interior Finishes- Comply with entire section
30.3.4 Detection, Alarm and Communication Systems
30.3.4.1.1 Four story apartment building shall be provided with fire alarm system in accordance with Section 9.6.
30.3.4.2.2 Initiation of required fire alarm system by manual means shall not be required in buildings four stories or less and protected by approved supervised sprinkler system.
30.3.4.3.1 Occupant notifications shall be provided automatically in accordance with Section 9.6
30.3.4.3.4 Annunciation is not required in buildings four or fewer stories.
30.3.4.5 Smoke alarms shall be installed in accordance with 9.6.2.10 in every sleeping area , and outside of every sleeping area in immediate vicinity of bedrooms, and on all levels of dwelling units.
30.3.4.6.1 – 30.3.4.6.4 CO alarms or detections shall be provided if fuel-burning appliance or fireplace and shall be located outside of each sleeping area and on ceiling of room containing the fuel burning appliance or fireplace.

30.3.5.2. NFPA 13R Sprinkler system shall be permitted as building is less than or equal to 4 stories in height and less than 60 in height above the grade plane.

30.3.5.2.1 . Roof assembly is less than 55' above lowest level of fire dept. access and therefore special requirements of this section do not apply.

30.3.5.6 Listed quick response or listed residential sprinklers shall be used throughout all dwelling units.

Corridors- Comply with entire section
30.3.6.2 Doors- Comply with entire section

Stair Walls – 2 hr.
Elevator Shaft Walls: 2 hr.
Hallway walls – 0.5 hr.
Walls between Units – 1 hr.
Non-bearing Interior walls within units – no rating
Floor construction – 1 hr
Roof construction – 1 hr
Floor-Ceiling construction above Garage – 2 hr.

Separation Walls shall be constructed as fire partitions in accordance with section 708.
Horizontal Separation shall be constructed as Horizontal assemblies in accordance with section 711.
Automatic Sprinkler System Group R occupancies shall be equipped with an automatic sprinkler system in accordance with section 903.2.8. Quick response or residential automatic sprinklers shall be installed in accordance with section 903.3.2.
Fire Alarm systems and smoke alarms shall be provided in Group R occupancies in accordance with sections 907.2.6, 907.2.8, 907.2.9 and 907.2.10 respectively. Single or multiple station smoke alarms shall be provided in group r occupancies in accordance with section 907.2.11.

End of code summary

G. Waivers

See the table below regarding the waivers associated with the proposed Residential development project located at 30 Atlantic 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.
Technical Manual 1.7.2.3 Driveway Width	Any site with driveway access to a street shall have a minimum width of 20 feet for two-way ingress and egress	We are requesting to maintain the existing width of 10.08'	Due to the existing conditions and low turnover of residential uses, the driveway is anticipated to be functional serving the proposed 3 parking spaces.
Land Use Code Section 14.6.2.B.4&5 Landscape Preservation	Where the planting of replacement trees on the site is not feasible, the applicant shall contribute an amount proportionate to the cost of required replacement trees to the City of Portland Tree Fund	We are requesting to remove two trees 10" DBH or greater within the setbacks and contribute into the City of Portland Tree Fund	Due to the conditions of the site, preservation of existing vegetation would compromise development, and replacement trees on site are not feasible.

SECTION H: FINANCIAL CAPACITY

May 15, 2021

See attached documentation from Kestrel LLC indicating financial capacity for the project

Attachments:
- Letter from Kent Parson dated 6/16/21
- Ameritrade letter dated 6/17/21

June 16, 2021

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

Kent Parson
President, Kestrel LLC
118 Rowley Dr.
Stonington, CT 06378

Dear Planning Division,

Kestrel LLC is a small company located in Stonington, CT. Kestrel LLC specializes in coastal rental properties. The company currently has rental units in Stonington, CT and South Kingstown, RI. This writer is president and sole member of Kestrel. The company purchased property at 30-32 Atlantic Street, Portland, ME, on October 1, 2020. It is my intention to build a residential apartment building at 30-32 Atlantic Street, Portland, ME.

Kestrel LLC has been working closely with Cornerstone Building & Restoration and Reiter Architecture & Design to develop a building where one once stood. It is my sincere hope that we can design and construct a building that is not only is in-keeping with the historic homes of Munjoy Hill, but one that actually enhances the neighborhood and offers additional rental units for Portland's growing population needs.

Kestrel LLC intends to finance this project with current liquid assets. Attached is a letter from my brokerage, TD Ameritrade, that can attest to my ability to fund a project from start through completion.

I thank the Planning Division for their consideration in this matter.

Sincerely,

Kent Parson

Kent Parson
President
Kestrel LLC
118 Rowley Dr.
Stonington, CT 06378

06/17/2021

Kent Parson
118 Rowley Dr
Stonington, CT 06378

Re: Your Equity Balance as of June 17, 2021

Dear Kent Parson,

Thank you for your request. As of the start of business on June 17, 2021, the equity in your TD Ameritrade accounts ending in 8026 and 9047 was $3,301,197.72 . The equity represents the market value of securities less any debit balance or plus any credit balance. Unpriced securities are not included in the account's equity.

If we can be of any further assistance, please let us know. Just reply to this message to write us. You can also call Private Client Services at 800-400-4078. We're available 24 hours a day, seven days a week.

Sincerely,

William Pieper
Resource Specialist
TD Ameritrade

This information is furnished as part of a general information service and TD Ameritrade shall not be liable for any damages arising out of any inaccuracy in the information. Because this information may differ from your TD Ameritrade monthly statement, you should rely only on the TD Ameritrade monthly statement as the official record of your TD Ameritrade account.

Market volatility, volume, and system availability may delay account access and trade executions.

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SECTION I. TECHNICAL CAPABILITY

The project team for 30-32 Atlantic Street is composed of four seasoned firms, with a breadth of project experience that extends well beyond the scale of this project. The team members are:

Architect: Lauren J. Reiter

Lauren J. Reiter, RA, LEED AP has had more than thirty years' experience in the practice of architecture. Her first 24 years in the profession were with Croxton Collaborative Architects PC in New York City, one of the pioneering 'green architecture' firms in America. During this time, she was also an adjunct professor at New York University, as well as a lecturer at multiple universities.

After moving to Maine in 2006, Ms. Reiter founded her firm – ***Reiter Architecture & Design*** – whose work includes multiple project types, from residences to restaurants to science labs. Some key projects though her career include:

- Forensics Science Center, City of Philadelphia
- Post 9/11 Programming for the redevelopment of the World Trade Center
- Headquarters buildings for multiple environmental groups: National Audubon Society (NYC), Natural Resources Defense Council (NYC), Environmental Defense Fund (NYC), Save the Bay (Providence, RI)
- Brooklin Town Offices (Brooklin, ME)
- Multiple residential projects (new and renovations) in the Blue Hill, ME area and in Portland, ME

Civil Engineer: Acorn Engineering

Acorn Engineering, Inc. was founded in 1988 and is led by Will H. Savage, P.E. The project manager for the project is Sam Lebel, P.E. Acorn has successfully permitted, engineered, and constructed a plethora of projects in Portland over the past several years. Some recent examples include:

- Eldredge Lumber
- Munjoy Heights
- 89 Anderson St. – East Bayside Lofts
- 121 Washington Ave
- 667 Congress St – the Hiawatha
- Cumberland Flats
- East End Lofts

Structural Engineer: Trillium Engineering Group

Trillium Engineering Group is led by Principals Eric Dube, P.E. & Tony Dumais, P.E. Eric and Tony have successfully designed building structures for several projects in southern Maine over the past several years. Some recent examples include:

- Patriot Insurance Company – Yarmouth, Maine
- Linda Beans – Freeport, Maine
- Lisbon High School Gymnasium – Lisbon, Maine
- Berlin City Lexus Addition – Portland, Maine

MEP Engineer: Bennett Engineering

Bennett Engineering, Inc. was founded in 1982 and is led by William S Bennett, P.E. Bennett Engineering has successfully permitted, engineered, and constructed many projects in Portland over the past several years. Some recent examples include:

- 387 Commercial Street
- Verdante Condominiums
- Deering Place
- 58 Boyd Street
- 16 Middle St

J. Conformity with Land Use Ordinance

The following outline is made in accordance with the City of Portland Code of Ordinances, Chapter 14 Land Use Code as well as with the City of Portland Technical Manual, and Chapter 14 Standards for Local Site Location of Development Review.

OVERVIEW

The proposed 3-story, four-unit residential building has been designed to conform to City standards where possible. This project conforms with the majority of the applicable standards of Portland's Land Use Ordinance Section 14, as demonstrated in the following narrative.

A. Transportation Standards

1. Impact on Surrounding Street Systems:

   a. The proposed development is not anticipated to create or aggravate any significant hazard to safety on the surrounding street network.

   b. The site is located along Atlantic Street and classified as a local street according to the City of Portland Federal Street Classification map. A minor traffic increase is expected for this project due to the change in use from the existing vacant lot to a residential building.

2. Access and Circulation:

   a. In General

      (i) The development will provide safe access and internal circulation for both pedestrians and vehicles as seen on the Site Plan.

      (ii) A continuous sidewalk is proposed to be rebuilt along the northeastern edge of Atlantic Street within the limits of impact to provide safe access to the proposed residential building entrance.

      (iii) The access and egress points are located to avoid conflicts with turning movements and traffic flows.

      (iv) The site does not feature drive up services as mentioned in this requirement.

   b. Loading and Servicing:

      (i) There are no anticipated loading and servicing needs.

   c. Curb and Sidewalks:

      (i) The existing sidewalk and curb will be rebuilt with brick and vertical granite

curb in accordance with the street design standards of the City's technical manual and Chapter 25 of the City of Portland Code of Ordinances.

(ii) The existing brick sidewalk and granite curb connecting the property to Atlantic Street is to be replaced. The rebuilt sidewalk and curb conforms with Chapter 25 of the City's Code of Ordinances and the applicable design standards in the City's Technical Manual. The proposed driveway access is 10.08' wide, conforming with Portland's curb cut and driveways entrance which permits an entrance/ cut from 10' to 13' on the Eastern Promenade along Atlantic Street.

(iii) Waiver regarding sidewalk installation requirements is not applicable.

(iv) Waiver regarding curb installation requirements is not applicable.

3. Public Transit Access:

a. There is an existing Metro Bus stop located at 27 Atlantic Street. The residential development will not exceed 20 or more units therefore a transit shelter is not necessary.

b. Not applicable.

c. Not applicable.

4. Parking:

Onsite and off-street parking is designed in accordance with Section 1: Transportation systems and street design standards of the City of Portland's Technical manual as well as in accordance with Article 19 of the City Land use code.

a. Vehicular parking:

(i) The proposed project will provide 3 parking spaces in conformance with the requirements of the proposed uses within the new building. Table 19-B from The Land Use code states that there is no required off-street parking required for the first three dwelling units. For alterations containing three or more dwelling units in the R-6 zone, no parking shall be required for the creation of one additional dwelling unit.

(ii) A parking study is not required for this project.

(iii) The parking requirement for this site is one parking space. The project proposes three spaces for the four units. We find that providing a closer to 1:1 ratio where possible between units and parking spaces helps meet the residents needs.

(iv) The parking space and aisle dimensions are in conformance with the

Technical Standards. Please refer to the Site Plan for more information.

b. Bicycle parking

(i) The proposed development will provide 2 bicycle parking spaces in accordance with Article 19 of the City land use Code and Section 1 of the Technical Manual, which states 2 spaces shall be provided per every five dwelling units.

(ii) Wavier not applicable; appropriate bicycle parking units are provided.

c. Snow Storage:

(i) The proposed project includes a snow storage area can be seen on the Site Plan. A note has been added to the plans as well that states owner shall be responsible for the snow removal.

(ii) The proposed snow storage location is designed not to encroach or impede the design requirements for parking, pedestrian walkways and not affect the stormwater management systems.

d. Electric Vehicle (EV) charging

(i) Not applicable for site. Section 1 of the Technical Manual states electric vehicle infrastructure only necessary when 5 or more parking spaces are installed.

5. Transportation Demand Management (TDM):

a. A Transportation Demand Management plan is not required.

B. Environmental Quality Standards

1. Preservation of Significant Natural Features:

a. The proposed development does not impede on any significant natural features. The proposed location is not within a habitat where endangered species nest or feed, identified by Maine's endangered wildlife habitat source. The location does not house any existing trees or plants as identified on the Official List of Endangered and Threatened plants in Maine. The location does not include any significant water bodies, wetlands, or aquifers and is in accordance with the City Code.

b. The proposed site is not a part of a larger existing habitat block; therefore, extra preservation precautions are not necessary.

c. The proposed site does not impede on any significant natural features; therefore, extra preservation precautions are not necessary, granting this waiver not applicable.

2. Landscaping Preservation:

   a. The disturbance of trees and vegetation will be limited and replaced where possible.

   b. Measures to protect vegetation will be taken in accordance with Section 4 of the Technical Manual.

   c. The project anticipates preserving a minimum of 30% existing trees 10" or greater within the required setback.

   d. A waiver is not requested.

   e. Not applicable.

3. Site landscaping and buffers.

   a. Landscaping
      (i) All development with existing vegetation are required to include a minimum of one shade tree or six plantings per 30 linear feet of all frontages as measured along the property line, in accordance with Section 4 of the Technical Manual.

   b. Buffers

      (i) All exterior solid waste receptacle, as well as applicable utility structures, will be adequately screened within the development and from adjacent properties.

      (ii) Section is not applicable due to the proposed site solely being located in residential zone 6.

      (iii) The proposed residential development is to preserve/include evergreen vegetated buffers where necessary to buffer the development from detrimental impacts of existing surrounding development.

   c. Parking and vehicle display lot landscaping.

      (i) The current site proposes 3 covered parking spaces.

      (ii) There is no proposed area with greater than 40 parking spaces without interrupted pavement, therefor landscaped islands are not necessary.

      (iii) The parking lot landscaping requirements conform with the City Land Use Code; therefore, a contribution to the City of Portland Tree Fund is not necessary.

4. Street trees

   a. The development includes one replacement street tree along the R.O.W. between the property and Atlantic Street and is in accordance with Section 4 of the Technical Manual and is to be coordinated with the Portland City Arborist.

   b. Waiver demonstrating planting of street trees is not plausible, is not applicable for this development due to compliance with the City Land use Code and the Technical Manual.

5. Water Quality, Stormwater Management, and Erosion Control:

   a. Stormwater

      (i) The site drainage will not be directed to flow or pond onto adjacent lots. The proposed drainage patterns will be altered to intercept the roof runoff as well as the driveway runoff, with the addition of stormwater best management practices to attenuate the flows. Using the proposed stormwater rain garden and adequate drainage shall not impede or be directed to adjacent lots.

      (ii) The development implements a design to direct stormwater off of the property into an existing combined sewer system on Atlantic Street. This design will mitigate runoff to adjacent properties.

      (iii) The development connects the proposed drainage systems to the existing combined sewer system on Atlantic Street. The proposed developments increased stormwater volume and drainage rate is not anticipated to create downstream problems or to exceed the capacity of the stormwater system. An ability to serve letter will be sent to Portland Department of Public Works

   b. A site-specific Stormwater Management Plan has been developed for the project to show compliance with Section 5 of the Technical Manual, including the basic, general, and flooding standards of MEDEP Chapter 500. These regulations address the quantity and quality of the stormwater runoff in order to protect and improve water quality and meet Clean Water Act requirements. Please refer to the Stormwater Management Report for this information.

   c. 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.

(c) Public Infrastructure and Community Safety Standards

1. Consistency with City Master Plans:

a. The project has been designed to be consistent with the City's Zoning Ordinance and off-site infrastructure.

b. The site does not connect to any off-premise public infrastructure, therefor section not applicable.

2. Public Safety and Fire Prevention:

a. Public Safety Design
(i) The site has been designed to promote safe and inviting public access to reduce the potential for crime.

(ii) The development provides adequate emergency vehicle access in compliance with the Public Safety Standards of the Technical Manual.

3. Public Utilities:

a. Public utilities in the vicinity of the site have capacity to serve the project. Ability to Serve letters have been sent to the respective companies. Responses have been included in the submission and any remaining responses will be submitted upon receipt.

b. The electrical service will be wired underground.

c. The new sewer and stormwater infrastructure will meet the provisions of the Technical Manual.

d. The project will be served by a connection to the public sewer system within Atlantic Street.

e. The residential development includes four dwelling units; therefore, temporary storage of trash and recyclables is not necessary.

(d) Site Design Standards

1. Massing, Ventilation, and Wind Impact:

a. The location and height of the structure will not result in health or safety problems from a reduction or ventilation to abutting structures.

b. The development is not to negatively affect or diminish the value or access of utilities for surrounding properties.

c. All HVAC venting mechanisms are to direct exhaust away from adjacent residential properties and public spaces.

d. Please refer to Section O, Architectural Design Narrative.

e. Please refer to Section O, Architectural Design Narrative.

f. Please refer to Section O, Architectural Design Narrative.

2. Shadows:

   a. The shadows created by the building will not impact public open spaces.

3. Snow and Ice Loading:

   a. The structure will not distribute snow and ice onto adjacent properties.

4. View Corridors:

   a. The project site is located outside the Downtown Vision View Corridor Protection Plan area.

5. Historic Resources:

   a. The development is not located in a historic district, historic landscape district, or City designated landmark.

   b. The development is not located adjacent to designated landmarks, historic districts, or historic landscape districts.

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

6. Exterior Lighting:

   a. Site Lighting.

      (i) Exterior lighting will be designed to meet the requirements of Section 12 of the Technical Manual. A photometric plan will be uploaded as part of the Final Application.

      (ii) Any lighting that may adversely influence the abutting residential properties will feature house-side shielding.

   b. Architectural and Specialty Lighting.

      (i) No architectural or specialty lighting is proposed.

      (ii) No up-lighting is proposed.

   c. Street Lighting.

(i) No new streetlights are proposed.

7. Noise and Vibration:

   a. The HVAC system will meet the applicable state and federal emissions requirements and will also be screened and directed away from abutters.

8. Signage and Wayfinding:

   a. All street and wayfinding signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.

      (i) The project is not located in a historic district or subject to Article IX.

      (ii) Not applicable

      (iii) All street and wayfinding signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.

9. Design Standards:

   a. The project has been designed to meet the standards set forth in the R-6 zone. Please refer to the Site Plan for more information on the Space & Bulk Standards.

J. STORMWATER MANAGEMENT REPORT

Prepared For:

Kestrel LLC.
30 Atlantic Street
Portland, Maine 04101

Prepared By:

Acorn Engineering, Inc.-
65 Hanover Street
Portland, Maine 04101

June 2021

INTRODUCTION

Acorn Engineering, Inc. has been retained by Kestrel LLC., to provide civil engineering services for the proposed development at 30 Atlantic Street, Portland, Maine. The property consists of approximately .12 acres of land located in the R-6 residential zoning district.

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 site is located on Atlantic Street. A boundary and Topographic Survey plan has been prepared by Owen Haskell, Inc. The property is in the R-6 Residential Zone and all abutting uses are residential.

The existing lot use is vacant, with grades ranging from 5 to 20 percent across the site, draining toward the eastern corner of the lot.

PROPOSED DEVELOPMENT

The proposed development includes the construction of a three-story four-unit structure. There will be three covered parking spaces and interior bike storage accessed by a proposed curb cut within Atlantic Street.

Through a series of roof drains, gutters, and a downspout, the entirety of the roof is proposed to be routed to a proprietary high-flow media rain garden at the northerly corner of the site. The design is based off a Focal Point system manufactured by ACF Environmental. The footprint of the filter media is 20 square feet and has an infiltration rate of 100 inches per hour. Below the media, 40 maintenance modules will sit above crushed stone to provide storage of the filtered water before being collected by the underdrain and piped to the street. Above the media, the garden will allow for 6 inches of ponding before overflowing into an overflow beehive grate which bypasses the filter media. The runoff generated by the driveway will be routed to a catch basin and storm drain lateral directed to the sewer main. The development will be served by the Portland Water District, underground power/cable/communications, natural gas and the municipal sewer system. The project anticipates incorporating Maine DEP approved stormwater Best Management Practices (BMP) to meet the General and Flooding Standards.

GENERAL STANDARDS – WATER QUALITY

The development shall provide water quality treatment for no less than 95% of the new impervious area and 80% of the developed area. The project includes the redevelopment of

existing impervious area including gravel driveways and a brick walkway. Water quality treatment shall be provided through the use of a proprietary high-flow filter media rain garden. The proposed system is a Focal Point rain garden with maintenance modules. This system is manufactured by ACF Environmental. There is flexibility within the plans for an approved equal to be used granted it provides the same water quality and quantity benefits.

The system was sized to meet or exceed the requirements set forth within the MDEP Volume III: BMPs Technical Design Manual Section 7. Filtration BMPs have been shown to be very effective at removing a wide range of pollutants from stormwater runoff. Stormwater runoff from the entire roof will be collected by roof drains and gutters before being piped to the rain garden. A downspout will outlet onto a splash stone before entering the BMP.

The treatment of the impervious surface is as follows:

Table 1 - Impervious Treatment Area Table				
Existing Impervious Area (SF)	Proposed Total Impervious Area (SF)	Net Change in Impervious Area (SF)	Proposed Impervious Area with Treatment (SF)	% Overall New Impervious Area Treated
1,097	4,169	3,072	3,082	100.3%

As shown above, the project anticipates meeting and exceeding the required treatment for new impervious surfaces and developed area.

Furthermore, the minimum 80% treatment of new developed area is exceeded as ample stormwater treatment is being provided while the proposed development footprint is negligibly larger than the existing development footprint.

Regarding the water quality volume, this requirement is met by sizing the system to store 1 inch of runoff from the impervious tributary area and 0.4 inches of runoff from the landscaped tributary area.

Table 2 – Water Quality Volume			
Tributary Impervious Area (SF)	Tributary Pervious Area (SF)	Water Quality Volume Required (CF)	System Storage Volume Provided (CF)
3,082	509	273.80	283.73

Furthermore, the system is able to pass a 0.95" rainfall without overflowing into the beehive bypass drain as required by Chapter 7 Appendix B.

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 3.1", 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 (T_c)

Time of concentration values were derived by calculating a combined Tc from the flow segments within subcatchment 1 in the pre-condition. Associated with these flow segments is the classification of stormwater flow and the corresponding surface. Refer to the attached HydroCAD calculations for a break-down of the Tc calculations.

Given the urban environment and the short flow paths in the pre subcatchment 2 and post condition, a minimum Tc of 6 minutes was used for the subcatchments.

Curve Number

The stormwater calculations used the following Curve Number (CN) values in the pre- and post- development conditions as follows:

Pre-Development
- Pavement, Concrete, Roofs – CN 98
- 50-75% Grass Cover – Fair, HSG A – CN 49
- Wood/grass comb – Fair, HSG A – CN 43
- >75% Grass Cover – Good, HSG A – CN 39

Post-Development
- Pavement, Concrete, Roofs – CN 98
- >75% Grass Cover – Good, HSG A – CN 39

Pre-development Calculations

The pre-development model was broken into two separate subcatchments.
- Subcatchment 1 – This tributary includes most of the site located on the northern section of the property. This area includes the existing gravel driveway entrance on Atlantic Street. This subcatchment drains toward Atlantic Street.
- Subcatchment 2 – This tributary includes the southern section of the site. Areas includes the brick walkway and drains to the rear of the site.

A pre-development watershed map developed for this project can be viewed in Attachment A and a copy of the HydroCAD calculations is included within Attachment C, of this report.

Peak flow rates for the storm events are as follows:

Table 3 – Pre-Development Peak Stormwater Flows			
Drainage Area	**2 – Year Storm Event (cfs)**	**10 – Year Storm Event (cfs)**	**25 – Year Storm Event (cfs)**
Total Runoff	0.05	0.12	0.22

Post-development Calculations:

The post-development model was broken into two separate subcatchments.

- Subcatchment 1.1 – This tributary includes the entirety of the roof, a portion of the rear bituminous walkway, and a small amount of green space all flowing to the high-flow rain garden. The rain garden would in include a 1.6" orifice on the outlet.
- Subcatchment 1 – This tributary includes driveway with two catch basins, green space flowing to field inlets, and a portion of the rear bituminous walkway.

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.

The post-development calculations include changes to the land use, and the compensation provided by the stormwater BMP. The following table represents comparison of pre-development and post-development condition peak runoff rates for the proposed development and tributary area.

Table 4 – Comparison of Peak Flows						
Drainage Area	**2 – Year Storm Event (cfs)**		**10 – Year Storm Event (cfs)**		**25 – Year Storm Event (cfs)**	
Total Runoff	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**
	.05	.15	.12	.25	.22	.34

As shown in Table 4 the net impact of the post development peak flows will result in a de minimis increase from the predevelopment levels. The predevelopment flows are low due to most of the site containing pervious area that is conservatively classified as type A soils. It is likely that the soil onsite is urban fill. The Medium Intensity Web Soil Survey shows the existing site containing 100% type A soils can be viewed in Attachment D of this report. 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

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 5 - "K" Value		
Soils Type	**Subsurface**	**Substratum**
Hinkley loamy sand	.17	.17

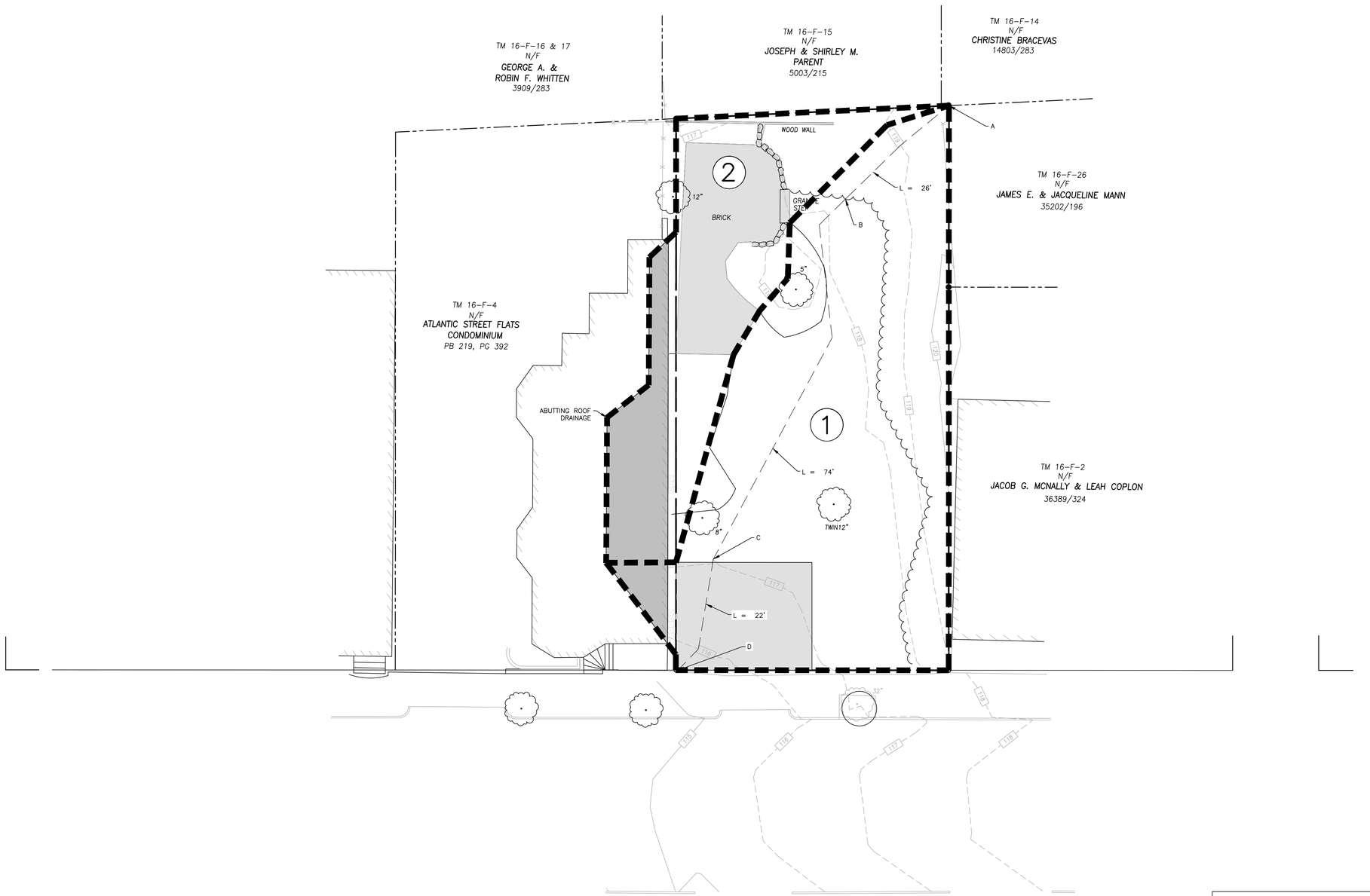
The soil "K" value for the soil, listed above, shows a low to medium susceptibility to erosion. The site's susceptibility to erosion is sourced from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County. Although the soil "K" value shows a low to medium susceptibility to erosion, 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: Medium Intensity Web Soil Survey



NOTE:

1. REFER TO STORMWATER REPORT AND SHEET C-30 FOR MORE INFORMATION.

P1 — STORMWATER POND

1 — SUBCATCHMENT NUMBER

SUBCATCHMENT EXTENTS

POI #1 — POINT OF INTEREST (POI)

FLOW LINE

10 0 10 20

SCALE: 1" = 10'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL	1/8/21
MAJOR SITE PLAN	SJL	3/22/23

DRAWING NAME: PRE WATERSHED MAP

PROJECT NAME/ADDRESS: 30-32 ATLANTIC STREET DEVELOPMENT

CLIENT/OWNER OF RECORD: KESTREL LLC.
72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

ACORN ENGINEERING, INC.

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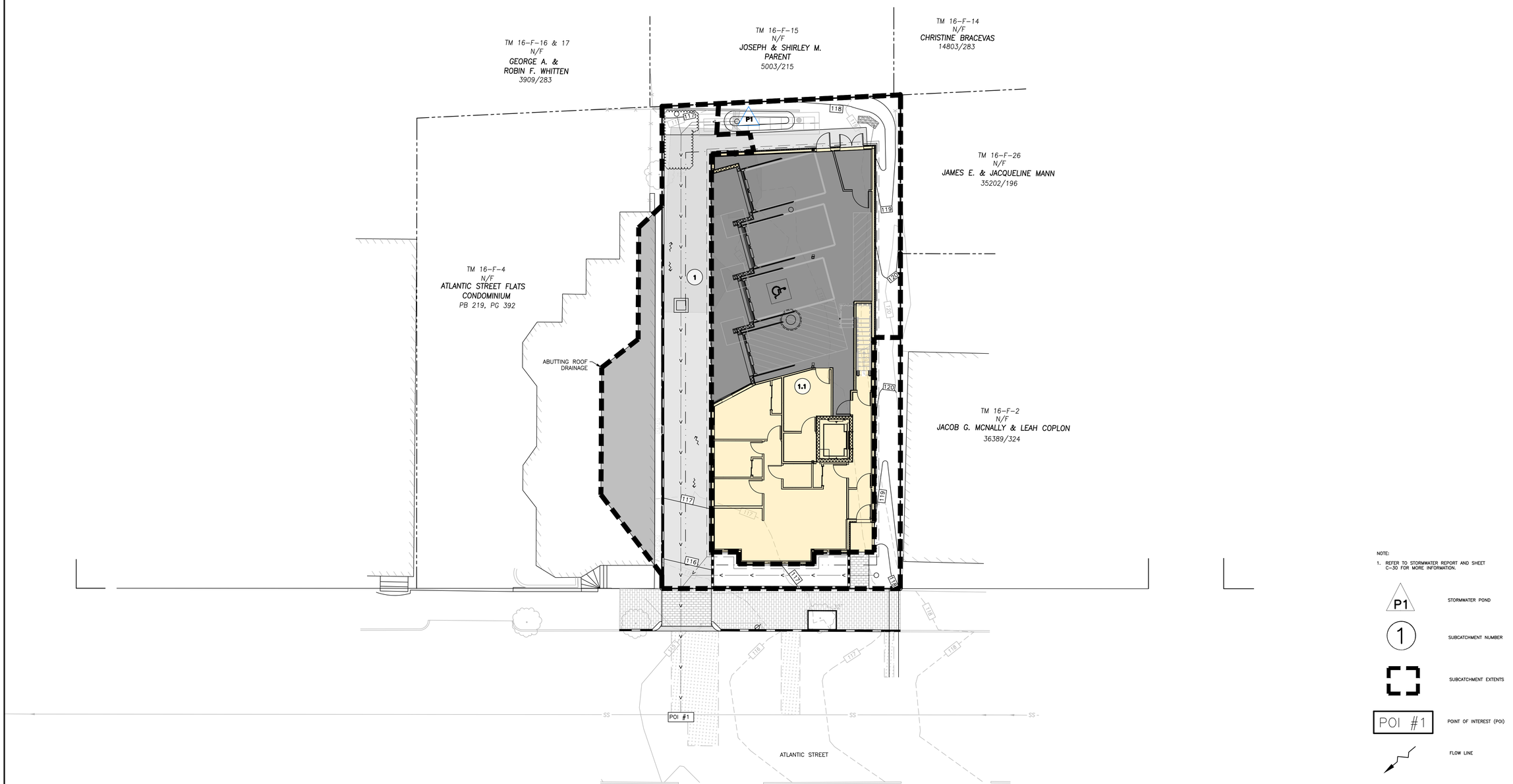
ACORN ENGINEERING, INC.
PO BOX 3777, PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1109.5_CIVIL
JN:	1109.5
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	ZMS
CHECKED BY:	SJL/WHS

STATE OF MAINE — SAMUEL J. LEBEL — No. 16505 — LICENSED PROFESSIONAL ENGINEER — 3/18/21

DRAWING NO.

PRE



PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY	DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL	1/8/21
MAJOR SITE PLAN	SJL	8/22/23

DRAWING NAME: POST WATERSHED MAP

PROJECT NAME/ADDRESS: 30-32 ATLANTIC STREET DEVELOPMENT

CLIENT/OWNER OF RECORD: KESTREL LLC.
72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

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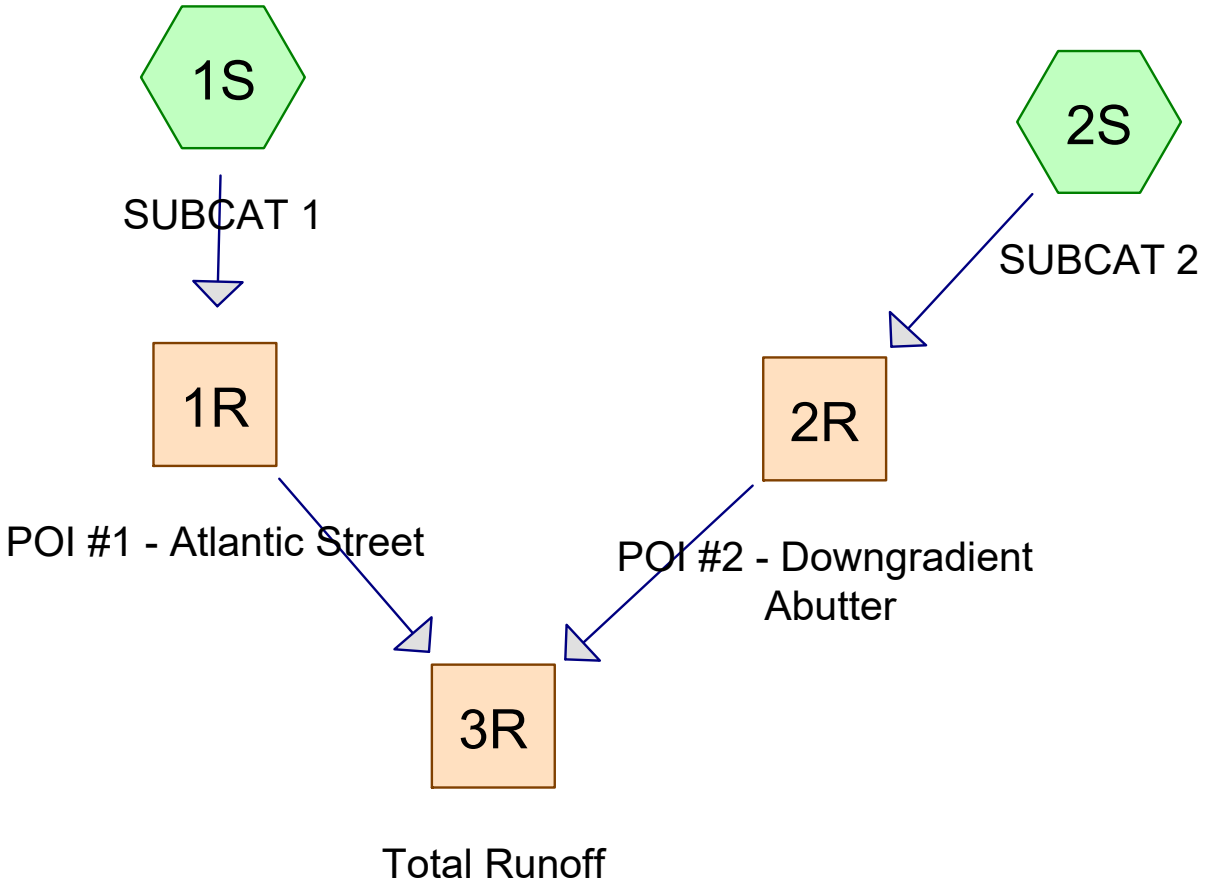
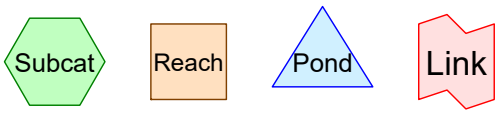
PO BOX 3422, PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1109.5_CIVIL
JN:	1109.5
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	ZMS
CHECKED BY:	SJL/WHS

STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
LICENSED
PROFESSIONAL ENGINEER
8/17/21

DRAWING NO.
POST





Routing Diagram for 6.22.21.PRE 1109
Prepared by HP, Printed 6/22/2021
HydroCAD® 10.00-26 s/n 00620 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.067	49	50-75% Grass cover, Fair, HSG A (1S, 2S)
0.025	98	Unconnected pavement, HSG A (1S, 2S)
0.012	98	Unconnected roofs, (ABUTTER) (1S, 2S)
0.030	43	Woods/grass comb., Fair, HSG A (1S, 2S)
0.135	**61**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.123	HSG A	1S, 2S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.012	Other	1S, 2S
0.135		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.067	0.000	0.000	0.000	0.000	0.067	50-75% Grass cover, Fair	1S, 2S
0.025	0.000	0.000	0.000	0.000	0.025	Unconnected pavement	1S, 2S
0.000	0.000	0.000	0.000	0.012	0.012	Unconnected roofs, (ABUTTER)	1S, 2S
0.030	0.000	0.000	0.000	0.000	0.030	Woods/grass comb., Fair	1S, 2S
0.123	**0.000**	**0.000**	**0.000**	**0.012**	**0.135**	**TOTAL AREA**	

Time span=5.00-36.00 hrs, dt=0.04 hrs, 776 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: SUBCAT 1 Runoff Area=4,064 sf 14.57% Impervious Runoff Depth=0.13"
Flow Length=124' Tc=10.4 min UI Adjusted CN=51 Runoff=0.00 cfs 0.001 af

Subcatchment 2S: SUBCAT 2 Runoff Area=1,811 sf 56.99% Impervious Runoff Depth=1.08"
Tc=6.0 min CN=76 Runoff=0.05 cfs 0.004 af

Reach 1R: POI #1 - Atlantic Street Inflow=0.00 cfs 0.001 af
Outflow=0.00 cfs 0.001 af

Reach 2R: POI #2 - Downgradient Abutter Inflow=0.05 cfs 0.004 af
Outflow=0.05 cfs 0.004 af

Reach 3R: Total Runoff Inflow=0.05 cfs 0.005 af
Outflow=0.05 cfs 0.005 af

Total Runoff Area = 0.135 ac Runoff Volume = 0.005 af Average Runoff Depth = 0.42"
72.36% Pervious = 0.098 ac 27.64% Impervious = 0.037 ac

Summary for Subcatchment 1S: SUBCAT 1

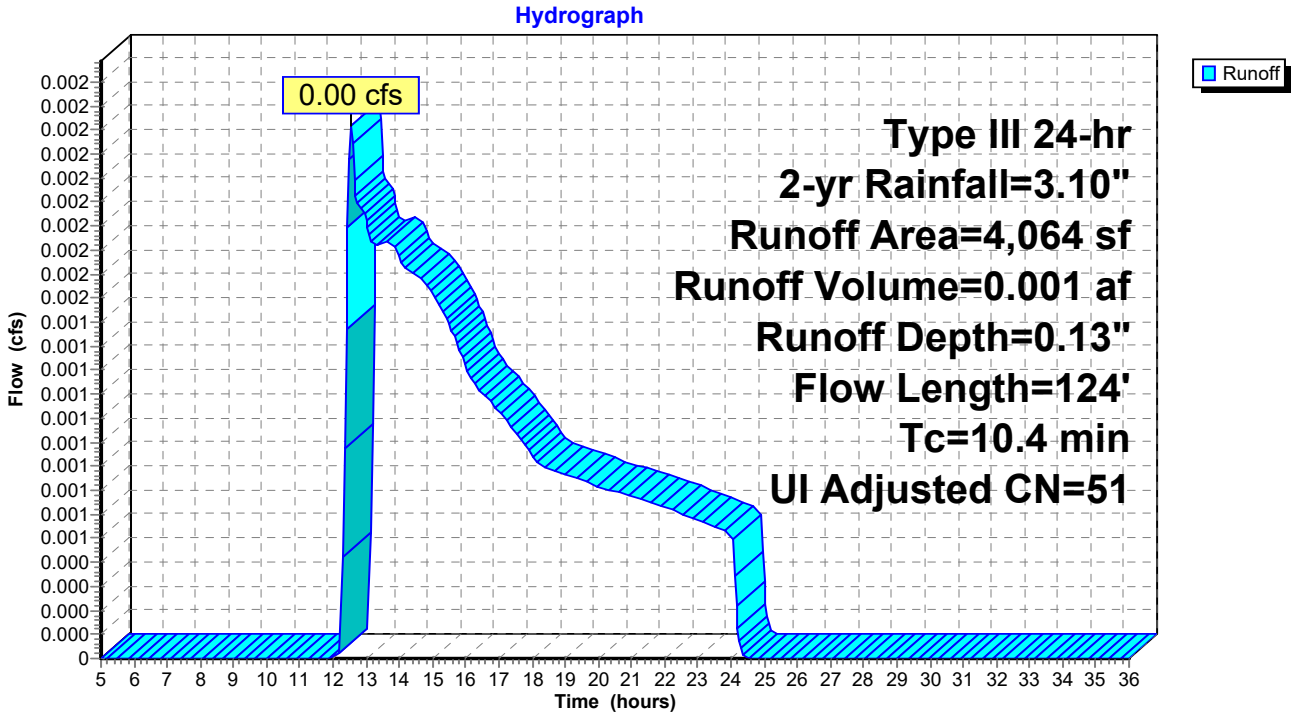
Runoff = 0.00 cfs @ 12.54 hrs, Volume= 0.001 af, Depth= 0.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-yr Rainfall=3.10"

	Area (sf)	CN	Adj	Description
	505	98		Unconnected pavement, HSG A
	1,048	43		Woods/grass comb., Fair, HSG A
	2,400	49		50-75% Grass cover, Fair, HSG A
*	87	98		Unconnected roofs, (ABUTTER)
	24	49		50-75% Grass cover, Fair, HSG A
	4,064	55	51	Weighted Average, UI Adjusted
	3,472			85.43% Pervious Area
	592			14.57% Impervious Area
	592			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	26	0.0550	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
8.0	76	0.0200	0.16		**Sheet Flow, B-C** Grass: Short n= 0.150 P2= 3.10"
0.1	22	0.0680	4.20		**Shallow Concentrated Flow, C-D** Unpaved Kv= 16.1 fps
10.4	124	Total			

Subcatchment 1S: SUBCAT 1



Summary for Subcatchment 2S: SUBCAT 2

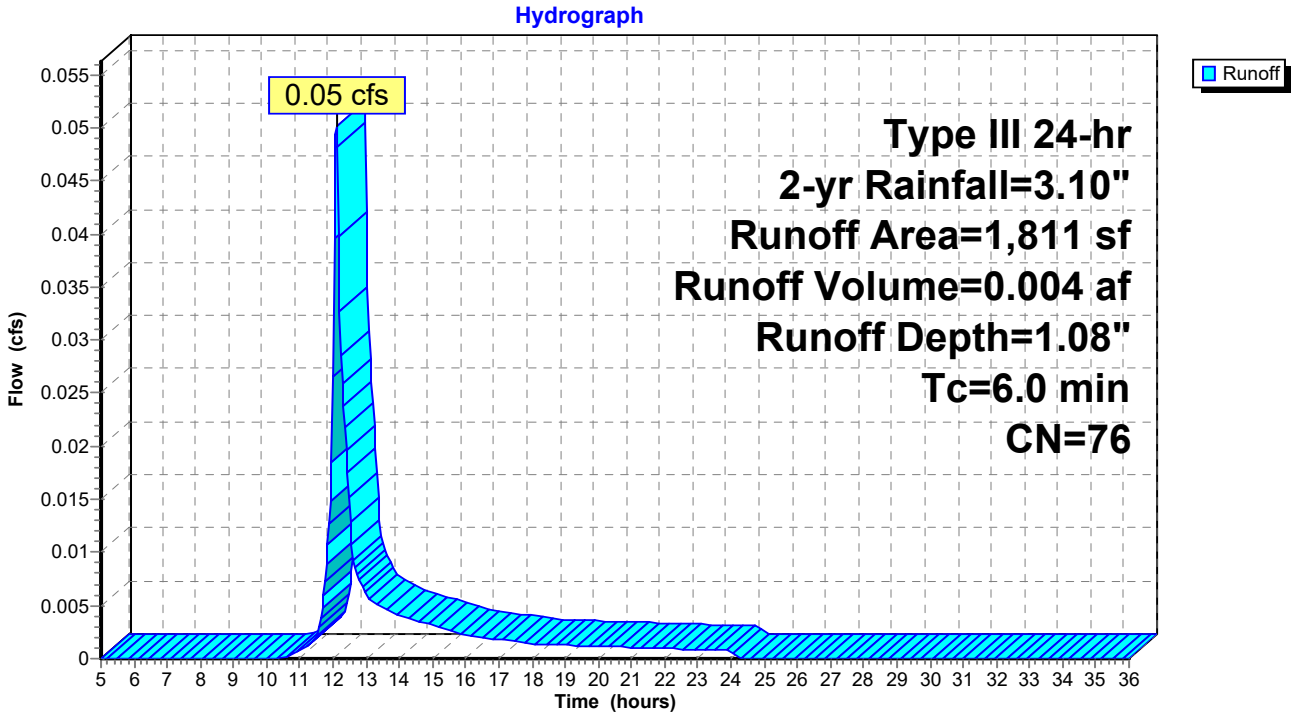
Runoff = 0.05 cfs @ 12.10 hrs, Volume= 0.004 af, Depth= 1.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-yr Rainfall=3.10"

	Area (sf)	CN	Description
	592	98	Unconnected pavement, HSG A
	274	43	Woods/grass comb., Fair, HSG A
	416	49	50-75% Grass cover, Fair, HSG A
*	440	98	Unconnected roofs, (ABUTTER)
	89	49	50-75% Grass cover, Fair, HSG A
	1,811	76	Weighted Average
	779		43.01% Pervious Area
	1,032		56.99% Impervious Area
	1,032		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: SUBCAT 2



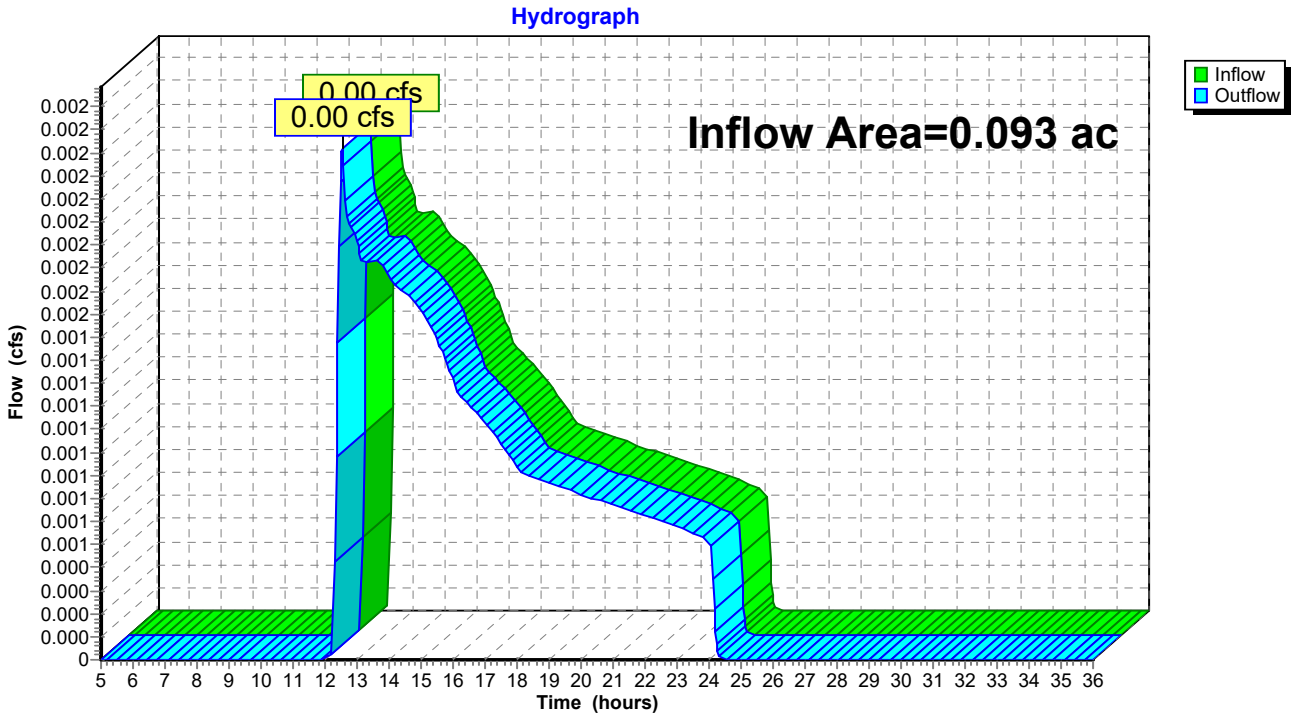
Summary for Reach 1R: POI #1 - Atlantic Street

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.093 ac, 14.57% Impervious, Inflow Depth = 0.13" for 2-yr event
Inflow = 0.00 cfs @ 12.54 hrs, Volume= 0.001 af
Outflow = 0.00 cfs @ 12.54 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-36.00 hrs, dt= 0.04 hrs

Reach 1R: POI #1 - Atlantic Street



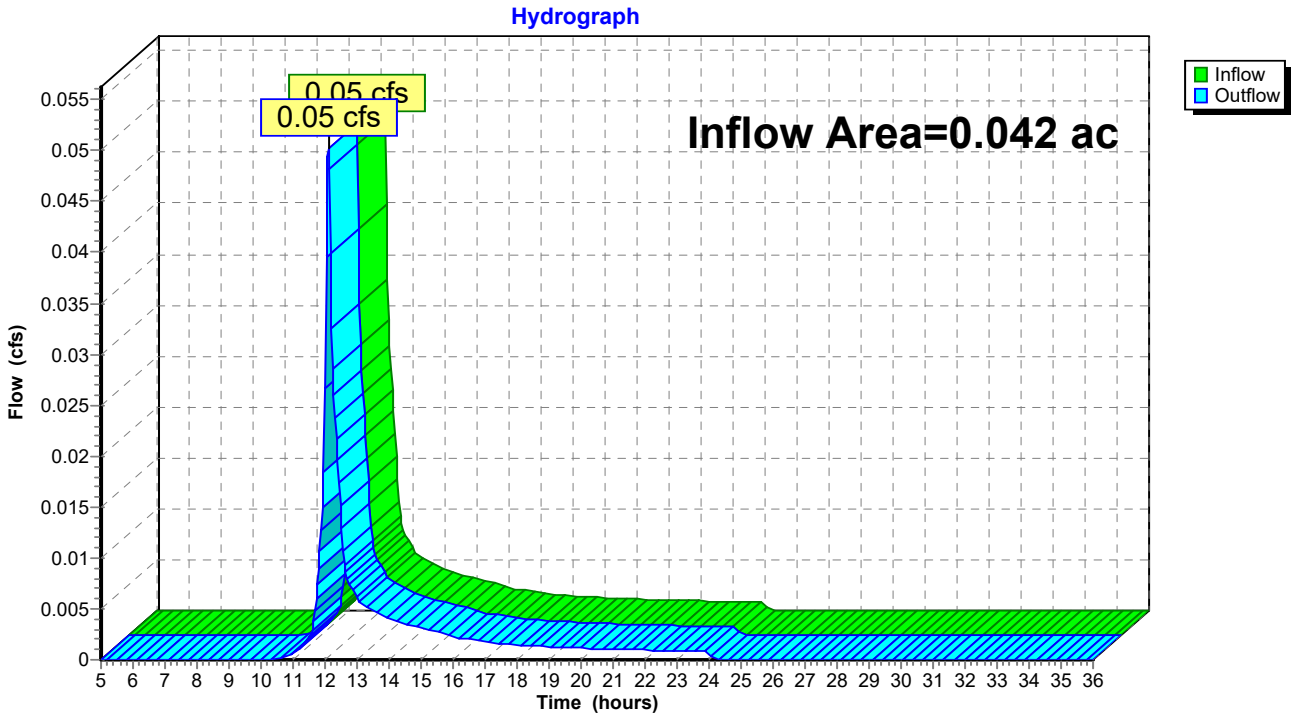
Summary for Reach 2R: POI #2 - Downgradient Abutter

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.042 ac, 56.99% Impervious, Inflow Depth = 1.08" for 2-yr event
Inflow = 0.05 cfs @ 12.10 hrs, Volume= 0.004 af
Outflow = 0.05 cfs @ 12.10 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-36.00 hrs, dt= 0.04 hrs

Reach 2R: POI #2 - Downgradient Abutter



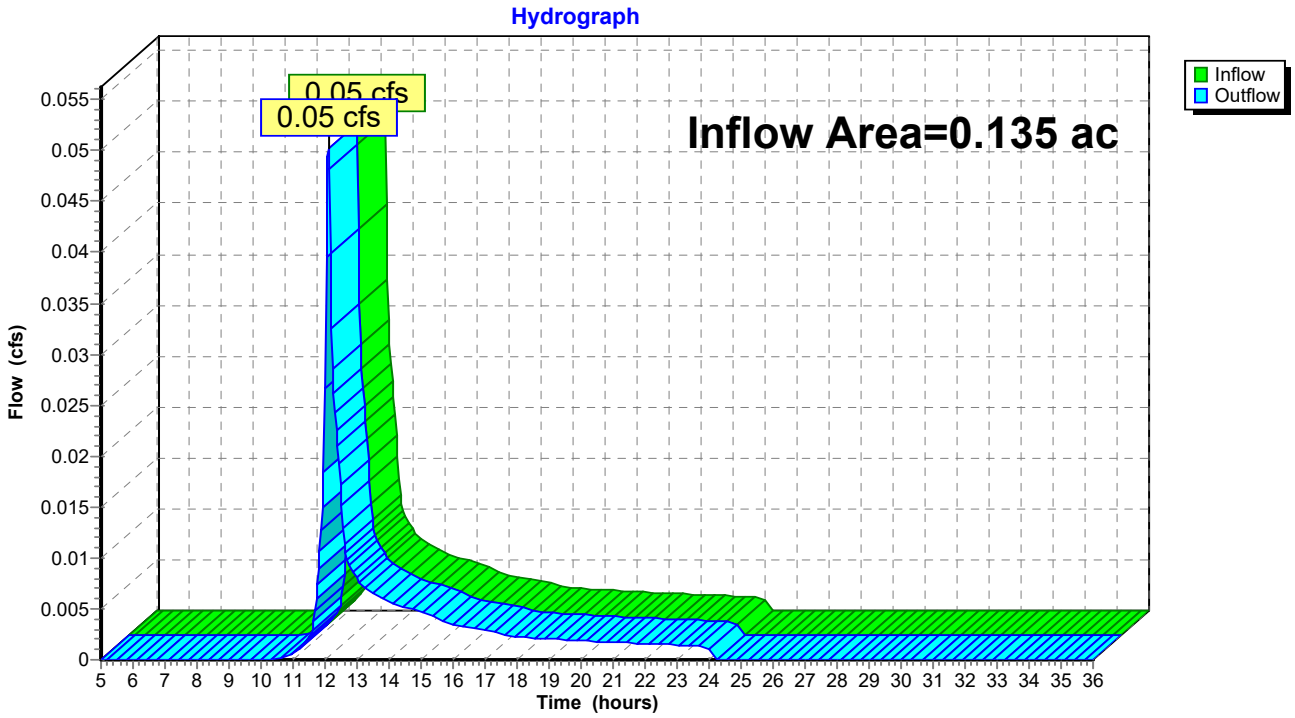
Summary for Reach 3R: Total Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.135 ac, 27.64% Impervious, Inflow Depth = 0.42" for 2-yr event
Inflow = 0.05 cfs @ 12.10 hrs, Volume= 0.005 af
Outflow = 0.05 cfs @ 12.10 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-36.00 hrs, dt= 0.04 hrs

Reach 3R: Total Runoff



Time span=5.00-36.00 hrs, dt=0.04 hrs, 776 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: SUBCAT 1 Runoff Area=4,064 sf 14.57% Impervious Runoff Depth=0.58"
Flow Length=124' Tc=10.4 min UI Adjusted CN=51 Runoff=0.03 cfs 0.005 af

Subcatchment 2S: SUBCAT 2 Runoff Area=1,811 sf 56.99% Impervious Runoff Depth=2.21"
Tc=6.0 min CN=76 Runoff=0.11 cfs 0.008 af

Reach 1R: POI #1 - Atlantic Street Inflow=0.03 cfs 0.005 af
Outflow=0.03 cfs 0.005 af

Reach 2R: POI #2 - Downgradient Abutter Inflow=0.11 cfs 0.008 af
Outflow=0.11 cfs 0.008 af

Reach 3R: Total Runoff Inflow=0.12 cfs 0.012 af
Outflow=0.12 cfs 0.012 af

Total Runoff Area = 0.135 ac Runoff Volume = 0.012 af Average Runoff Depth = 1.09"
72.36% Pervious = 0.098 ac 27.64% Impervious = 0.037 ac

Summary for Subcatchment 1S: SUBCAT 1

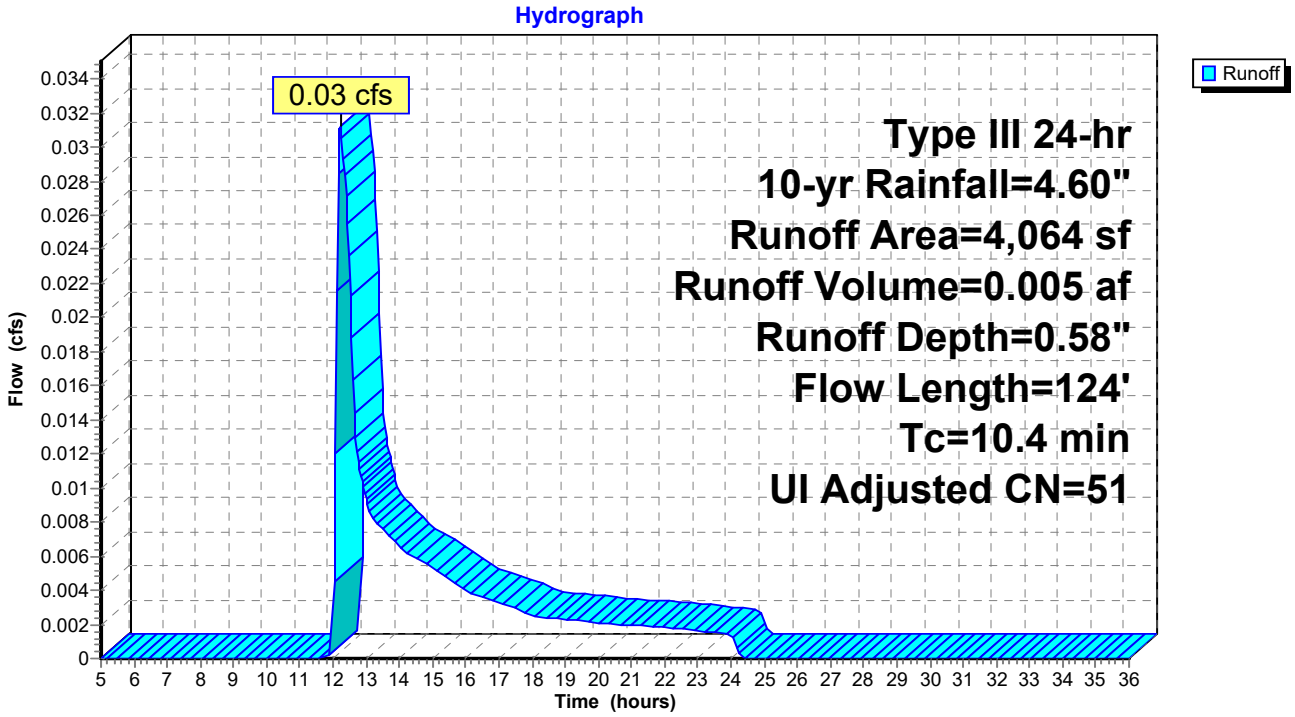
Runoff = 0.03 cfs @ 12.22 hrs, Volume= 0.005 af, Depth= 0.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-yr Rainfall=4.60"

	Area (sf)	CN	Adj	Description
	505	98		Unconnected pavement, HSG A
	1,048	43		Woods/grass comb., Fair, HSG A
	2,400	49		50-75% Grass cover, Fair, HSG A
*	87	98		Unconnected roofs, (ABUTTER)
	24	49		50-75% Grass cover, Fair, HSG A
	4,064	55	51	Weighted Average, UI Adjusted
	3,472			85.43% Pervious Area
	592			14.57% Impervious Area
	592			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	26	0.0550	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
8.0	76	0.0200	0.16		**Sheet Flow, B-C** Grass: Short n= 0.150 P2= 3.10"
0.1	22	0.0680	4.20		**Shallow Concentrated Flow, C-D** Unpaved Kv= 16.1 fps
10.4	124	Total			

Subcatchment 1S: SUBCAT 1



Summary for Subcatchment 2S: SUBCAT 2

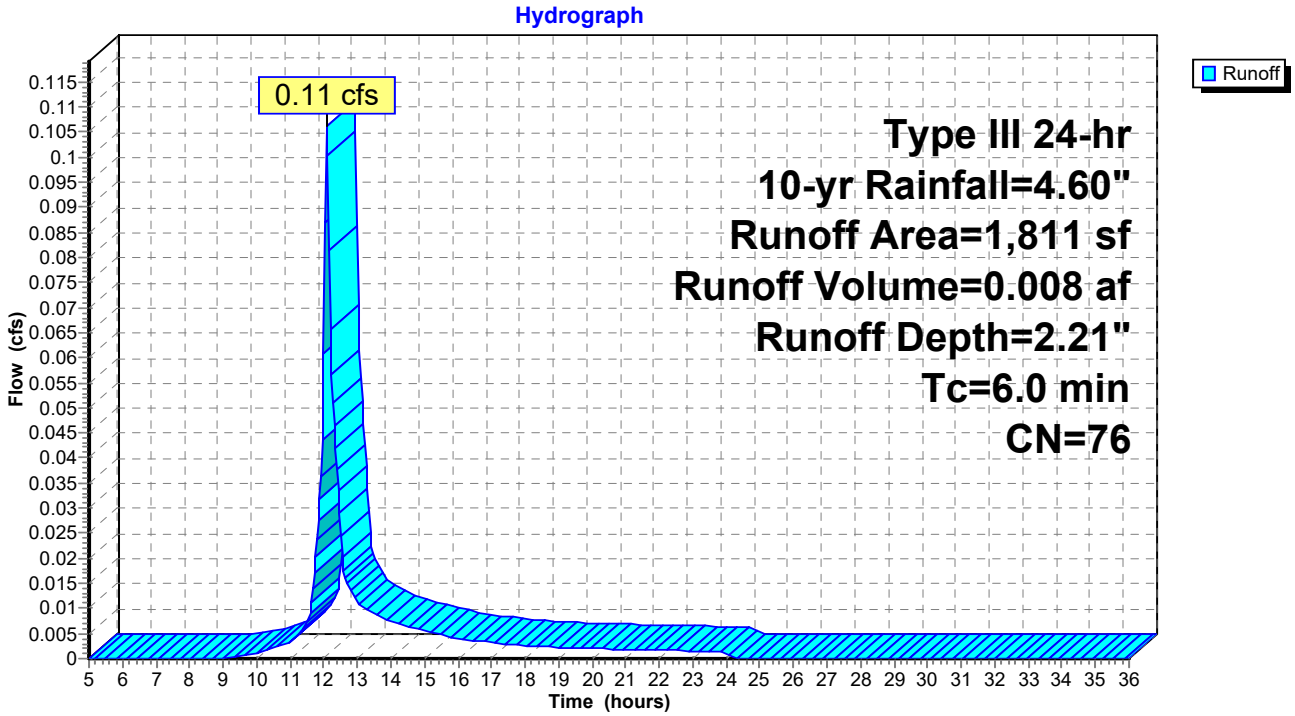
Runoff = 0.11 cfs @ 12.09 hrs, Volume= 0.008 af, Depth= 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-yr Rainfall=4.60"

	Area (sf)	CN	Description
	592	98	Unconnected pavement, HSG A
	274	43	Woods/grass comb., Fair, HSG A
	416	49	50-75% Grass cover, Fair, HSG A
*	440	98	Unconnected roofs, (ABUTTER)
	89	49	50-75% Grass cover, Fair, HSG A
	1,811	76	Weighted Average
	779		43.01% Pervious Area
	1,032		56.99% Impervious Area
	1,032		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: SUBCAT 2



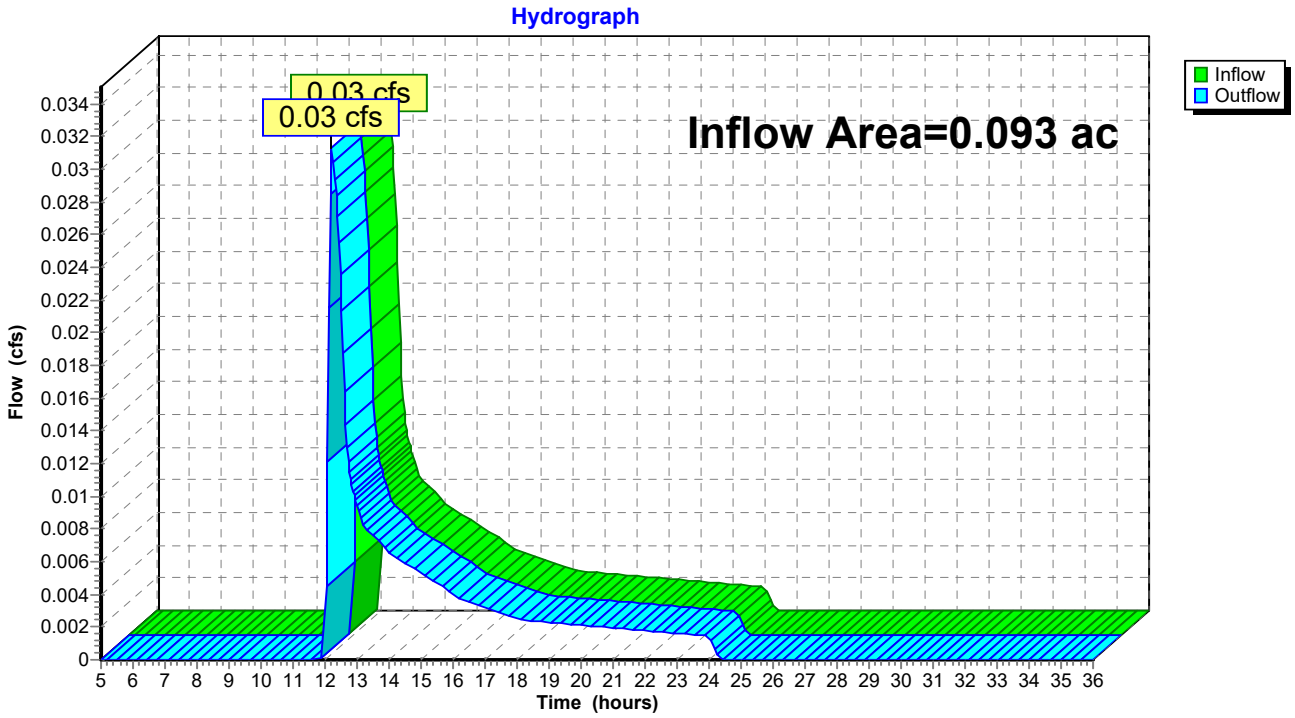
Summary for Reach 1R: POI #1 - Atlantic Street

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.093 ac, 14.57% Impervious, Inflow Depth = 0.58" for 10-yr event
Inflow = 0.03 cfs @ 12.22 hrs, Volume= 0.005 af
Outflow = 0.03 cfs @ 12.22 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-36.00 hrs, dt= 0.04 hrs

Reach 1R: POI #1 - Atlantic Street



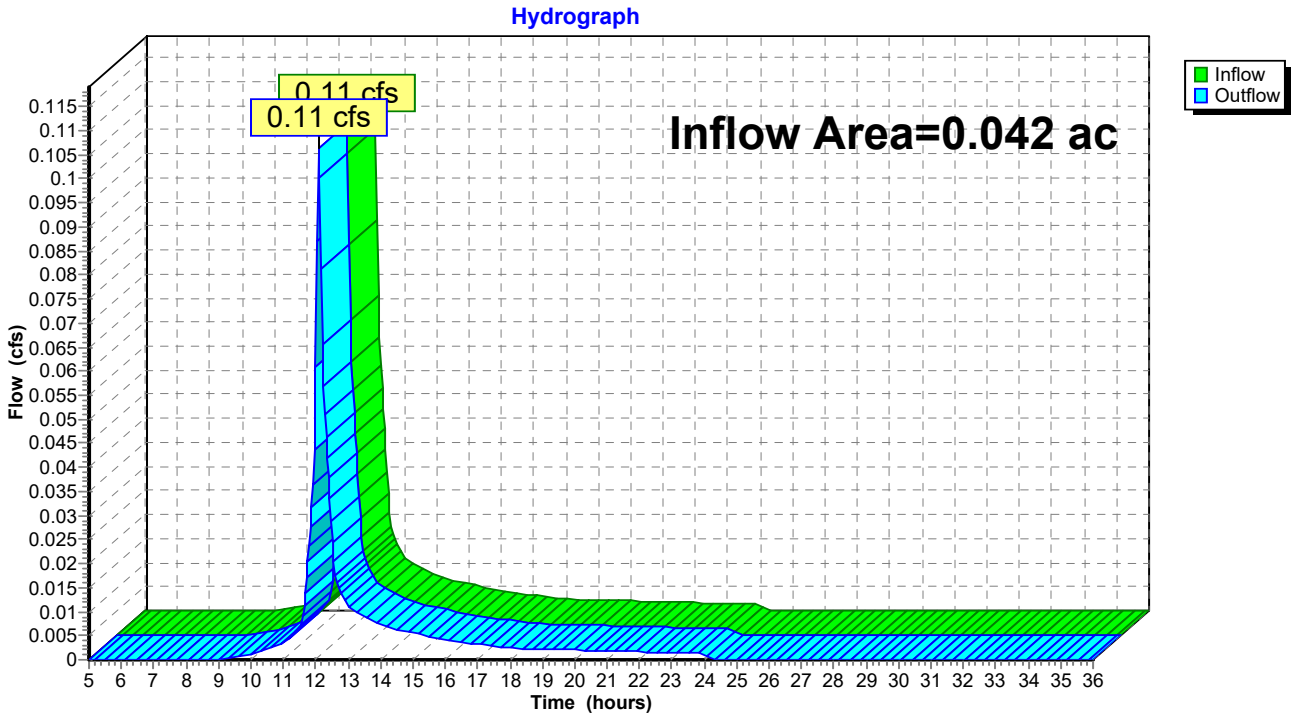
Summary for Reach 2R: POI #2 - Downgradient Abutter

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.042 ac, 56.99% Impervious, Inflow Depth = 2.21" for 10-yr event
Inflow = 0.11 cfs @ 12.09 hrs, Volume= 0.008 af
Outflow = 0.11 cfs @ 12.09 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-36.00 hrs, dt= 0.04 hrs

Reach 2R: POI #2 - Downgradient Abutter



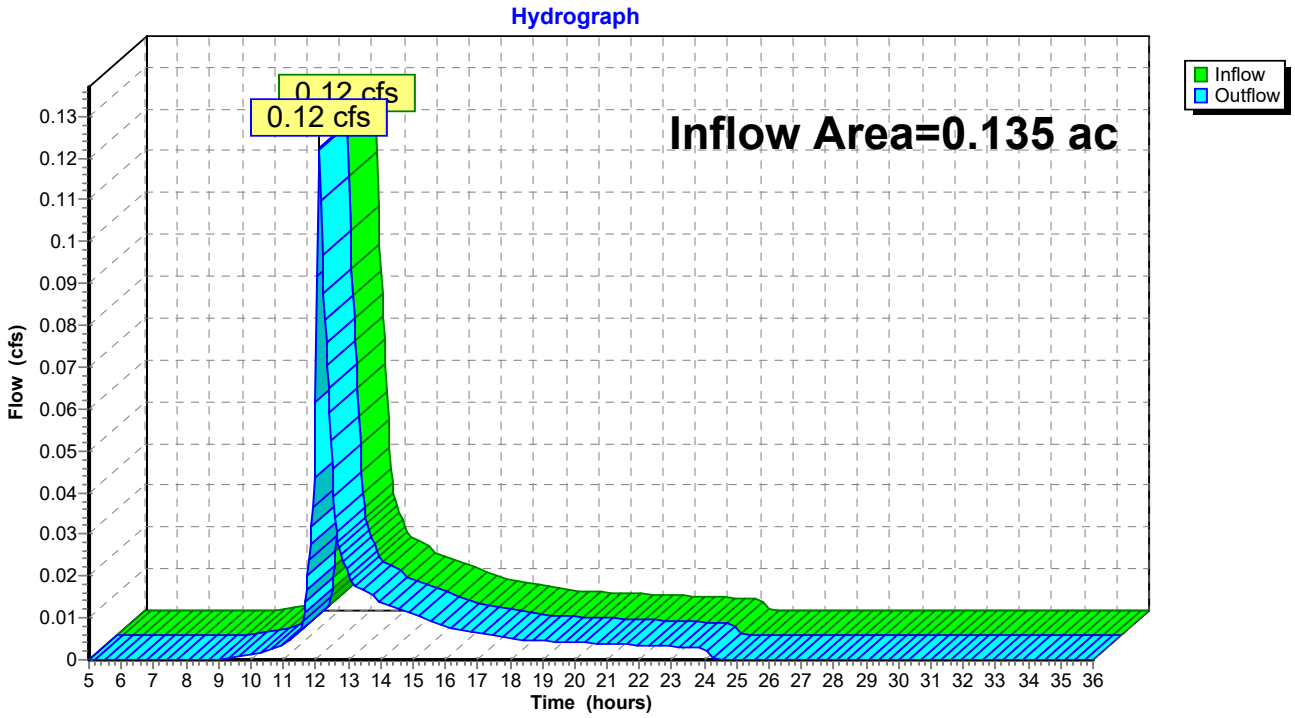
Summary for Reach 3R: Total Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.135 ac, 27.64% Impervious, Inflow Depth = 1.09" for 10-yr event
Inflow = 0.12 cfs @ 12.11 hrs, Volume= 0.012 af
Outflow = 0.12 cfs @ 12.11 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-36.00 hrs, dt= 0.04 hrs

Reach 3R: Total Runoff



Time span=5.00-36.00 hrs, dt=0.04 hrs, 776 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: SUBCAT 1 Runoff Area=4,064 sf 14.57% Impervious Runoff Depth=1.12"
Flow Length=124' Tc=10.4 min UI Adjusted CN=51 Runoff=0.08 cfs 0.009 af

Subcatchment 2S: SUBCAT 2 Runoff Area=1,811 sf 56.99% Impervious Runoff Depth=3.21"
Tc=6.0 min CN=76 Runoff=0.16 cfs 0.011 af

Reach 1R: POI #1 - Atlantic Street Inflow=0.08 cfs 0.009 af
Outflow=0.08 cfs 0.009 af

Reach 2R: POI #2 - Downgradient Abutter Inflow=0.16 cfs 0.011 af
Outflow=0.16 cfs 0.011 af

Reach 3R: Total Runoff Inflow=0.22 cfs 0.020 af
Outflow=0.22 cfs 0.020 af

Total Runoff Area = 0.135 ac Runoff Volume = 0.020 af Average Runoff Depth = 1.76"
72.36% Pervious = 0.098 ac 27.64% Impervious = 0.037 ac

Summary for Subcatchment 1S: SUBCAT 1

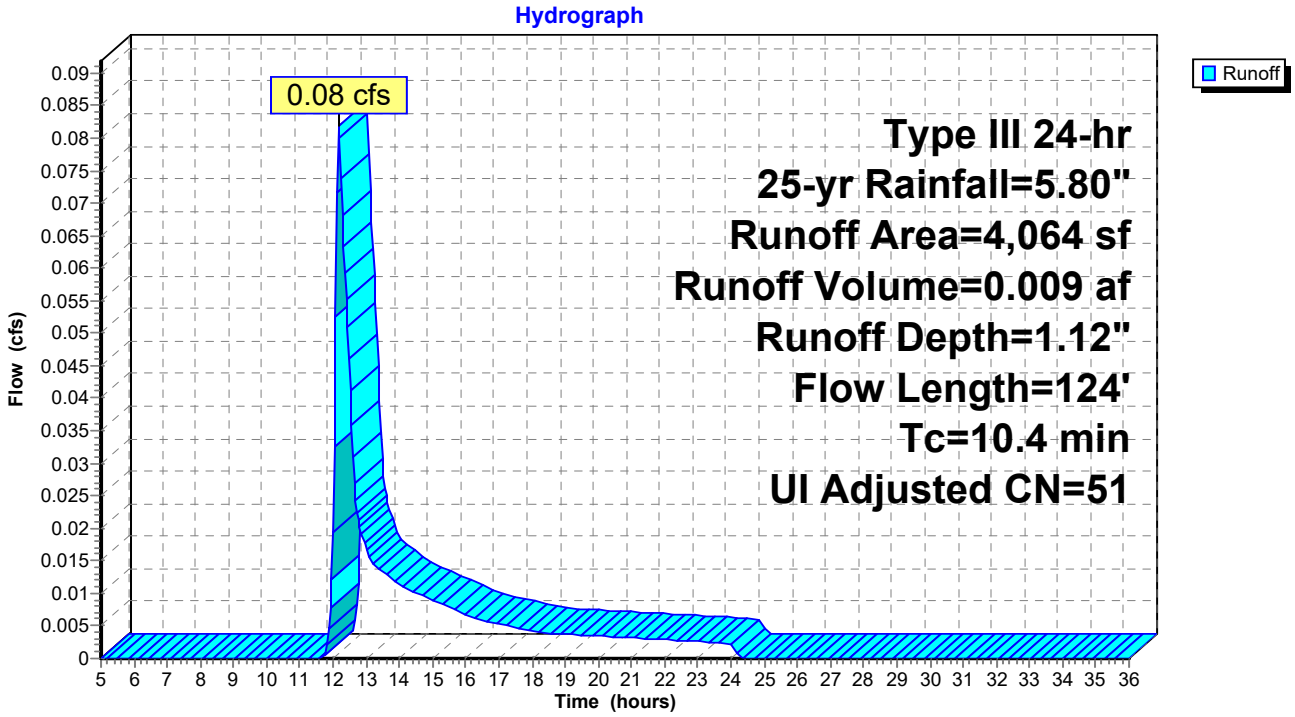
Runoff = 0.08 cfs @ 12.18 hrs, Volume= 0.009 af, Depth= 1.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Adj	Description
	505	98		Unconnected pavement, HSG A
	1,048	43		Woods/grass comb., Fair, HSG A
	2,400	49		50-75% Grass cover, Fair, HSG A
*	87	98		Unconnected roofs, (ABUTTER)
	24	49		50-75% Grass cover, Fair, HSG A
	4,064	55	51	Weighted Average, UI Adjusted
	3,472			85.43% Pervious Area
	592			14.57% Impervious Area
	592			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	26	0.0550	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
8.0	76	0.0200	0.16		**Sheet Flow, B-C** Grass: Short n= 0.150 P2= 3.10"
0.1	22	0.0680	4.20		**Shallow Concentrated Flow, C-D** Unpaved Kv= 16.1 fps
10.4	124	Total			

Subcatchment 1S: SUBCAT 1



Summary for Subcatchment 2S: SUBCAT 2

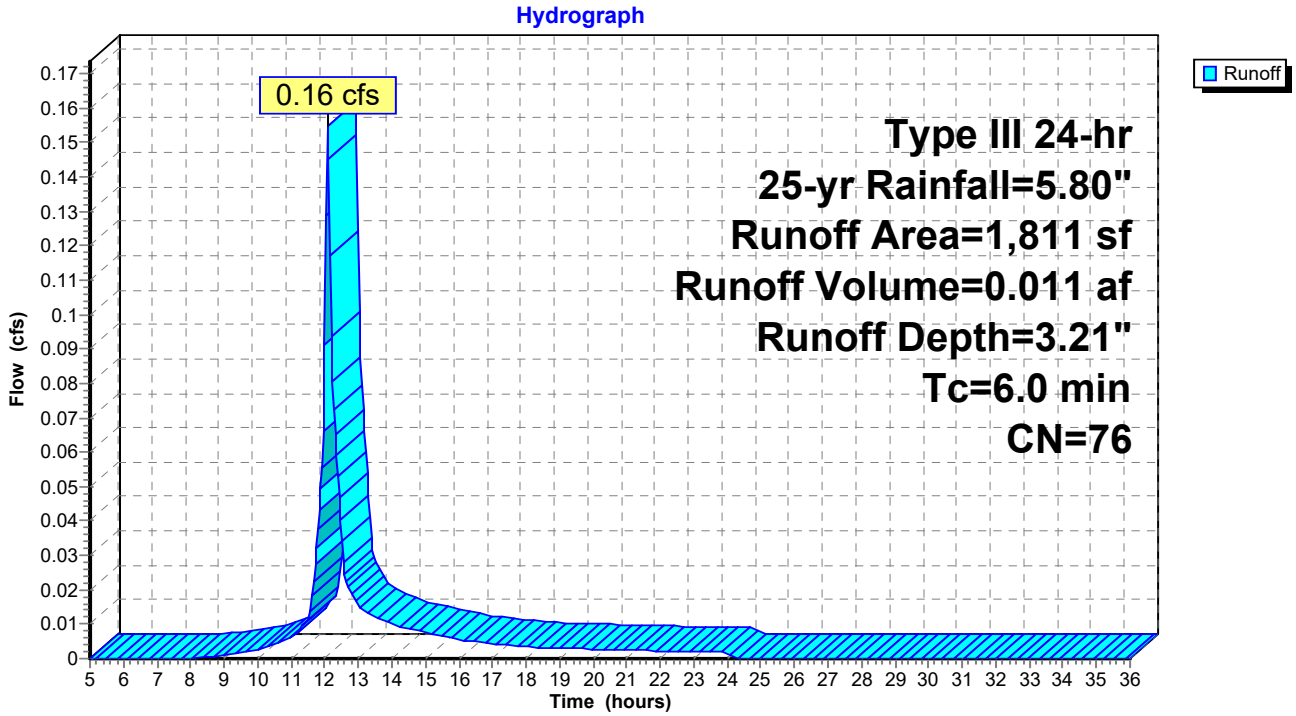
Runoff = 0.16 cfs @ 12.09 hrs, Volume= 0.011 af, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
	592	98	Unconnected pavement, HSG A
	274	43	Woods/grass comb., Fair, HSG A
	416	49	50-75% Grass cover, Fair, HSG A
*	440	98	Unconnected roofs, (ABUTTER)
	89	49	50-75% Grass cover, Fair, HSG A
	1,811	76	Weighted Average
	779		43.01% Pervious Area
	1,032		56.99% Impervious Area
	1,032		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: SUBCAT 2



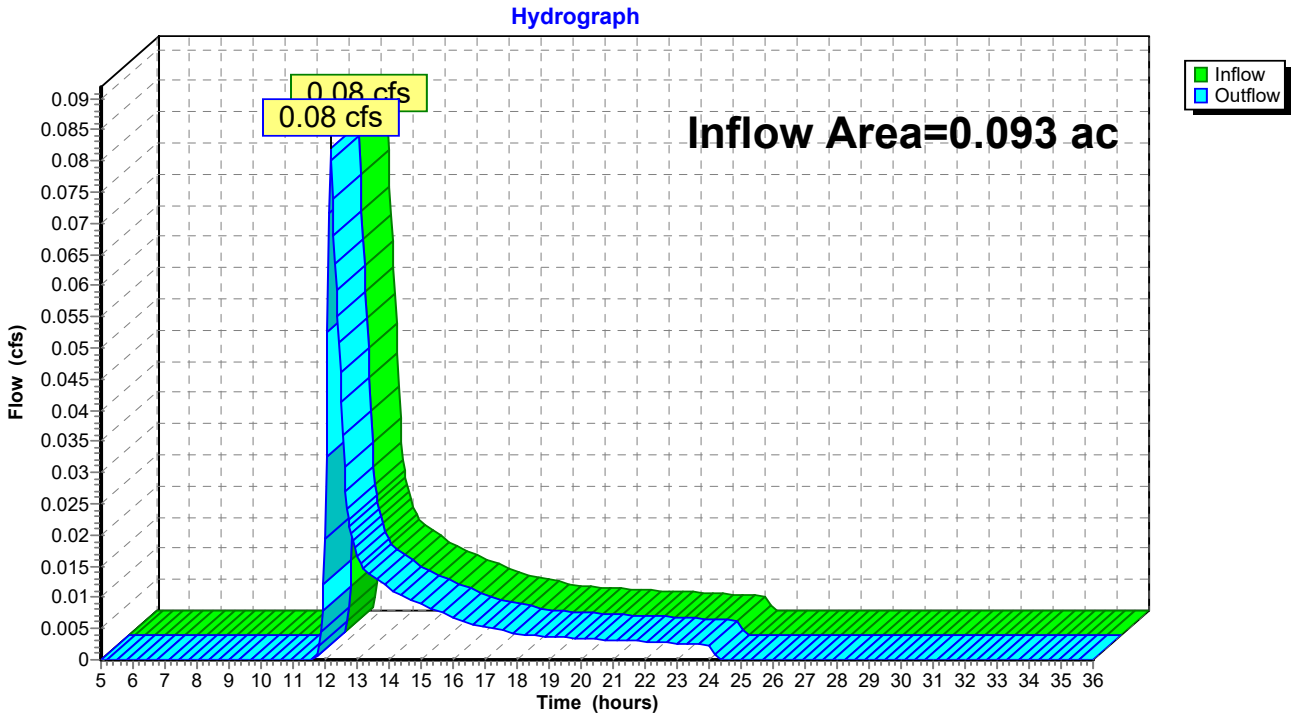
Summary for Reach 1R: POI #1 - Atlantic Street

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.093 ac, 14.57% Impervious, Inflow Depth = 1.12" for 25-yr event
Inflow = 0.08 cfs @ 12.18 hrs, Volume= 0.009 af
Outflow = 0.08 cfs @ 12.18 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-36.00 hrs, dt= 0.04 hrs

Reach 1R: POI #1 - Atlantic Street



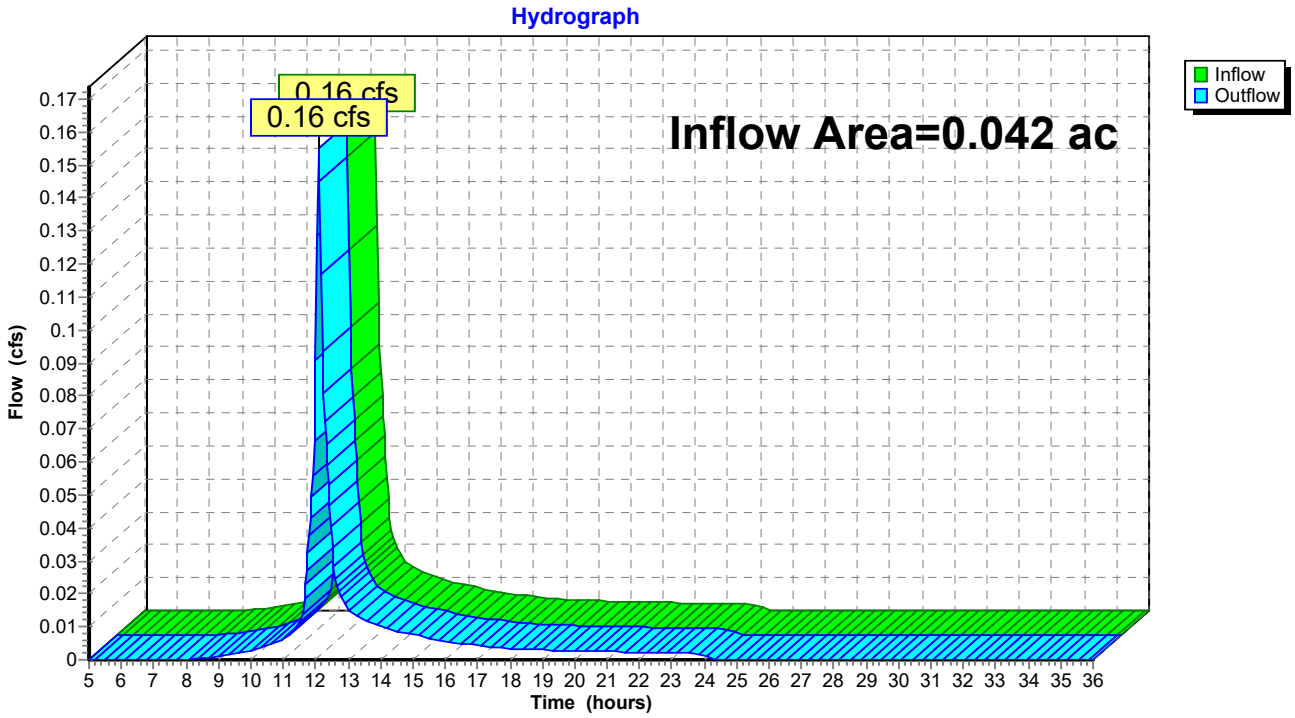
Summary for Reach 2R: POI #2 - Downgradient Abutter

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.042 ac, 56.99% Impervious, Inflow Depth = 3.21" for 25-yr event
Inflow = 0.16 cfs @ 12.09 hrs, Volume= 0.011 af
Outflow = 0.16 cfs @ 12.09 hrs, Volume= 0.011 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-36.00 hrs, dt= 0.04 hrs

Reach 2R: POI #2 - Downgradient Abutter



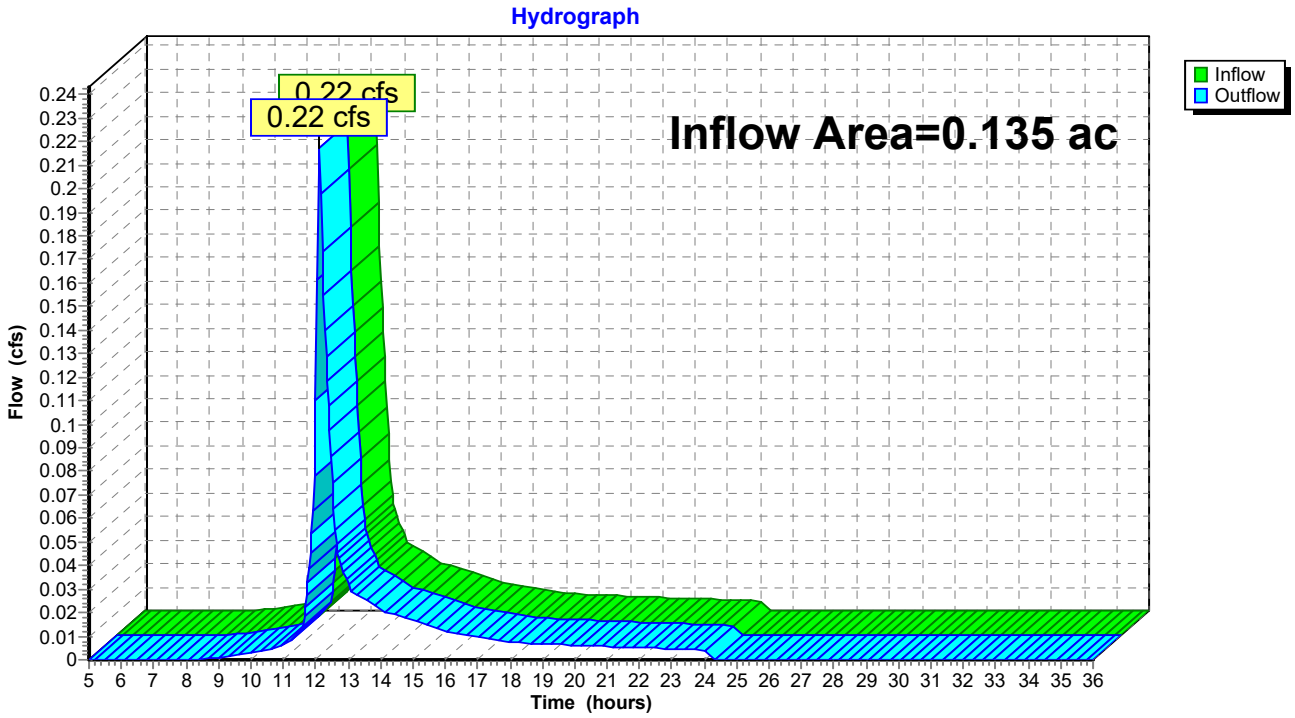
Summary for Reach 3R: Total Runoff

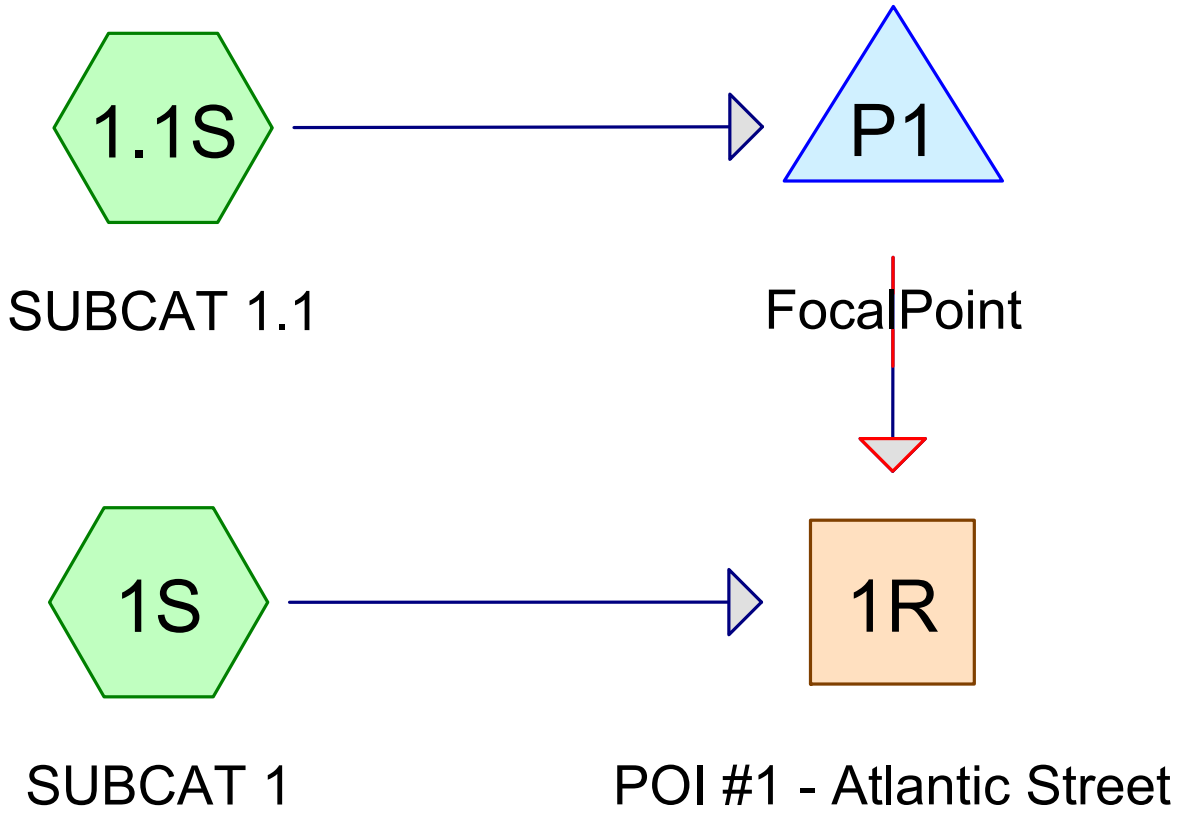
[40] Hint: Not Described (Outflow=Inflow)

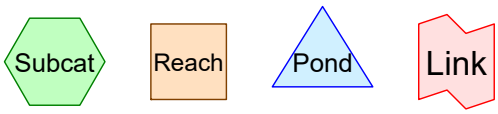
Inflow Area = 0.135 ac, 27.64% Impervious, Inflow Depth = 1.76" for 25-yr event
Inflow = 0.22 cfs @ 12.11 hrs, Volume= 0.020 af
Outflow = 0.22 cfs @ 12.11 hrs, Volume= 0.020 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-36.00 hrs, dt= 0.04 hrs

Reach 3R: Total Runoff







Routing Diagram for 8.4.21.Post 1109
Prepared by HP, Printed 8/26/2021
HydroCAD® 10.00-26 s/n 00620 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.027	39	>75% Grass cover, Good, HSG A (1.1S, 1S)
0.025	98	Paved parking, HSG A (1S)
0.069	98	Roof Runoff (1.1S)
0.002	98	Unconnected pavement, HSG A (1.1S)
0.012	98	Unconnected roofs, (ABUTTER) (1S)
0.135	**86**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.054	HSG A	1.1S, 1S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.081	Other	1.1S, 1S
0.135		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.027	0.000	0.000	0.000	0.000	0.027	>75% Grass cover, Good	1.1S, 1S
0.025	0.000	0.000	0.000	0.000	0.025	Paved parking	1S
0.000	0.000	0.000	0.000	0.069	0.069	Roof Runoff	1.1S
0.002	0.000	0.000	0.000	0.000	0.002	Unconnected pavement	1.1S
0.000	0.000	0.000	0.000	0.012	0.012	Unconnected roofs, (ABUTTER)	1S
0.054	**0.000**	**0.000**	**0.000**	**0.081**	**0.135**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	P1	111.38	111.24	28.0	0.0050	0.010	4.0	0.0	0.0

Time span=1.00-36.00 hrs, dt=0.04 hrs, 876 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1.1S: SUBCAT 1.1 Runoff Area=3,591 sf 85.83% Impervious Runoff Depth=2.08"
Tc=6.0 min CN=90 Runoff=0.20 cfs 0.014 af

Subcatchment 1S: SUBCAT 1 Runoff Area=2,284 sf 70.67% Impervious Runoff Depth=1.39"
Tc=6.0 min CN=81 Runoff=0.08 cfs 0.006 af

Reach 1R: POI #1 - Atlantic Street Inflow=0.15 cfs 0.020 af
Outflow=0.15 cfs 0.020 af

Pond P1: FocalPoint Peak Elev=112.90' Storage=113 cf Inflow=0.20 cfs 0.014 af
Outflow=0.08 cfs 0.014 af

Total Runoff Area = 0.135 ac Runoff Volume = 0.020 af Average Runoff Depth = 1.81"
20.07% Pervious = 0.027 ac 79.93% Impervious = 0.108 ac

Summary for Subcatchment 1.1S: SUBCAT 1.1

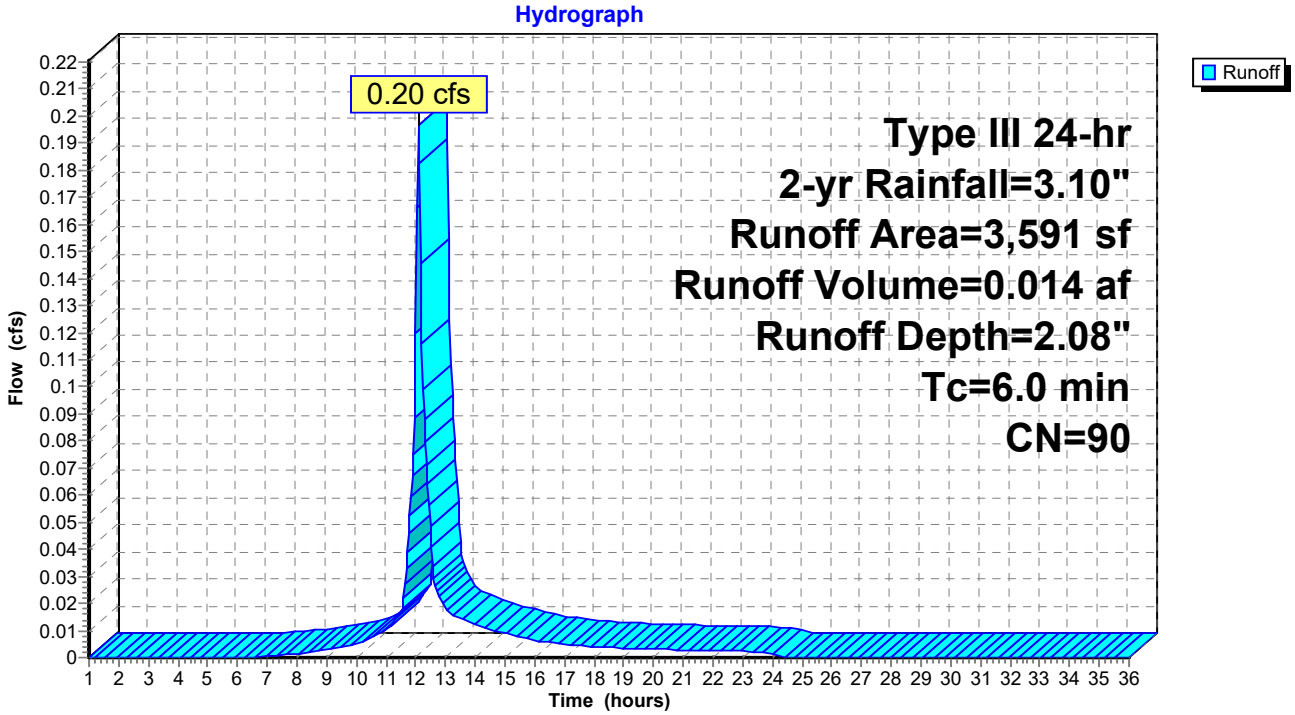
Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.014 af, Depth= 2.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-yr Rainfall=3.10"

	Area (sf)	CN	Description
*	2,984	98	Roof Runoff
	98	98	Unconnected pavement, HSG A
	509	39	>75% Grass cover, Good, HSG A
	3,591	90	Weighted Average
	509		14.17% Pervious Area
	3,082		85.83% Impervious Area
	98		3.18% Unconnected

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

Subcatchment 1.1S: SUBCAT 1.1



Summary for Subcatchment 1S: SUBCAT 1

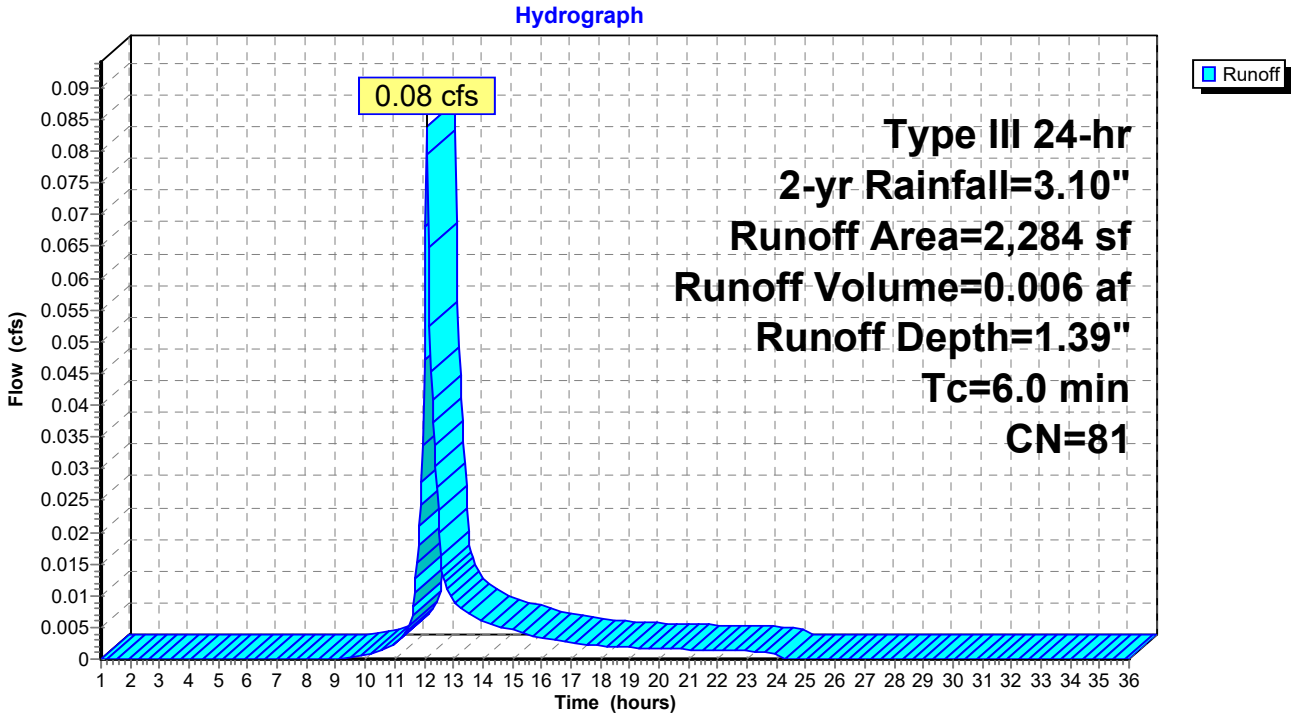
Runoff = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Depth= 1.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-yr Rainfall=3.10"

	Area (sf)	CN	Description
	1,087	98	Paved parking, HSG A
	557	39	>75% Grass cover, Good, HSG A
*	527	98	Unconnected roofs, (ABUTTER)
	113	39	>75% Grass cover, Good, HSG A
	2,284	81	Weighted Average
	670		29.33% Pervious Area
	1,614		70.67% Impervious Area
	527		32.65% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: SUBCAT 1



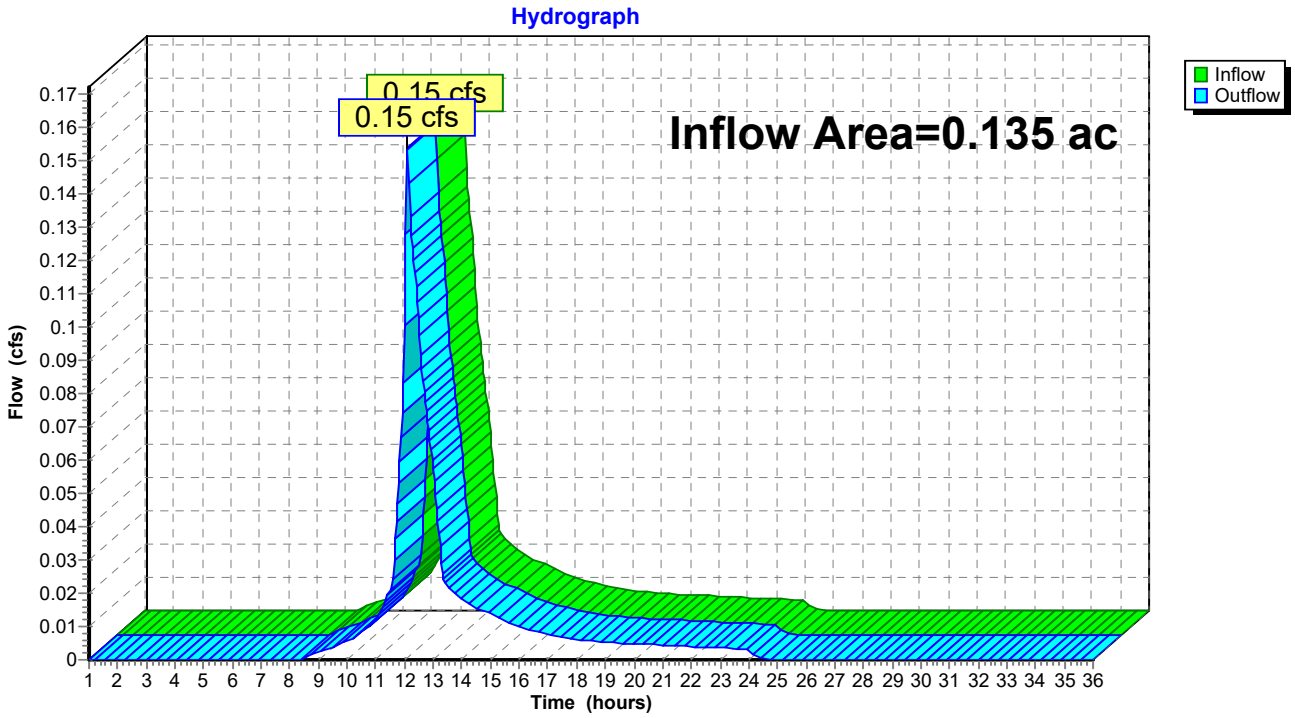
Summary for Reach 1R: POI #1 - Atlantic Street

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.135 ac, 79.93% Impervious, Inflow Depth = 1.80" for 2-yr event
Inflow = 0.15 cfs @ 12.11 hrs, Volume= 0.020 af
Outflow = 0.15 cfs @ 12.11 hrs, Volume= 0.020 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-36.00 hrs, dt= 0.04 hrs

Reach 1R: POI #1 - Atlantic Street



Summary for Pond P1: FocalPoint

[92] Warning: Device #4 is above defined storage

Inflow Area =	0.082 ac, 85.83% Impervious, Inflow Depth = 2.08" for 2-yr event				
Inflow =	0.20 cfs @	12.09 hrs, Volume=	0.014 af		
Outflow =	0.08 cfs @	12.30 hrs, Volume=	0.014 af, Atten= 58%, Lag= 13.0 min		
Primary =	0.08 cfs @	12.30 hrs, Volume=	0.014 af		

Routing by Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 112.90' @ 12.30 hrs Surf.Area= 118 sf Storage= 113 cf

Plug-Flow detention time= 21.6 min calculated for 0.014 af (99% of inflow)
Center-of-Mass det. time= 15.4 min (823.6 - 808.1)

Volume	Invert	Avail.Storage	Storage Description
#1	111.25'	118 cf	**3/4 Stone (Prismatic)** Listed below (Recalc) 472 cf Overall - 177 cf Embedded = 295 cf x 40.0% Voids
#2	111.86'	168 cf	**1.31'W x 2.35'L x 2.88'H Tanks** x 20 Inside #1 177 cf Overall x 95.0% Voids
#3	115.25'	6 cf	**1.60'W x 12.50'L x 1.50'H FocalPoint (MEDIA)** 30 cf Overall x 20.0% Voids
#4	116.75'	19 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) -Impervious
		312 cf	Total Available Storage

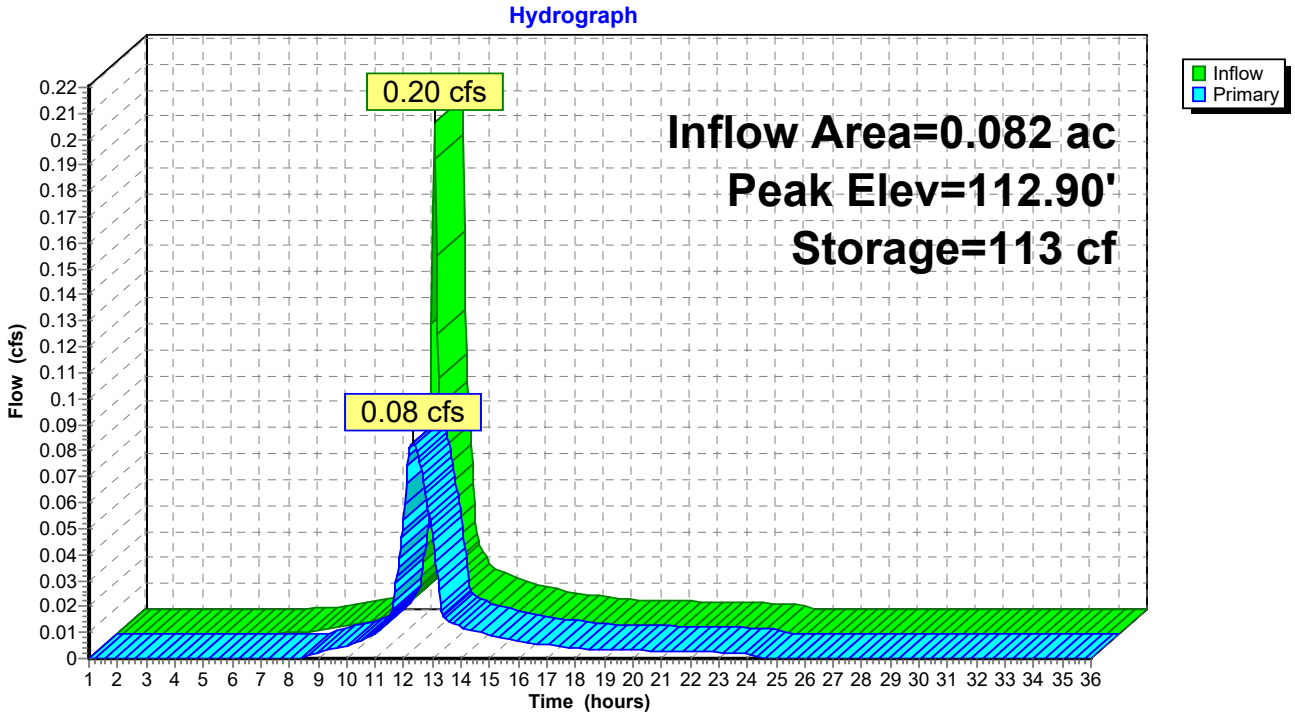
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
111.25	118	0	0
115.25	118	472	472

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
116.75	20	0	0
117.25	57	19	19

Device	Routing	Invert	Outlet Devices
#1	Primary	111.38'	**4.0" Round 4" UD** L= 28.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 111.38' / 111.24' S= 0.0050 '/' Cc= 0.600 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	111.25'	**1.6" Vert. Orifice/Grate** C= 0.600
#3	Device 2	111.25'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#4	Device 1	117.25'	**8.0" Horiz. Overflow Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.08 cfs @ 12.30 hrs HW=112.90' (Free Discharge)
└─**1=4" UD** (Passes 0.08 cfs of 0.26 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.08 cfs @ 5.94 fps)
  │ └─**3=Exfiltration** (Passes 0.08 cfs of 0.27 cfs potential flow)
  └─**4=Overflow Grate** (Controls 0.00 cfs)

Pond P1: FocalPoint



Time span=1.00-36.00 hrs, dt=0.04 hrs, 876 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1.1S: SUBCAT 1.1 Runoff Area=3,591 sf 85.83% Impervious Runoff Depth=3.49"
Tc=6.0 min CN=90 Runoff=0.32 cfs 0.024 af

Subcatchment 1S: SUBCAT 1 Runoff Area=2,284 sf 70.67% Impervious Runoff Depth=2.63"
Tc=6.0 min CN=81 Runoff=0.16 cfs 0.012 af

Reach 1R: POI #1 - Atlantic Street Inflow=0.25 cfs 0.035 af
Outflow=0.25 cfs 0.035 af

Pond P1: FocalPoint Peak Elev=114.29' Storage=226 cf Inflow=0.32 cfs 0.024 af
Outflow=0.11 cfs 0.024 af

Total Runoff Area = 0.135 ac Runoff Volume = 0.035 af Average Runoff Depth = 3.16"
20.07% Pervious = 0.027 ac 79.93% Impervious = 0.108 ac

Summary for Subcatchment 1.1S: SUBCAT 1.1

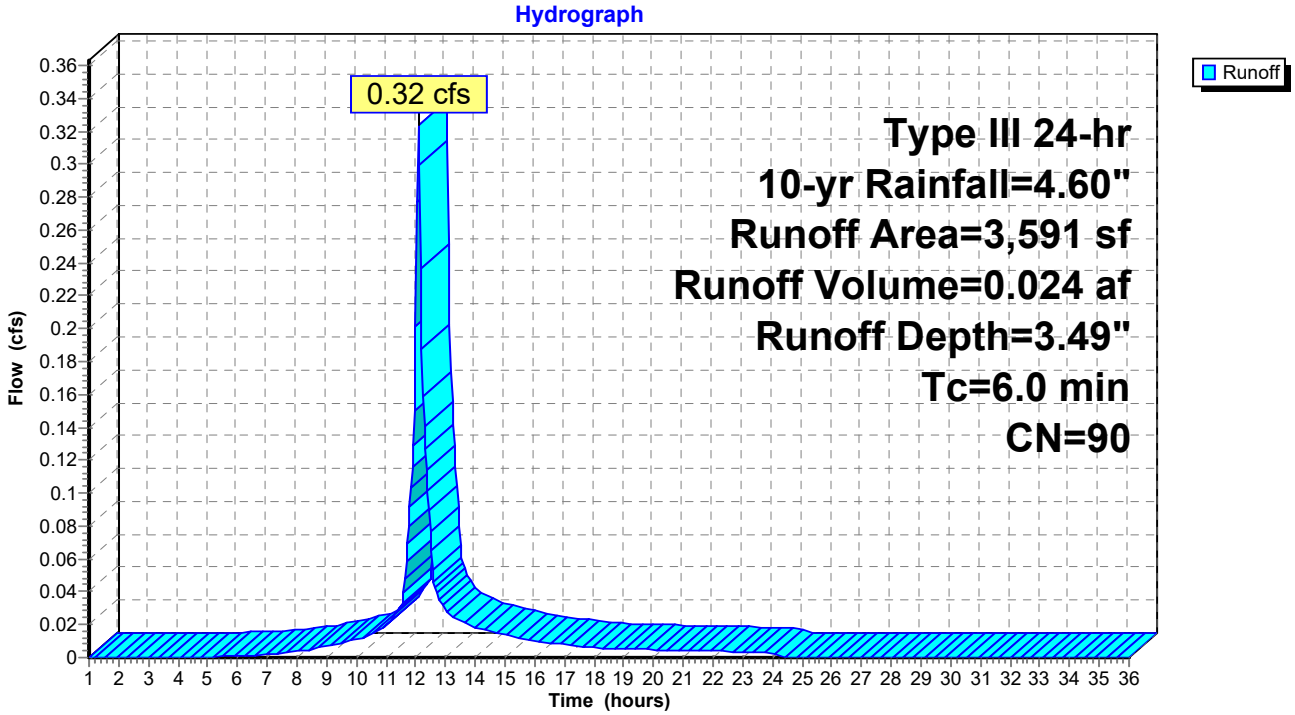
Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.024 af, Depth= 3.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-yr Rainfall=4.60"

	Area (sf)	CN	Description
*	2,984	98	Roof Runoff
	98	98	Unconnected pavement, HSG A
	509	39	>75% Grass cover, Good, HSG A
	3,591	90	Weighted Average
	509		14.17% Pervious Area
	3,082		85.83% Impervious Area
	98		3.18% Unconnected

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

Subcatchment 1.1S: SUBCAT 1.1



Summary for Subcatchment 1S: SUBCAT 1

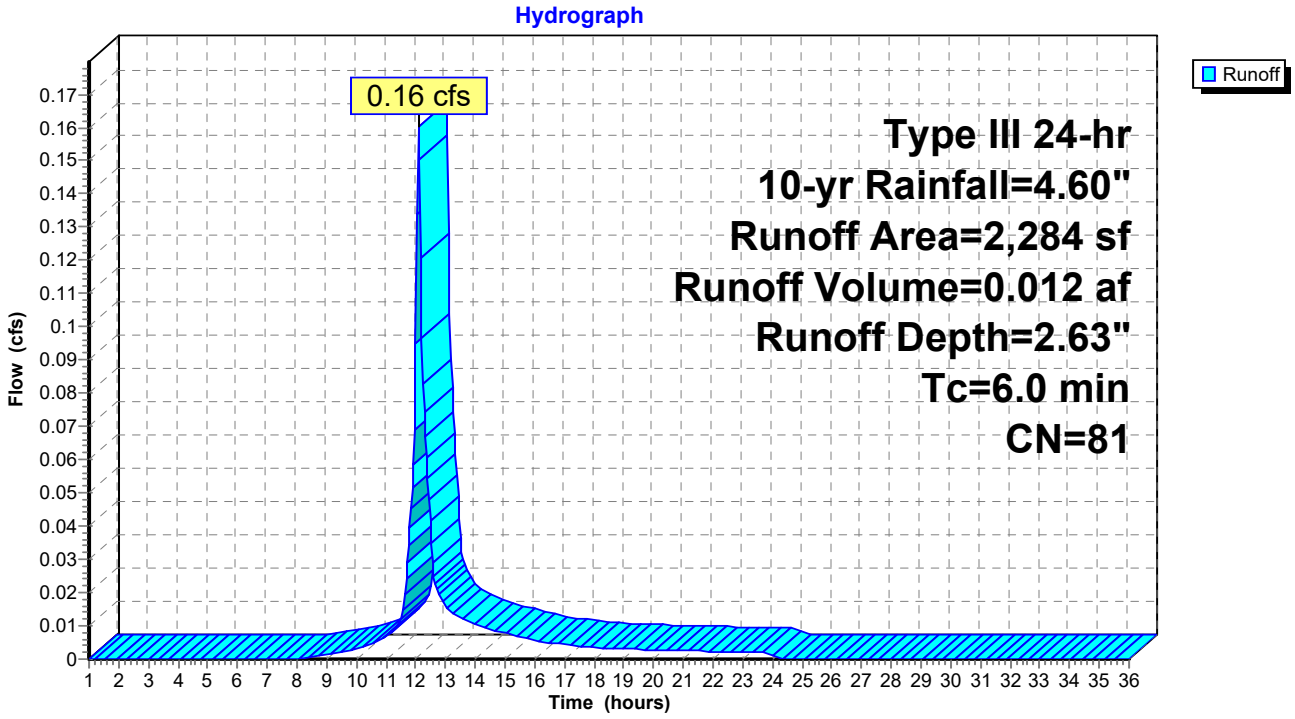
Runoff = 0.16 cfs @ 12.09 hrs, Volume= 0.012 af, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-yr Rainfall=4.60"

	Area (sf)	CN	Description
	1,087	98	Paved parking, HSG A
	557	39	>75% Grass cover, Good, HSG A
*	527	98	Unconnected roofs, (ABUTTER)
	113	39	>75% Grass cover, Good, HSG A
	2,284	81	Weighted Average
	670		29.33% Pervious Area
	1,614		70.67% Impervious Area
	527		32.65% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: SUBCAT 1



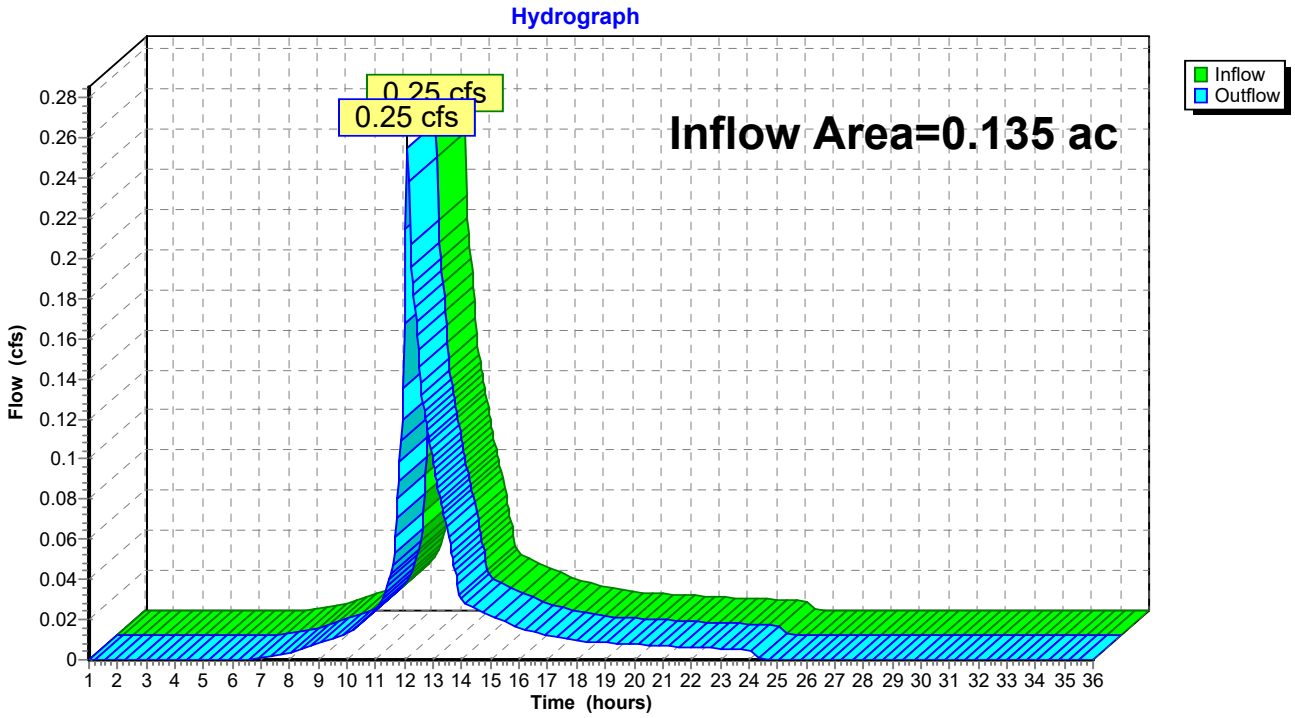
Summary for Reach 1R: POI #1 - Atlantic Street

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.135 ac, 79.93% Impervious, Inflow Depth = 3.15" for 10-yr event
Inflow = 0.25 cfs @ 12.10 hrs, Volume= 0.035 af
Outflow = 0.25 cfs @ 12.10 hrs, Volume= 0.035 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-36.00 hrs, dt= 0.04 hrs

Reach 1R: POI #1 - Atlantic Street



Summary for Pond P1: FocalPoint

[92] Warning: Device #4 is above defined storage

Inflow Area = 0.082 ac, 85.83% Impervious, Inflow Depth = 3.49" for 10-yr event
Inflow = 0.32 cfs @ 12.09 hrs, Volume= 0.024 af
Outflow = 0.11 cfs @ 12.36 hrs, Volume= 0.024 af, Atten= 65%, Lag= 16.3 min
Primary = 0.11 cfs @ 12.36 hrs, Volume= 0.024 af

Routing by Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 114.29' @ 12.36 hrs Surf.Area= 118 sf Storage= 226 cf

Plug-Flow detention time= 22.3 min calculated for 0.024 af (99% of inflow)
Center-of-Mass det. time= 18.5 min (812.0 - 793.6)

Volume	Invert	Avail.Storage	Storage Description
#1	111.25'	118 cf	**3/4 Stone (Prismatic)** Listed below (Recalc) 472 cf Overall - 177 cf Embedded = 295 cf x 40.0% Voids
#2	111.86'	168 cf	**1.31'W x 2.35'L x 2.88'H Tanks** x 20 Inside #1 177 cf Overall x 95.0% Voids
#3	115.25'	6 cf	**1.60'W x 12.50'L x 1.50'H FocalPoint (MEDIA)** 30 cf Overall x 20.0% Voids
#4	116.75'	19 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) -Impervious
		312 cf	Total Available Storage

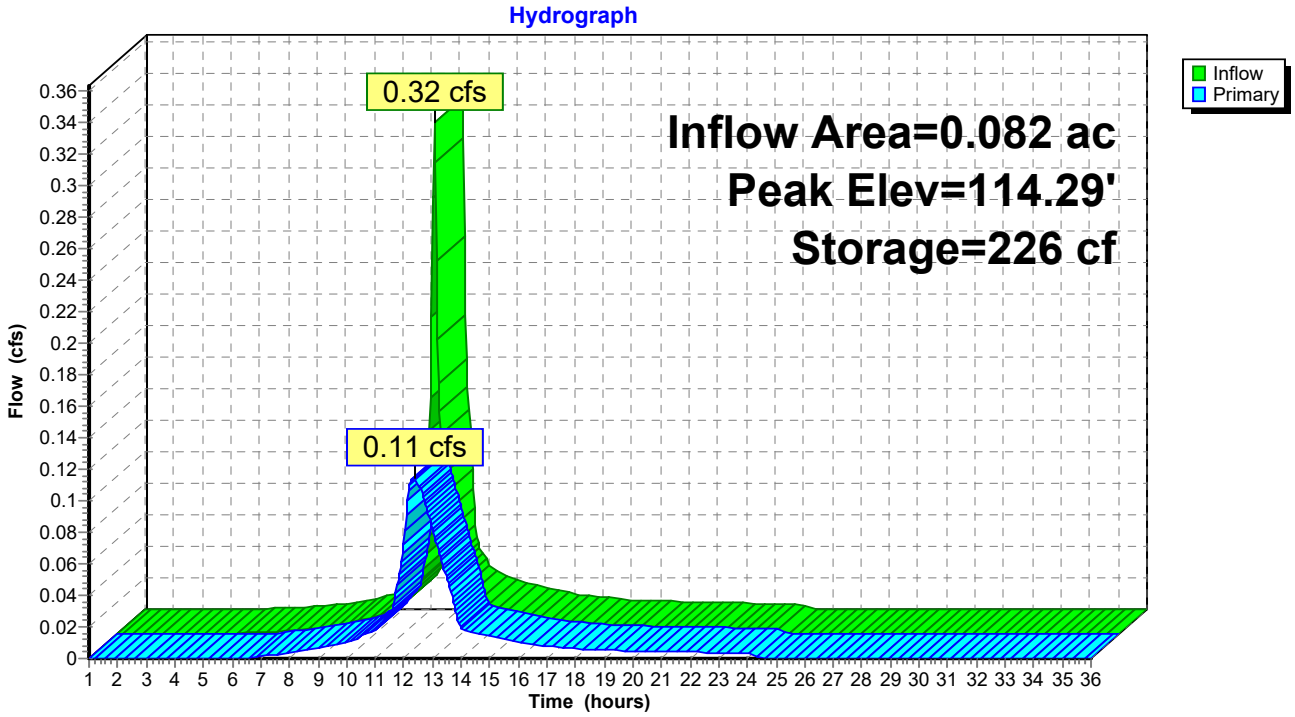
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
111.25	118	0	0
115.25	118	472	472

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
116.75	20	0	0
117.25	57	19	19

Device	Routing	Invert	Outlet Devices
#1	Primary	111.38'	**4.0" Round 4" UD** L= 28.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 111.38' / 111.24' S= 0.0050 '/' Cc= 0.600 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	111.25'	**1.6" Vert. Orifice/Grate** C= 0.600
#3	Device 2	111.25'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#4	Device 1	117.25'	**8.0" Horiz. Overflow Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 12.36 hrs HW=114.29' (Free Discharge)
└─**1=4" UD** (Passes 0.11 cfs of 0.37 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.11 cfs @ 8.21 fps)
  │ └─**3=Exfiltration** (Passes 0.11 cfs of 0.27 cfs potential flow)
  └─**4=Overflow Grate** (Controls 0.00 cfs)

Pond P1: FocalPoint



Time span=1.00-36.00 hrs, dt=0.04 hrs, 876 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1.1S: SUBCAT 1.1 Runoff Area=3,591 sf 85.83% Impervious Runoff Depth=4.65"
Tc=6.0 min CN=90 Runoff=0.43 cfs 0.032 af

Subcatchment 1S: SUBCAT 1 Runoff Area=2,284 sf 70.67% Impervious Runoff Depth=3.70"
Tc=6.0 min CN=81 Runoff=0.22 cfs 0.016 af

Reach 1R: POI #1 - Atlantic Street Inflow=0.34 cfs 0.048 af
Outflow=0.34 cfs 0.048 af

Pond P1: FocalPoint Peak Elev=117.20' Storage=309 cf Inflow=0.43 cfs 0.032 af
Outflow=0.16 cfs 0.032 af

Total Runoff Area = 0.135 ac Runoff Volume = 0.048 af Average Runoff Depth = 4.28"
20.07% Pervious = 0.027 ac 79.93% Impervious = 0.108 ac

Summary for Subcatchment 1.1S: SUBCAT 1.1

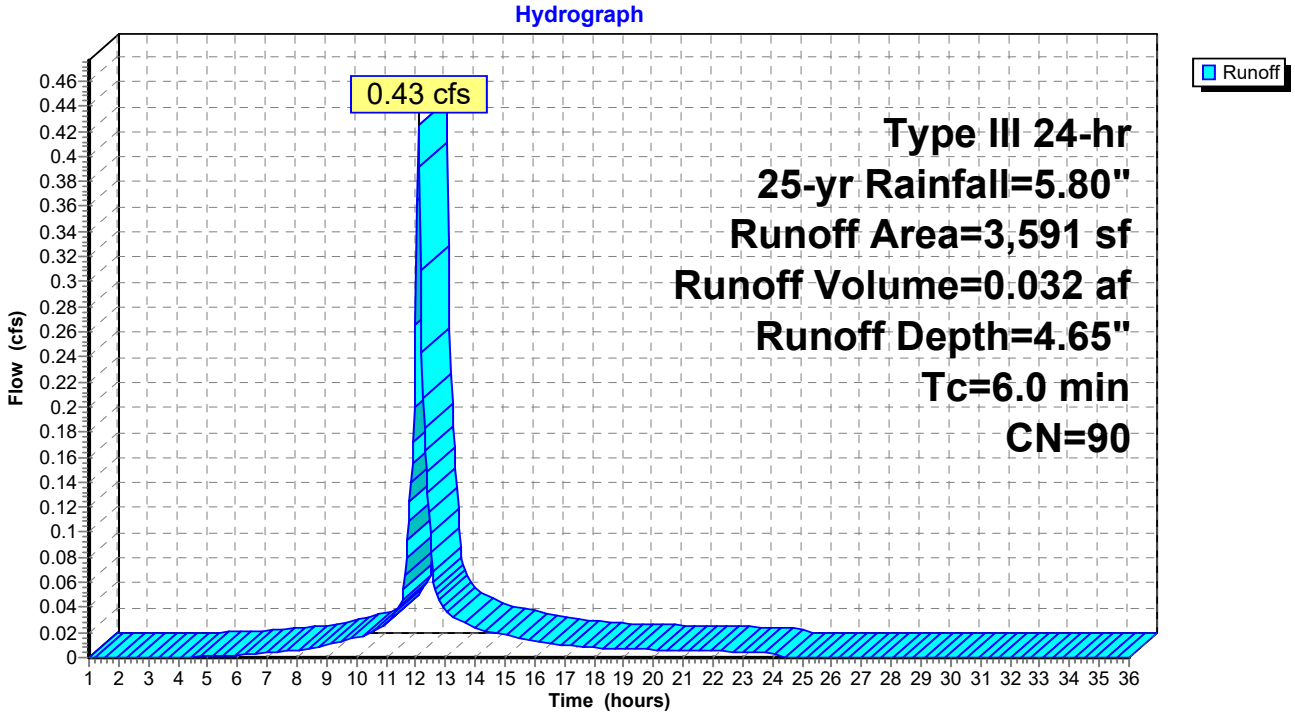
Runoff = 0.43 cfs @ 12.09 hrs, Volume= 0.032 af, Depth= 4.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
*	2,984	98	Roof Runoff
	98	98	Unconnected pavement, HSG A
	509	39	>75% Grass cover, Good, HSG A
	3,591	90	Weighted Average
	509		14.17% Pervious Area
	3,082		85.83% Impervious Area
	98		3.18% Unconnected

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

Subcatchment 1.1S: SUBCAT 1.1



Summary for Subcatchment 1S: SUBCAT 1

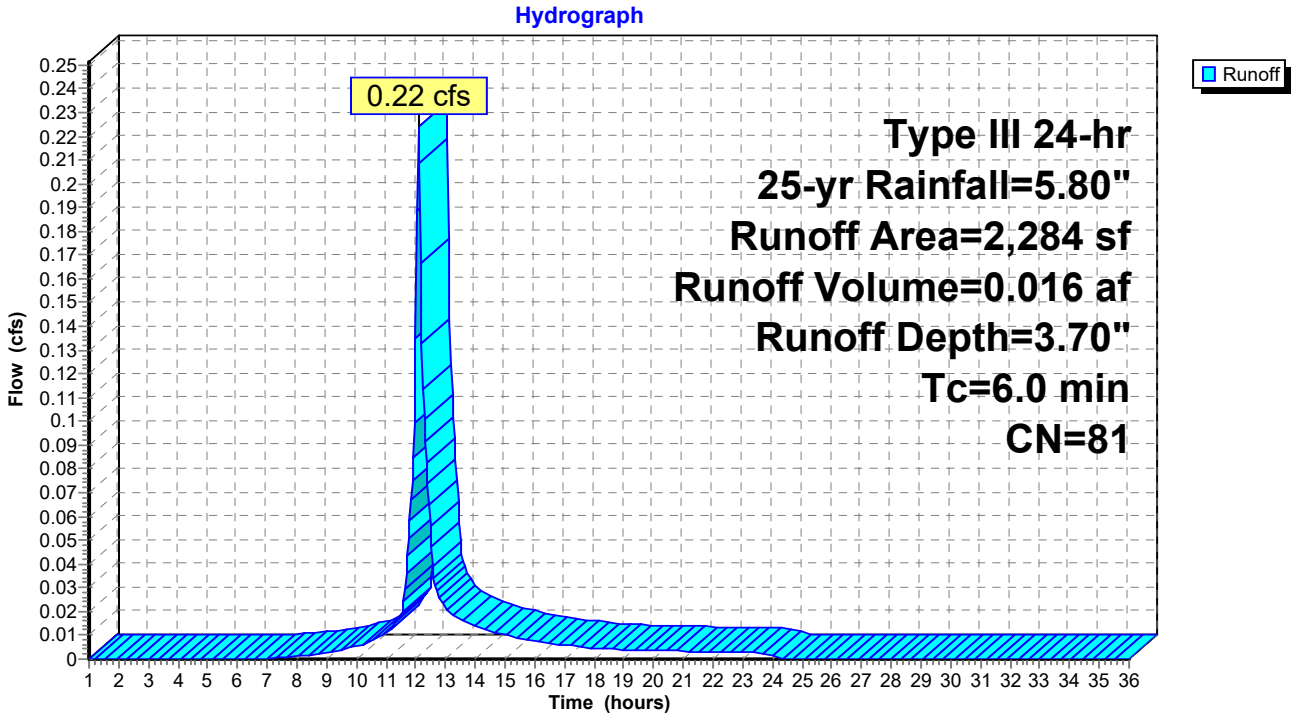
Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.016 af, Depth= 3.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
	1,087	98	Paved parking, HSG A
	557	39	>75% Grass cover, Good, HSG A
*	527	98	Unconnected roofs, (ABUTTER)
	113	39	>75% Grass cover, Good, HSG A
	2,284	81	Weighted Average
	670		29.33% Pervious Area
	1,614		70.67% Impervious Area
	527		32.65% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: SUBCAT 1



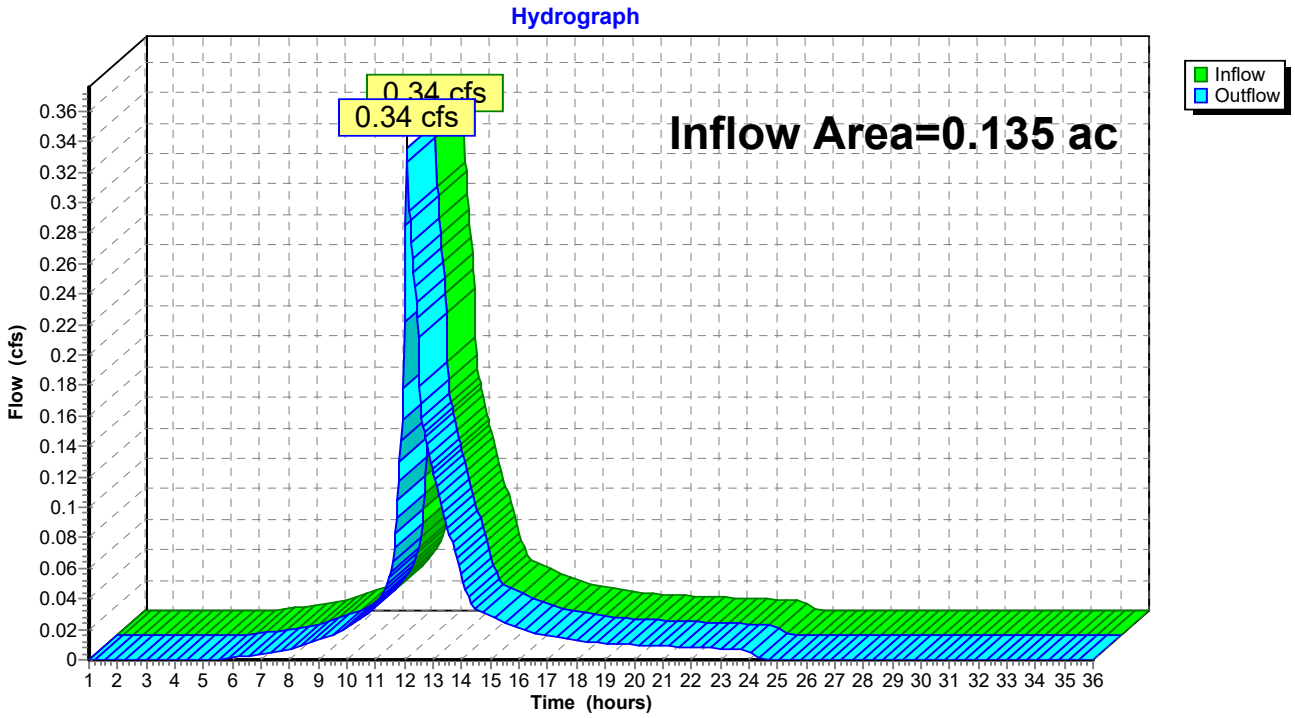
Summary for Reach 1R: POI #1 - Atlantic Street

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.135 ac, 79.93% Impervious, Inflow Depth = 4.27" for 25-yr event
Inflow = 0.34 cfs @ 12.10 hrs, Volume= 0.048 af
Outflow = 0.34 cfs @ 12.10 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-36.00 hrs, dt= 0.04 hrs

Reach 1R: POI #1 - Atlantic Street



Summary for Pond P1: FocalPoint

[92] Warning: Device #4 is above defined storage

Inflow Area =	0.082 ac, 85.83% Impervious, Inflow Depth = 4.65" for 25-yr event				
Inflow =	0.43 cfs @	12.09 hrs, Volume=	0.032 af		
Outflow =	0.16 cfs @	12.33 hrs, Volume=	0.032 af, Atten= 62%, Lag= 14.5 min		
Primary =	0.16 cfs @	12.33 hrs, Volume=	0.032 af		

Routing by Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 117.20' @ 12.33 hrs Surf.Area= 138 sf Storage= 309 cf

Plug-Flow detention time= 22.5 min calculated for 0.032 af (99% of inflow)
Center-of-Mass det. time= 19.8 min (805.6 - 785.8)

Volume	Invert	Avail.Storage	Storage Description
#1	111.25'	118 cf	**3/4 Stone (Prismatic)** Listed below (Recalc) 472 cf Overall - 177 cf Embedded = 295 cf x 40.0% Voids
#2	111.86'	168 cf	**1.31'W x 2.35'L x 2.88'H Tanks** x 20 Inside #1 177 cf Overall x 95.0% Voids
#3	115.25'	6 cf	**1.60'W x 12.50'L x 1.50'H FocalPoint (MEDIA)** 30 cf Overall x 20.0% Voids
#4	116.75'	19 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) -Impervious
		312 cf	Total Available Storage

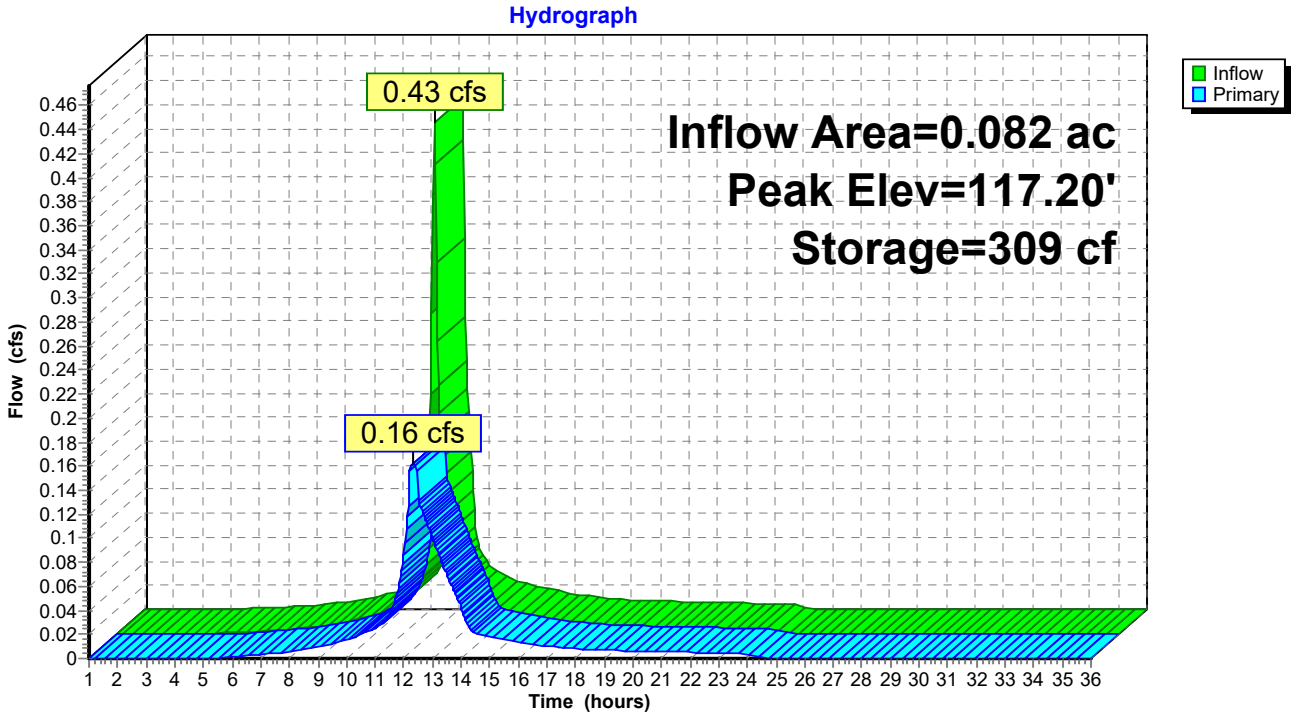
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
111.25	118	0	0
115.25	118	472	472

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
116.75	20	0	0
117.25	57	19	19

Device	Routing	Invert	Outlet Devices
#1	Primary	111.38'	**4.0" Round 4" UD** L= 28.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 111.38' / 111.24' S= 0.0050 '/' Cc= 0.600 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	111.25'	**1.6" Vert. Orifice/Grate** C= 0.600
#3	Device 2	111.25'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#4	Device 1	117.25'	**8.0" Horiz. Overflow Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 12.33 hrs HW=117.20' (Free Discharge)
└─**1=4" UD** (Passes 0.16 cfs of 0.53 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.16 cfs @ 11.62 fps)
  │ └─**3=Exfiltration** (Passes 0.16 cfs of 0.32 cfs potential flow)
  └─**4=Overflow Grate** (Controls 0.00 cfs)

Pond P1: FocalPoint



Hydrologic Soil Group—Cumberland County and Part of Oxford County, Maine
(PL)

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 17, Jun 5, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
HIB	Hinckley loamy sand, 3 to 8 percent slopes	A	0.1	100.0%
Totals for Area of Interest			**0.1**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

K. EROSION & SEDIMENTATION CONTROL REPORT

Prepared For:

Kestrel LLC.
30 Atlantic Street
Portland, Maine 04101

Prepared By:

Acorn Engineering, Inc.
65 Hanover Street
Portland, Maine 04101

May 2021

INTRODUCTION

Acorn Engineering, Inc. has been retained by Kestrel LLC., to provide civil engineering services for the proposed residential building at 30 Atlantic Street. The proposed project includes the development of a three-story building consisting of 4 residential units with associated parking.

The following Erosion and Sedimentation Control Report was developed in accordance with the City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards and the Maine DEP Chapter 500 Stormwater Management Appendix A and B (1), Amended August 12, 2015. This narrative also meets the standards required in the Maine DEP's Erosion & Sediment Control BMP's Manual, revised in 2016.

1.0 EXISTING CONDITIONS

The proposed project site is located on Atlantic Street. A boundary and Topographic Survey plan has been prepared by Owen Haskell, Inc. of Falmouth, Maine Dated December 14th, 2020.

The property is in the R-6 Residential Zone. See below for abutting uses.

Abutting Uses:

- North R-6 Zone — Single Family Residential
- East R-6 Zone — Multi Family Residential
- South R-6 Zone — Multi Family Residential
- West R-6 Zone — Single Family Residential

The existing lot use is vacant, with grades ranging from 5 to 20 percent across the site, draining toward the eastern corner of the lot.

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
Hinkley loamy sand	.17	.17

The soil "K" value for the soil, listed above, shows a low susceptibility to erosion. The site's susceptibility to erosion is from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County. Although the soil "K" value shows a low susceptibility to erosion, implementation of the proposed Erosion & Sedimentation Measures by the contractor will be of the utmost importance given the sustained slope throughout the site.

1.2 Existing Erosion Problems

The current lot is vacant with no signs of erosion.

1.3 Critical Areas

The Northern corner of the lot has existing slopes that can reach up to 20 percent.

1.4 Protected Natural Resource

The client is not aware of any existing significant natural features located on the site as listed in Section 14.6.2 (A) 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 5 years.

2.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

MDEP requires all projects to provide prior to construction an erosion and sediment control plan 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 prior to construction. 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.
- The stabilized construction entrance shall be underlain by a 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 roadways.

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 Atlantic street shall be swept to control mud and dust from the construction site as necessary. Additional stone shall be added to the stabilized construction entrance to minimize the tracking of material off the site and onto the surrounding roadways.

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 and anchored 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 the 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 5.2 of this report.

2.2.2 All stormwater devices shall be installed and tributary areas stabilized prior to 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 1st and April 15th. If a construction site is not stabilized with pavement, a road gravel base, 75% mature vegetation cover, or riprap by November 15th, 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 the road shall be considered open.

The contractor shall limit the work area to areas where work will occur within the subsequent 15 days 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 the ground surface is not visible through the mulch. Between the dates of November 1st and April 15th, 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.

All dormant seeding beds shall be covered with overwintering mulch or an anchored erosion control blanket. 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 an 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 for late-season stabilization after 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 1H:1V or in areas with flowing water. Full contact between the blanket and the soil is critical for an effective erosion control cover.

- Stabilize the soil with stone riprap – Ditches and channels constructed in winter shall be stabilized with riprap. Riprap shall be layered over a nonwoven geotextile fabric blanket on top of a 6-inch layer of clean drainage sand. 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 week, as well as after a "storm event". A "storm event" shall consist of 0.5 inches of rain within a 24-hour period. The following Erosion and Sediment Control - Best Management Practices (BMP's) shall be inspected in the manner as described.

6.1 Sediment Barriers

Hay bale barriers, silt fences, and filter berms shall be inspected and repaired for the following if there are any signs of erosion or sedimentation below them. If there are signs of undercutting at the center or the edges of the barrier or impounding of large volumes of water behind them, sediment barriers shall be replaced with a temporary check dam. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits should be removed when deposits reach approximately one-half the height of the barrier. Filter berms should be reshaped as needed. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared and seeded.

6.2 Stabilized Stone Construction Entrances

The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way. The entrance/exit pad shall be inspected weekly and before and after each storm event. 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 onto the pavement or traveled way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment trapping device. All sediment shall be prevented from entering storm drains, ditches, or waterways.

6.3 Mulched Areas

All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied. Nets must be inspected after rain events for dislocation or failure. If washouts or breakage occur, re-install the nets as necessary after repairing damage to the slope. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface. Repair as needed.

6.4 Dust Control

When temporary dust control measures are used, repetitive treatment shall be applied as needed to accomplish control. 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. Measures should be in accordance with the proper erosion control measures for the season in which construction will be conducted. 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. Commence earthwork operations associated with the parking lot construction.
6. Commence installation of utilities.
7. Continue earthwork and grading to subgrade as necessary for construction.
8. Complete installation of drainage infrastructure, as well as other utility work.
9. Complete remaining earthwork operations.
10. Install sub-base and base gravels in paved areas.
11. Install paving, curbing, and brickwork.
12. Loam, lime, fertilize, seed, and mulch disturbed areas and complete all landscaping.
13. Once the site is stabilized and mulching of landscape areas is complete, remove all temporary erosion control measures.
14. Touch up areas without a vigorous catch of grass with loam and seed.
15. Complete site signage and striping.
16. Execute proper maintenance and inspections of all temporary and permanent erosion control measures throughout the project.

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.

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 within the following 30 days.

8.0 CONCLUSION

The above erosion control narrative is intended to minimize any negative development impact caused by erosion and sedimentation. The contractor shall also refer to the Maine Erosion and Sediment Control BMP manual for additional information.

9.0 ATTACHMENTS

- Temporary Seeding Plan
- Permanent Seeding Plan

TEMPORARY SEEDING PLAN

Site Preparation

The seeded areas shall be feasibly graded out to provide the use of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. If necessary, the site may require additional temporary erosion control measures outlined in the Erosion Control report.

Seedbed Preparation

Fertilizer shall be applied to the site at a rate of 13.8 pounds per 1,000 square feet. The composition of the fertilizer shall be 10-10-10 (N-P2O5-K2O) or equivalent.

Limestone shall be applied to the site at a rate of 138 pounds per 1,000 square feet.

Seeding

The composition and amount of temporary seed applied to a site shall be determined by the following table:

Seed	Pounds / 1,000 S.F.	Recommended Seeding Dates
Winter Rye	2.57	Aug-15 to Oct-1
Oats	1.84	Apr-1 to Jul-1 Aug-15 to Sep-15
Annual Ryegrass	0.92	Apr-1 to Jul-1
Sudangrass	0.92	May-15 to Aug-15
Perennial	0.92	Aug-15 to Sep-15

Mulching

Mulch shall be applied at a rate of 70 lbs – 90 lbs per 1,000 square feet. The mulch shall be installed at a minimum depth of 4 inches. The seeded area shall be mulched immediately after seed is applied. Mulching during the winter season shall be double the normal amount.

Conclusion

Please refer to the Maine Erosion and Sediment Control BMP manual for additional information pertaining to temporary seeding and mulching.

PERMANENT SEEDING PLAN

Site Preparation

The seeded areas shall be feasibly graded out to provide the use of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. If necessary, the site may require additional temporary erosion control measures outlined in the Erosion Control report.

Seedbed Preparation

Fertilizer shall be applied to the site at a rate of 13.8 pounds per 1,000 square feet. The composition of the fertilizer shall be 10-10-10 (N-P2O5-K2O) or equivalent.

Limestone shall be applied to the site at a rate of 138 pounds per 1,000 square feet.

Seeding

The composition and amount of permanent seed applied to a site shall be determined by the following table:

Seed	Pounds / 1,000 S.F.
Kentucky Bluegrass	0.46
Creeping Red Fescue	0.46
Perennial Ryegrass	0.11
Total	1.03

Mulching

Mulch shall be applied at a rate of 70 lbs – 90 lbs per 1,000 square feet. The mulch shall be installed at a minimum depth of 4 inches. The seeded area shall be mulched immediately after seed is applied. Mulching during the winter season shall be double the normal amount.

Recommendations

Permanent seeding is recommended to be completed in the spring. Later summer seeding is allowed if completed prior to September 1st. If seeding cannot be accomplished during the periods recommended for permanent seeding, then the contractor shall perform temporary seeding per the temporary seeding plan.

Conclusion

Please refer to the Maine Erosion and Sediment Control BMP manual for additional information pertaining to permanent seeding and mulching.

SECTION M: FIRE DEPARTMENT LETTER & PUBLIC SAFETY & FIRE PREVENTION

May 15, 2021

Chief Keith Gautreau
City of Portland Fire Department
380 Congress St.
Portland, ME 04101

Subject: 30-32 Atlantic Street – Fire Department Checklist, Public Safety Section M of Application

On behalf of Kestrel LLC, Project Owner, the design team is pleased to respond to the Portland Fire Department Site Review Checklist.

1. Name, address, telephone number of Applicant:

   Kestrel LLC
   118 Rowley Drive
   Stonington, CT 06378
   860-391-7322

2. Name address, telephone number of Architect:

   Lauren J. Reiter, RA, LEED AP
   6 South Street
   Portland, Maine 04101
   917-502-2225

3. Proposed uses of any structures [NFPA and IBC classification]

   NFPA: Apartments / IBC: R-2

4. Square footage of all structures, including decks [total and per story]

Existing Building		
Total	N/A	**sf**

Proposed Building		
Garage	1,352	sf
1st Floor not include. Garage	1,280	sf
2nd Floor	3,052	sf
3rd Floor	3,052	sf
Total	8,736	**sf**

5. Elevation of all structures

   Based upon the average grade plane defined by the IBC, the proposed building height is just under 35', which is below the allowable 35 feet within the R-6 zone. Please refer to the building elevations on the "A" drawings for additional information.

6. Proposed fire protection of all structures

   The building will have a 13R sprinkler system. Fire flows and requirements for system storage or booster pumping are subject to the fire designer which will be performed prior the request for a building permit.

7. Hydrant locations

   An existing hydrant is located approximately 98 ft north of the property in front of 19 Atlantic Street. Another hydrant at the corner of Wilson and Atlantic Streets is approximately 274 ft. from the property. Hydrant flow data from the Portland Water District has been received and is attached to this document.

8. Water main size and location

   The redevelopment will be serviced by a new 6" sprinkler line and domestic water main within Atlantic Street. A 6" fire service line will extend from the domestic water main to the building fire suppression system. The building is expected to have internal sprinkler risers and a Fire Department pump connection on the side of the building near Atlantic Street.

9. Access to all structures [min. 2 sides]

   Access to the structure is provided directly on Atlantic Street. Additionally, there will be access to the property's driveway.

10. Site Lighting / CPTED

    Site lighting, activated by motion sensors, shall be provided around the perimeter of the building. See attached cut-sheet and site plan showing light levels. Additionally, downlights at the cantilevered soffit over the garage entrances, and a wall-mounted fixture at the covered entrance vestibule will be on timeclocks, such that building entrances will always be lit at night. See documents under Section O. Exterior Lighting.

11. Please see the attached code summary.

<u>NFPA 1 – Chapter 18 Fire Department Access and Water Supply</u>

18.2 Fire Department Access:

The project site is located in a developed area and is fronted by a public street. The following pavement street width is currently available:

- Atlantic Street: 50 feet

Per NFPA 1 – Chapter 18.2.3.3.1, there will be public street access within 50 feet of at least one exterior door. Per NFPA 1 – Chapter 18.2.3.2.2.1, all first story floors shall be located not more than 450 feet from a Fire Department access road.

City of Portland Technical Manual – Section 3 Public Safety

3.4.1 Every dead-end roadway more than one hundred fifty (150') feet in length shall provide a turnaround at the closed end. Turnarounds shall be designed to facilitate future street connectivity and shall always be designed to the right (refer to Figure I-5).

Response: Not applicable

3.4.2 Where possible, developments shall provide access for Fire Department vehicles to at least two sides of all structures. Access may be from streets, access roads, emergency access lanes, or parking areas.

Response: As depicted on the site plan, the proposed building layout provides a minimum of two paved access points to the structure: from Atlantic Street directly and one from the driveway.

3.4.3 Building setbacks, where required by zoning, shall be adequate to allow for emergency vehicle access and related emergency response activities and shall be evaluated based on the following factors:

- *Building Height.*
- *Building Occupancy.*
- *Construction Type.*
- *Impediments to the Structures.*
- *Safety Features Provided.*

Response: The proposed development layout has contemplated emergency access conditions and provides for safe and efficient access along the public street for emergency vehicles.

3.4.4. Fire Dept. access roads shall extend to within 50' of an exterior door providing access to the interior of the structure.

Response: The building will be provided with exterior doors that will be within 50' of a Fire Department access route, namely Atlantic Street.

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 except for the first floor parking area.

3.4.6. Elevators shall be sized to accommodate an 80 x 24-inch stretcher.

Response: The elevators will be sized to accommodate an 80 x 24 stretcher, per the Architect's designs.

3.4.7. All structures are required to display the assigned street number. Numbers shall be clearly visible from the public right of way.

Response: The applicant will work with the City's Public Works Division to assign street addresses and numbering to meet City Standards.

Thank you for your review. Please let me know if you have any additional questions or comments.

Sincerely,

Lauren J. Reiter
Registered Architect, Maine Lic. ARC#3302

Attachments:
- Code Analysis

30-32 ATLANTIC STREET, PORTLAND ME – CODE SUMMARY

BUILDING AREA
Building Footprint: 2,632 SF
Building Gross: 8,736 SF
R-2 Gross: 7,384 SF
Parking Gross: 1,352 SF

IBC 2015 CODE OVERVIEW
Use & Occupancy: Mixed Use- R-2 (Apartments), S-2 Enclosed Parking Garage Construction Type: VA
Sprinkler: Yes
Note: in accordance with Table 602 and Section 705.5:
Proposed Fire Separation Distance of north exterior walls equals 5.56 feet. Therefore, Exterior Wall Rating at this wall = 1 hour .
Proposed South and West walls have fire separations of 10.07 feet and 10.56 feet, respectively. Therefore, Exterior Wall Rating at these walls = 1 hour from interior side only.

NFPA 2009 CODE OVERVIEW
Use & Occupancy: Mixed Use- New Apartment Building, Storage- Enclosed Parking Garage
Construction: Type V
Sprinkler: Yes

IECC 2009 CODE OVERVIEW- See Chapter 13 of IBC 2015

DETAILED CODES REVIEW (IBC / IECC / NFPA)

I. IBC 2015 DETAILED CODE REVIEW- Comply with all chapters in their entirety as applicable

Ch. 3. Use & Occupancy Classification
310.4. Residential Group R-2 (Apartments)
311.3. Low-Hazard Storage Group S-2 (Parking Garages, open or closed)

Ch. 4. Special Detailed Requirements Based on Use and Occupancy
Section 406 Motor Vehicle-Related Occupancies
406.6 Enclosed Parking Garages
406.6.1 Height and Areas: See Sections 504, 506 and 507
406.6.2 A Mechanical Ventilation System shall be provided in Accordance with the International Mechanical Code
406.6.3 An Enclosed Parking Garage shall be Equipped with an Automatic Sprinkler System in accordance with Section 903.2.10.

Ch. 5 General Building Height and Areas
Table 504.3 Building Height for R/ S13R (Building equipped with an automatic sprinkler system per Section 903.1.2), Type VA construction: max. height = 60'-0"
Table 504.4. Number of Stories: R-2/ S13R (see note above), Type VA construction: max. 4 Stories above grade
Table 506.2 Building Area: R-2/S13R, Type VA construction: max. 12,000 s.f per floor

Table 508.4. Required Separation of Occupancies: Required Separation between Occupancies R-2 & S-2 = 1 hour
508.4.4.1. Required separators between adjacent occupancies shall be Fire Barriers in accordance with Section 707 and/ or Horizontal Assemblies in accordance with Section 711

Ch. 6. Types of Construction

Table 601. Type VA
- Primary Structural Frame- 1 hour
- Bearing Walls Exterior- 1 hour
- Bearing Walls Interior- 1 hour
- Non-bearing Walls and Partitions, Exterior- per Table 602
- Non-bearing Walls and Partitions, Interior – no rating
- Floor Construction and Associated Secondary Members- 1 hour
- Roof Construction and Associated Secondary members- 1 hour

Table 602. Fire Resistance Rating for Exterior Walls based on Fire Separation Distance
- X less than 5'-0"- 1 hour
- X greater than or equal to 5'-0" and Less than 10'-0"- 1 hour
- X greater than or equal to 10'-0" and Less than 30'-0"- 1 hour, if greater than 10'-0" then rating is from interior only.
- Where Table 705.8 permits non-bearing exterior walls with unlimited area of unprotected openings, required fire resistance of exterior walls is 0 hours

602.5 In Type V construction, structural materials, exterior and interior walls are of any materials permitted by this code.

Ch.7. Fire and Smoke Protection Features

704.1 Structural members and assemblies shall comply with Table 601 for required fire ratings.
704.2 Where columns are required to be fire-rated, the entire column shall be encased for the full height of the column, including connections to other structural members and/or where extending through a ceiling.
705.2. Projections such as cornices and exterior balconies beyond the exterior wall shall conform to this section and Section 1406.
Table 705.2 Minimum distance of Projections
- 0' to 2' fire separation: no projections allowed.
- 2' $\geq$ 3' : 24 inches
- 3' $\geq$ 30' : 24 inches plus 8" for every foot beyond 3'

705.2.2 Projections from Type V construction shall be of any approved material
705.2.2. Projections from Type V construction (including Balconies) may be of any approved material.
705.2.3 Combustible projections extending to within 5' of fire separation distance shall be not less than 1-hour construction.
705.5 Fire Resistance Rating of Exterior Walls with a Fire separation distance of less than or Equal to 10'-0" shall be Rated for Exposure to Fire from Both Sides.
Table 705.8. Maximum Area of Exterior Wall Openings / Unprotected, Sprinklered / Distance to lot line
- Openings not permitted less than 3'
- Unprotected openings 3' to less than 5' in sprinklered building: 15% allowable area
- Unprotected openings 5' to less than 10' in sprinklered building: 25% allowable area
- Unprotected openings 10' to less than 15' in sprinklered building: 45% allowable area
- Unprotected openings 15' to less than 20' in sprinklered building: 75% allowable area
- Unprotected openings more than 20' in sprinklered building: No limit

707 Fire Barriers / Fire-Resistance Rating

Shaft Enclosures- Comply with Section 713.4.
Interior exit Stairway and ramp construction- Comply with section 1023.1.
Enclosures for Exit Access Stairways- Comply with section 713.4.
Exit Passageway- Comply with section 1024.3
Horizontal Exit- Comply with section 1026.1

707.3.7 Incidental Uses- Comply with Table 509

707.3.9 Separated Occupancies- Comply with Table 508.4 based on the occupancies being separated. R/ S-2= 2 Hour

Table 707.3.10. Fire Resistance separating Occupancies R and S-2 = 2 hours.

707.4 Exterior Walls- Where exterior walls serve as part of a required fire resistance-rated shaft of stairway enclosure or separation, comply with section 705 for exterior walls.

707.5 Continuity- Fire barriers shall extend from the top of the foundation or floor/ceiling assembly below to the underside of the floor or roof sheathing, slab, or deck above and shall be securely attached hereto. Such fire barriers shall be continuous through concealed spaces, such as the space above suspended ceilings. Joints and voids at intersections shall comply with sections 707.8 and 707.9.

707.5.1 Supporting Construction- Supporting construction of fire barriers shall be protected to afford the required fire-resistance rating of the fire barrier supported. Hollow vertical spaces within the fire barrier shall be fire blocked the full height of the support structure in accordance with section 718.2 at every floor and at the roof.

707.7 Penetrations- Comply with section 714. Penetrations into exit access stairways, interior exit stairways and exit passageways shall be allowed only where permitted by section 1019, 1023.5 and 1024.6, respectively.

707.8 Joints comply with section 715.

707.9 All voids at intersections of fire-resistance rated assemblies shall be filled with an approved material or system.

708.1 Fire Partitions

Separation Walls as required by section 420.2
Corridor walls as required by section 1020.1
Elevator Lobby separation as required by section 3006.2.
Fire-Resistance Rating Fire partitions shall have a fire -resistance rating of not less than 1 hour.
Exceptions: 1. Corridor walls permitted to have a ½ hour fire-resistance rating by Table 1020.1. Occupancy R, Occupant load served by corridor with sprinkler system= 0.5 hours.

708.4 Fire barriers shall extend from the top of the foundation or floor/ceiling assembly below to the underside of the floor or roof sheathing, slab, or deck above and shall be securely attached hereto. Supporting construction shall be protected to maintain required fire-resistance.

708.9 Ducts and air transfer openings- Penetrations in a fire partition by ducts and air transfer openings shall comply with section 717.

711.2.3 At Horizontal Assemblies, supporting construction shall match fire-resistance rating of horizontal assembly being supported.

711.2.4.1 Separating Mixed Occupancies: comply with section 508.4 based on the occupancies being separated.

711.2.4.3 At Dwelling Units and Sleeping Units, horizontal assemblies serving as dwelling unit or sleeping unit separations shall not be less than 1-hour.

712.1.12 Vertical openings containing Exit Access Stairways and Ramps shall comply with section 1019. Horizontal fire doors shall achieve rating not less than the assembly being penetrated and shall be permanently labeled. Access doors shall be permitted in roof/ceiling in fire stair, provided that doors are tested per ASTM 119 or UL 263 and permanently labeled.

713.2 Shaft enclosures shall have a fire-resistance rating of not less than 2-hours where connecting four or more stories and *not less than one hour where connecting less than 3 stories.*

713.5 Shaft enclosures shall be constructed as fire barriers in accordance with section 707 or horizontal assemblies constructed in accordance with section 711 or both, and shall have continuity in accordance with section.
713.6 Where exterior walls servs as part of shaft enclosure, wall shall comply with Section 705, and fire-resistance rating of enclosure does not apply. However, exterior walls at interior fire stairs shall comply with Section 1023.7.
713.8 -- 713.10: Shaft Penetrations shall comply with section 714. Joints- comply with section 715. Ducts and air transfer openings- Penetrations in a fire partition by ducts and air transfer openings shall comply with section 717. Comply with entire section 714 to protect through penetrations and membrane penetrations of horizontal assemblies and fire-resistance rated wall assemblies.
713.14 Elevators shall be constructed in accordance with Section 713 and Chapter 30.
714.3 Penetrations into or through fire wall, fire barriers and fire partitions shall comply with Sections 714.3.1 through 714.3.3.
714.4 Penetrations of a fire-rated floor, floor/ceiling assembly, or ceilings or roof/ceiling assembly shall be protected in accordance with Sections 714.4.1—714.4.4.
715.1 Joints installed in fire-rated walls, floors or floor/ceiling assembly, or roof or roof/ceiling assembly shall be protected by approved Fire Resistant Joint Systems that maintain the required ratings. Fire resistant joints not required where shaft enclosure is already protected, and at walls allowed to have unprotected openings. Comply with all of Section 715,
Table 716.5 Opening Fire Protection Assemblies

Fire doors at Shafts & interior exit stairways with wall rating 2 hours: Min. Fire Door Rating- 1 ½ hour with maximum vision panel size of 100 sq. in.
Fire Doors at Corridor Walls with wall rating 0.5 hours: Min. Fire Door Rating- 1/3 hour, Door Vision panel size= max. Size tested.
Fire Doors at Exterior Walls with wall rating 1 hours: Min Fire Door Rating- 3/4 hour with maximum vision panel size of 100 sq. in.

716.5.9 Fire doors shall be latching and self-or automatic closing in accordance with Section 716.
717 At Ducts and Air Transfer Openings in rated assemblies, comply with entire section 717.
718 At Concealed Spaces, fireblocking and draftstopping shall comply with entire section 718
718.2 Fire blocking in combustible construction shall be installed to cut off concealed draft openings (both vertical and horizontal) and shall form an effective barrier between floors, between a top story and a roof or attic space, fire blocking shall be installed in the locations and in the manner specified in sections 718.2.2 through 718.2.7. Fire blocking shall be provided in concealed spaces between stair stringers at the top and bottom of a stair, and enclosed spaces under stair shall comply with Section 1011.7.3.
718.3.2 Draftstopping is required in R-2 building with 3 or more dwelling units, to be located above and in-line with the dwelling unit separations, unless building is equipped with automatic sprinkler system conforming with Section 903.1.1.
720 Thermal and Sound-Insulating Materials shall comply with entire section 720.
Table 721.1(2) Prescriptive Fire Resistance @ Partitions

CMU provides 1-hour fire resistance in 2.1" – 2.8" (depending on type)
Solid Concrete provides 1-hour fire resistance in 2.5" – 3.5" (depending on type)
Interior wall: 2x4 wood studs with 5/8" Type X gypsum board each side provides 1-hour fire resistance (See Table 721.1(2), item #14-1.3 for details) (4-3/4" th. Wall)
Exterior wall: 2x6 wood studs with 2 layers 5/8" Type X gypsum board each side and 5.5" mineral wool in cavity provides 2-hour fire resistance (See Table 721.1(2), item #15-1.16 for details) (8" th. Wall)
Exterior wall rated for fire resistance from interior only: 2x6 wood studs with 1 layer 5/8" Type X gypsum board on interior side and R19 mineral fiber in cavity provides 1-hour fire resistance (See Table 721.1(2), item #16-1.3 for details) (6.5" th. Wall)

722.2.1.4.3 and 722.3.2.3 For an exterior wall with a fire separation distance great than 5 feet, the fire shall be assumed to occur on the interior side only.
Table 722.3.2 Fire resistance ratings of different types of CMU
Table 722.6.2(1) Time assigned to Wallboard membranes
5/8" Type X Gypsum Wallboard = 40 minutes
Table 722.6.2(2) Time assigned to Wood Frame
Wood Studs @ 16" OC = 20 minutes
Table 722.6.2(5) Time assigned to Additional Protection
Fill spaces in wood stud walls with galls fiber mineral wool batts or cellulose insulation = 15 minutes
722.6.2.3 For an exterior wall with fire separation greater than 10 feet, the wall rating is assigned the rating dependent on interior membrane and framing. The membrane on the outside shall consist of sheathing, sheathing paper and siding as described in Table 722.6.2(3).
722.6.5 Table 722.6.2(%) indicates additional time increments that can be added to fire resistance where glass fiber, rockwool, slag mineral wool or cellulose is incorporated into the assembly.

Ch.8. Interior Finishes- Comply with Entire Chapter
Table 803.11 Class C finishes allowed in Sprinklered R2 building, including interior exit stairways, corridors and enclosures for exit access stairways.
804.4.2 Floor coverings in stairways, exit passageways, and corridors in R2 building shall be minimum Class II.
Ch.9. Fire Protection Systems - Comply with Entire Chapter
901.6.1 Automatic Sprinkler System- Automatic Sprinkler Systems shall be monitored by an approved supervising station.
901.6.2 Fire Alarm Systems required by the provisions of section 907.2 and sections 907.2 and 907.9 of the International Fire Code shall be monitored by an approved supervising station in accordance with section 907.6.6.
903.2.8 Group R- An automatic sprinkler system installed in accordance with section 903.3 shall be installed throughout buildings with a Group R fire area
903.2.10 Group S-2 enclosed parking garages- An automatic sprinkler system shall be provided throughout buildings classified as enclosed parking garages in accordance with section 406.6 where the enclosed parking garage is located beneath other groups.
903.3.1.2 NFPA 13R Sprinkler Systems- Allowed in Group R occupancies up to and including 4-stories in height and do not exceed 60 feet in height above the grade plane shall be permitted to be installed throughout.
903.3.1.2.1 Sprinkler protection shall be provided for Balconies, Decks and ground floor patios of Dwelling Units and Sleeping Units of Type V construction.
903.3.2 Quick Response and Residential sprinklers- Required in Dwelling units and sleeping units in R occupancies.
906.1. Each dwelling unit shall have a portable fire extinguisher min. rating of 1-A:10-B:C where required by international Fire Code in Table 906.1
907 Fire Alarm and Detection Systems- Comply with entire section 907
907.1.2 and 907.1.2 Construction Documents and Shop Drawings for fire alarm systems shall be submitted for review and approval prior to system installation.
907.2. Manual fire alarm box is not required for R-2 building unless required for the fire code official.
907.2.9 Group R-2 Fire Alarm systems and smoke alarms shall be installed in group R-2 occupancies as required in sections 907.2.9.1 through 907.2.9.3
907.2.9.1 Manual Fire Alarm System is required where a dwelling unit or sleeping unit is located three or more stories above the lowest level of exit discharge.

907.2.11 Single and Multiple-station smoke alarms must comply with UL 217 and install in accordance with section 907.2.11.2
907.2.11.3 In Group R-2 buildings, provide Single or Multiple-station smoke alarms at all the following locations:

On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of the bedrooms
In each room used for sleeping purposes.
In each story within a dwelling unit.

907 2.11.4 Smoke alarms shall be installed not less than 3 feet of a bathroom door with shower or tub.
907.5.2.3.3 In R-2 buildings required to have a fire alarm systems by Section 907, all dwelling units shall be provided with the capability to support visual alarm notification appliances in accordance with Chapter 10 of ICC A117.1
912.1 Fire Department Connections shall be installed in accordance with the NFPA standard applicable to the system design and shall comply with sections 912.2 through 912.6.
914 Emergency Responder Safety Features- Comply with entire section 914
915.1.2 Carbon Monoxide Detection shall be provided in R occupancies that contain a fuel-burning appliance or fireplace.

Ch.10. Means of Egress

1003.2 Means of egress shall have a ceiling height not less than 7'-6", and stair headroom as per Section 1011.3.
Table 1004.1.2 Occupant Load: Maximum Floor area for Residential Occupancy = 200 Gross Sq. Ft. per occupant
1005.3.1 Stairway width: occupant load of each floor = .3" per occupant. As per Section 1011.1, min. width = 36" and headroom clearance not less than 80".
1005.3.2 Other egress areas: width = .2" per occupant
1005.7.1 Doors when open onto egress path, shall not reduce required width by more than 7".
Doors in any positions shall not reduce the required width by more than one half. These restrictions do not apply to induvial dwelling units in R-2.
1006 Number of Exits and Exit access doorways 1006.3 Egress from stories or occupied roofs.
1006.2.1.1 R-2, one means of egress allowed from dwelling unit if sprinklered building and common path of egress is less than 125'. (Max occupant load of 10.)
Table 1006.3.1 Minimum number of exits or access to exits per story, Occupant load per story: 1-500, Minimum number of exits or access to exits from story: 2.
1006.3.2 Single exit allowed where rooms, areas & spaces discharge directly to exterior @ first floor; required emergency escape openings; max. distance to exit = 75'.
1006.3.2/Table 1006.3.2(1): R-2 building can have one exit as long as building is sprinklered, maximum 3 stories, less than 4 units per floor, automatic sprinkler and exit travel less than 125 feet.
1007 Exit or exit access doorway configuration- Comply with entire section 1007
1007.1.1 Where two exits required: in automatic sprinklered building, distance between exits shall not be less than one third of full floor, measured on a diagonal. Distance is measured to closest riser. If hall walls are 1-hr. rated, straightest point between exits may be used. (See 1007.1.1.1 for measuring.)
1008.1 Illumination shall be provided in means of egress in accordance with Section 1008.2.
1008.3.2 Emergency lighting is required at exit hallways and stairs if two exits are required
1010.1 Doorway widths. All doors in path of egress and to accessible spaces must be minimum 32" clear width. Other doors do not have minimum width requirement but must be min. 78" in height.

1010.1.6 Landings shall have width not less than the width of the stairway or the door, whichever is greater.
1010.1.8 Doors in series shall be minimum 48” apart plus the width of a door swinging into the space.
1010.1.9.1 Door hardware shall comply with this section.
1011 Stairways- Comply with entire section 1011
1011.2 Width and Capacity- Stairways serving an occupant load of less than 50 shall have minimum clear width of 36”.
Note: Occupant load is 9,600 s.f./ 200 gross sq. ft.= 48 people, Minimum Width of Stair = 36”
1011.3 Headroom- Minimum headroom clearance of 80 inches required.
1011.5.2 Stair Treads and risers- Maximum Riser height shall be 7” and minimum riser height shall be 4”, Minimum rectangular tread depth shall be 11” from riser to nosing. *Stairs within dwelling units may have maximum riser height of 7-3/4” and minimum tread depth of 10”.*
1011.6 Stairway landings- Width of landing shall be not less than the width of the stairways served. Doors opening on a landing shall not reduce width to less than ½ the required width.
1011.11 Handrails- Required on both sides of stair and shall comply with section 1014, except railings on one side permitted where stair is within dwelling unit.
Section 1011.12 In 4-story or more buildings, one stair must go to roof. Buildings without occupied roof access are permitted to have ships ladder or permanent ladder. Roof hatch shall not be less than 16 SF. Provide guards where roof hatch is less than 10 feet from roof edge.
Section 1011.12.2 Where stairway is provided to roof, access to roof shall be through a penthouse complying with Section 1510.2.
1013.1 Exit Signs are required in path of egress travel and shall be readily visible from any direction of egress travel. Comply with Section 1013. Exist signs are not required at main, obvious exterior exits.
1014.1 Handrails shall be not less than 34” and not higher than 38” and shall comply with entire section 1014.
1015.1 Guards are required at stairs and landings that are more than 30” to grade or floor below. Where required, guards shall be 42” high except at the open side of stairs, guards may be not less than 34” high. Guards shall be required where equipment requiring service is within 10’ of a roof edge or a roof hatch is within 10’ of roof edge. Comply with entire section 1015 .
1015.8 Windows must have opening control devices where window sill is less than 36” above finish floor and greater than 6' above grade or other surface below at the building exterior.
1016.2 Exit access through elevator lobby is permitted. Level of protection is not required to extend to the exit.
1016.2.3 Egress shall not pass through sleeping areas, bathrooms or rooms that can be locked.
Table 1017.2 Exit Access Travel Distance. Refer to NFPA 101-2009, Table A7.6. For Occupancy R, With Sprinkler System= 250 feet where building equipped throughout with an automatic sprinkler system.
Table 1020.1 Corridor Fire-Resistance Rating for Occupancy: R, Occupant Load Greater than 10, With Sprinkler System= 0.5 Hrs
1020.1.2. Fire resistance rating is not required for corridors within a dwelling unit in R buildings.
Table 1020.2 Minimum Corridor Width- Occupancy: R, Min. Width w/ Occupant load less than 50 (total= 48)= 36"
1020.4 Dead end corridors shall be max. 50 feet in length in sprinklered building.
1022 Exits- Comply with entire section 1022
1023 Interior Exit Stairways and Ramps- Comply with entire section 1023
1023.2 Stairs connecting 4 stories or more must be 2-hr. rated.

1023.7 Exterior walls of interior exit stairways shall comply with Section 705 for exterior walls, but shall not have a fire resistance rating of less than 1 hour within 10 feet horizontally and vertically of the exit stair.
1023.8 If an exit stair continues below the level of discharge, an approved barrier shall be provided at the discharge level to prevent people from unintentionally continuing to levels below exterior discharge.
1023.9 Signage shall be provided in stairs connecting more than three stories in compliance with this Section.
1024 Exit passageways shall not be used for any purpose other than as a means of egress and as circulation. Comply with all other provisions of this Section.
1030.1 – 1031.4 In addition to egress stairs, an emergency escape and rescue (E&R) shall be provided in sleeping rooms (bedrooms) in R2 occupancies below the fourth story above grade. Emergency E&R openings shall have minimum net clear opening of 5.7 SF, except at grade floor where net opening shall be minimum 5 SF, and shall have sill height at maximum 44" above floor.

Ch.11. Accessibility
1104 Accessible Entrances
1104.1 At least one accessible route shall be provided to the building entrance from public sidewalks & accessible parking.
1105.1.1 Parking Garage entrance from exterior and from within Garage to building's main entry shall be accessible.
1105.1.7 At least one accessible entrance shall be provided to each dwelling unit.
Table 1106.1 Accessible parking spaces: for 1-25 Parking Spaces, required minimum number of accessible spaces= 1
1107.2. Design- Dwelling Units and Sleeping Units that are required to be accessible units, type A and B units shall comply with the applicable portions of chapter 10 of ICC A117.1
1107.3 Accessible spaces in Type A or B units shall include toilet/bathing room, kitchen living and dining area and exterior spaces such as terraces.
1107.5.1.2. In a structure with 4 or more dwelling units , every dwelling unit shall be a Type B unit.
Table 1107.6.1.1 In a building of 25 units or less, no units are required to have roll-in showers.
1111.1 Signage- Accessible parking space(s) shall be marked by the International Symbol of Accessibility.
1111.3 Floor level signage shall be provided in accordance with Section 1023.9 in exit stairs.

Chapter 12 Interior Environment-
Section 1203 Ventilation. Comply with this section.
Section 1204 Temperature Control. Comply with this Section.
Section 1205 Lighting. Comply with this Section
1207.2 Air-borne sound. Walls, partitions, and floor/ceiling assemblies separating dwelling units from each other or from public or service areas shall have a sound transmission class (STC) of not less than 50 (45 if field tested) for air-borne noise when tested in accordance with ASTM E 90. Penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated, or otherwise treated to maintain the required ratings. This requirement shall not apply to dwelling unit entrance doors; however, such doors shall be tight fitting to the frame and sill.
Section 1208 Interior Space Dimensions. Comply with this Section

Chapter 13 Energy Efficiency
1301 General- Buildings shall be designed and constructed in accordance with the International Energy Conservation Code 2009.

Chapter 14 Exterior Walls
Section 1403 Performance requirements. Comply with this Section.
Section 1404 Materials. Comply with this Section.
Section 1405 Installation of Wall Coverings. Comply with this Section.
Table 1406.2.1.1.2 With a fire separation of 10 feet, combustible exterior wall covering shall have Tolerable Level Incident Radiant Heat Energy(kW/m2) of 8.9. With a fire separation of 5 feet, combustible exterior wall covering shall have Tolerable Level Incident Radiant Heat Energy(kW/m2) of 12.5.

II. IECC 2009 DETAILED CODE REVIEW - Comply with all chapters in their entirety as applicable

Chapter 3 General Requirements
301 Climate Zones
Table 301.1 Climate Zones, Main, Cumberland County, 6A
Table 402.1 Climate Zone 6
Minimum R-values
Windows: U value: .035
Wood Frame Walls: R20 cavity or 13 cavity+5 continuous
Mass Wall: 15/19
Ceiling: R 49
Floor: R 30
Basement Wall: R15 (continuous) or R19 cavity
Slab R10

Chapter 5 Commercial Energy Efficiency- Comply with entire Chapter 5
501.1 Scope
Commercial buildings shall meet either the requirements of ANSI/ASHRAE/IESNA Standard 90.1, Energy Standard for Buildings, Except for Low Rise Residential Buildings, or the requirements contained in this chapter.
502 Building Envelope Requirements
502.1.1 Insulation and Fenestration criteria. The building thermal envelope shall meet the requirements of Tables 502.2 (1) and 502.3 based on Climate Zone 6A.
Table 502.2 (1)- Building Envelope Requirements- Opaque Assemblies
Climate Zone- 6A
Roofs- Attic and Other- Group R, R-38
Walls Above Grade- Wood Framed and Other- Group R, R- 13 + R-7.5 ci.
Walls Below Grade- Below Grade Wall- Group R, R-7.5 ci. Floors- Joist/ Framing (Steel/ Wood)- Group R, R-30
Slab-on-Grade- Unheated Slabs- Group R, R-15 for 24" Below
Opaque Doors- Swinging, Roll-up or Sliding- Group R, U- 0.50.
Table 502.3 Building Envelope Requirements: Fenestration Vertical Fenestration (40% Maximum of above-grade wall)- Proposed = 25.7%
Climate Zone- 6A
Framing Materials other than metal- U-Factor = 0.35 SHGC all Frame types: PF less than 0.25= 0.40

III. NFPA 2009 DETAILED CODE REVIEW-Comply with all chapters in their entirety as applicable.

Chapter 6 Classification of Occupancy and Hazard of Contents

Classification of Occupancy
6.1.8.1.5 New Apartment Building
6.1.13 Storage- Enclosed Parking Garage
Separated Occupancies
Table 6.1.14.4.1 (b)- Apartment Buildings, Storage= 2 Hours, 1 hour allowable reduction where building is protected throughout by an approved automatic sprinkler system in accordance with 9.7.1.1 and supervised in accordance with 9.7.2.
6.2.2.2 Classification of Hazard of Contents: Low Hazards

Chapter 7 Means of Egress

Exit Access Corridors- Corridors used as an exit access and serving an occupant load exceeding 30 shall be separated by walls having not less than a 1- Hour fire-resistance rating in accordance with Section 8.3
Exits- Comply with section 8.2 and the following: 2, Minimum 2-hour fire resistance rating where the exit connects four or more stories, unless one of the following conditions exists: (c) Minimum 1 hour enclosures in accordance w/ 30.2.2.1.2 shall be permitted as an alternative to the requirement of 7.1.3.2.1
7.2.2.2.1.2 Minimum New Stair Width where the total occupant load of all stories served is less than 50, the minimum width clear of all obstructions, except obstructions 4 ½" at or below handrail height on each side, shall be 36".
Table 7.2.2.2.1.1 (a) New Stairs Minimum Width- 36"
Max. Ht. of Risers- 7" Minimum Ht. of Risers- 4" Minimum Tread Depth- 11" Minimum headroom- 6'-8"
Maximum ht. Between landings- 12 ft.
Landing- 7.2.1.4.3.1 Door Leaf Encroachment- During door swing, any door leaf in a means of egress shall leave not less than one-half of the required width of a landing unobstructed and shall project not more than 7" into the required width of the landing, when fully open.
7.2.2.4.4 Handrail Details- New handrails on stairs shall be not less than 34" and no more than 38" measured vertically from the leading edge of the tread.
7.2.2.5.4.1 Stairway Identification- New enclosed stairs three or more stories shall comply with A-M for signage.
7.2.2.5.4.3 Stairway Tread and Landing markings
7.3.1.2 Occupant Load Factor, Use Apartment, 200 Sq. Ft- 9,600 s.f/ 200 sq. ft. per person = 48 total occupants
Table 7.3.3.1 Capacity Factor, Stairways, width per person - 0.3 inch width per person x 48 =14.4" width required. Level Components, width per person- 0.2 inch width person x 48 =9.6" width required.
Minimum Width- The minimum width of any means of egress shall be not less than 36".
Number of Means of Egress- Not less than 2 from any story
7.4.1.6 Elevator Landing and Lobby Exit Access- Each elevator landing and lobby shall have access to at least one exit.
7.5.1.3.3 In buildings protected throughout by an approved , supervised automatic sprinkler system in accordance with section 9.7, the minimum separation distance between two exits or exit accesses, or exit discharges shall be not less than one-third the length of the maximum overall diagonal dimension of the building or area being served.

Chapter 8 Features of Fire Protection

Table 8.3.4.2 Minimum Fire Protection ratings for Opening Protectives Elevator Hoistways - Walls= 2 hours, Fire Door Assemblies= 1 ½ hours,

Vertical Shafts (Stairways) - Walls= 2 hours, Fire Door Assemblies= 1 ½ hours.
Exit Access Corridors - Walls= 1 hour, Fire Door Assemblies= 1/3 hours, Fire Window Assemblies= ¾.
Smoke Barriers - Walls= 1 hour, Fire Door Assemblies= 1/3 hours, Fire Window Assemblies= ¾.

Chapter 9 Building Service and Fire Protection Equipment - Comply with entire Chapter 9

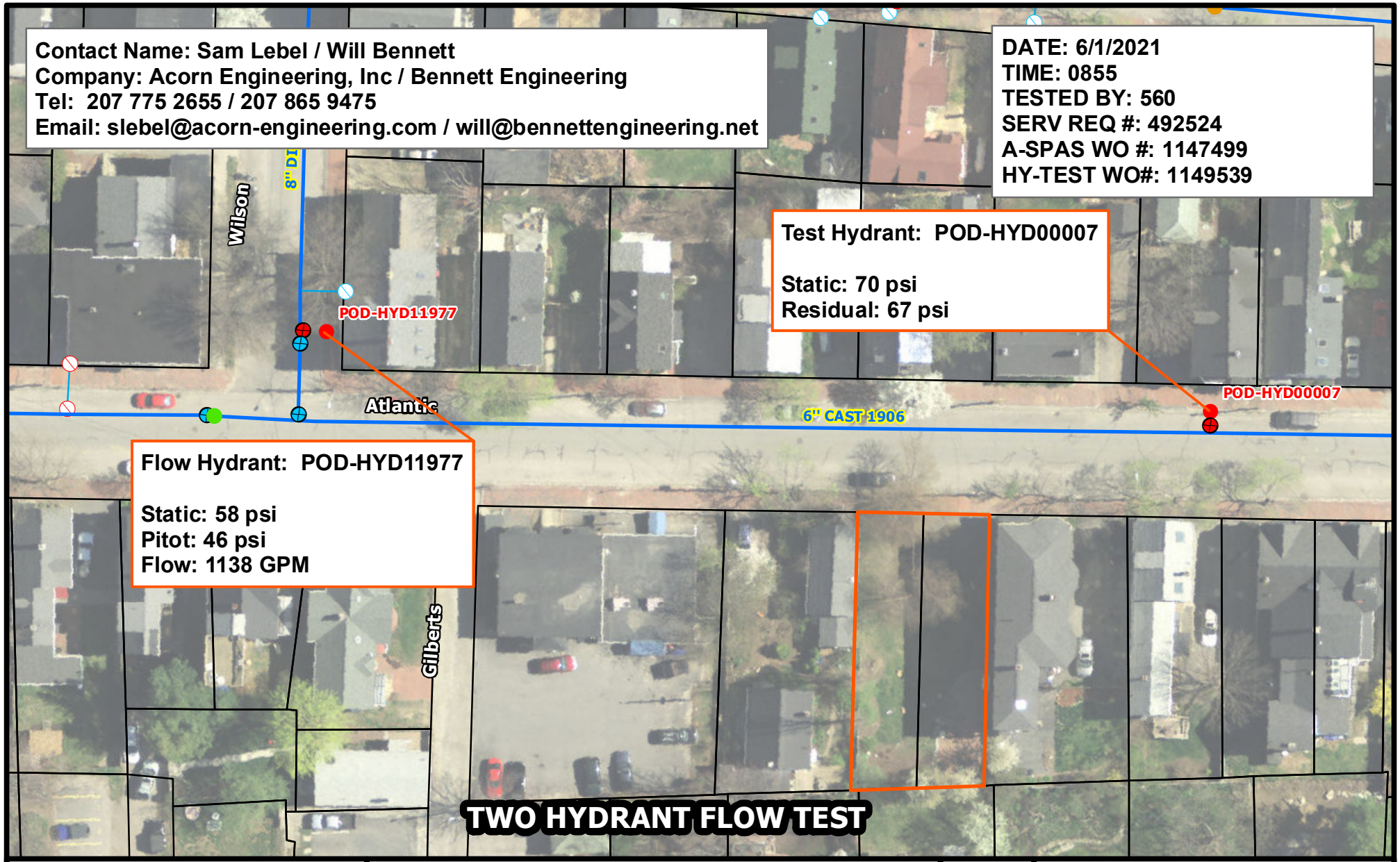
Chapter 10 Interior Finish, Contents and Furnishings- Comply with entire Chapter 10

Chapter 30 New Apartment Buildings- Comply with entire Chapter 30
30.2.2.12 Areas of Refuge- Areas of Refuge are not required in Buildings protected throughout by an approved supervised automatic sprinkler system in accordance with 30.3.5.
30.2.5.3.2 No common path of travel shall exceed 50 ft. in Buildings protected throughout by an approved, supervised automatic sprinkler system installed in accordance with 30.3.5.
30.2.6.2 Travel Distance within a dwelling unit to a corridor shall not exceed 125 ft. in Buildings protected throughout by an approved supervised automatic sprinkler system.
30.2.6.3.2 In Buildings protected throughout by an approved automatic sprinkler system installed in accordance with 30.3.5, the travel distance from a dwelling unit entrance door to the nearest exit.
30.2.6.4 The travel distance, from areas other than those within living units, to the exit, shall not exceed 250'-0" in Buildings protected throughout by an approved supervised automatic sprinkler system.
Illumination of Means of Egress- Comply with section 7.8
Emergency Lighting- Comply with section 7.9.
Protection from Hazards
Table 30.2.3.1.1 Hazardous Area Protection
Storage Rooms outside of Dwelling Units- 1-hour and sprinklers.
Trash Collection Rooms- 1-hour and sprinklers.
Interior Finishes- Comply with entire section
Detection, Alarm and Communication Systems- Comply with entire section.
Extinguisher requirements- Comply with entire section
Corridors- Comply with entire section
30.3.6.2 Doors- Comply with entire section

Stair Walls – 2 hr.
Elevator Shaft Walls: 2 hr.
Hallway walls – 0.5 hr.
Walls between Units – 1 hr.
Non-bearing Interior walls within units – no rating
Floor construction – 1 hr
Roof construction – 1 hr
Floor-Ceiling construction above Garage – 2 hr.

Separation Walls shall be constructed as fire partitions in accordance with section 708.
Horizontal Separation shall be constructed as Horizontal assemblies in accordance with section 711.
Automatic Sprinkler System Group R occupancies shall be equipped with an automatic sprinkler system in accordance with section 903.2.8. Quick response or residential automatic sprinklers shall be installed in accordance with section 903.3.2.
Fire Alarm systems and smoke alarms shall be provided in Group R occupancies in accordance with sections 907.2.6, 907.2.8, 907.2.9 and 907.2.10 respectively. Single or multiple station smoke alarms shall be provided in group r occupancies in accordance with section 907.2.11.

End of code summary



30 Atlantic Street
Portland

Scale 0 25 50 75 100 Feet — 1 inch = 50 feet

PORTLAND WATER DISTRICT
225 Douglass Street
PO Box 3553
Portland, ME 04104
Telephone: (207) 774-5961
Fax: (207) 761-8307

Legend

- Air Valve
- Blow Off
- By Pass
- Distribution
- Transmission
- Connection
- Attribute Change
- Reducer
- Hydrant
- Hydrant Control
- Combined Service
- Domestic Service
- Fire Service
- Private Hydrants
- Meter Pits
- Manhole
- CSO
- Gravity
- Force

N E S W

Disclaimer: This map is suitable for preliminary study and analysis and is based on PWD record information. PWD is not liable for any damages whatsoever resulting from inaccurate data or from errors made in the location and marking of its infrastructure.

Drawn By: KAR

Test Fee: $209.00 Date: June 2, 2021

M. Calculation of Wastewater Flowrate for 30-32 Atlantic Street Redevelopment

The project proposes to construct a 3-story, 4-unit residential building on an existing vacant lot. 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			
No existing units	0	0	0
Proposed			
Multiple family dwelling unit (2-bedroom)	3	180	540
Multiple family dwelling unit (3-bedroom)	1	270	270
		Total Existing	**0 GPD**
		Total Proposed	**810 GPD**
		Net Change	**+ 810 GPD**
*Values based on STATE OF MAINE: SUBSURFACE WASTEWATER DISPOSAL RULES, most recent edition			

Based on the table above, the project anticipates an increase of wastewater flow by 810 gallons per day (GPD).

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Department of Public Services,
55 Portland Street,
Portland, Maine 04101-2991

Date: _____5/15/21_____

Bradley Roland, P.E.
Water Resources Division

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

Site Address: 30 - 32 Atlantic Street, Portland, ME 04101

Chart Block Lot Number: 016: F003 & F025

Proposed Use: Residential Building
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.
6" Cast Iron Combined Sewer Main on Atlantic Street

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: TBD Phone: _____
Owner/Developer Name: Lauren Reiter, AIA with Cornerstone Building & Restoration
Owner/Developer Address: 72 Pine Street Suite #16, Portland, Maine 04102
Phone: 917-502-2225 Fax: _____ E-mail: laurenjreiter@yahoo.com
Engineering Consultant Name: Acorn Engineering
Engineering Consultant Address: 62 Hanover St. Portland, ME 04101
Phone: 207-317-1884 Fax: _____ E-mail: wsavage@acorn-engineering.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 810 GPD
Peaking Factor/ Peak Times: Diurnal Flow Pattern
Specify the source of design guidelines: *(i.e.__"Handbook of Subsurface Wastewater Disposal in Maine," __ "Plumbers and Pipe Fitters Calculation Manual," __ Portland Water District Records, Other (specify)* 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.

4th Revision
13 March 2013

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.

SECTION O: EXTERIOR LIGHTING

May 15, 2021

Exterior lighting will be placed around the perimeter of the building, as per attached plan. The plan, showing photometric calculations, indicates that amount of light at the property line is maximum 0.1 footcandles, as required by code. All of the lamping will be 3000K (max) LED lighting.

Cut sheets are attached for the four types of fixtures, which are described below:

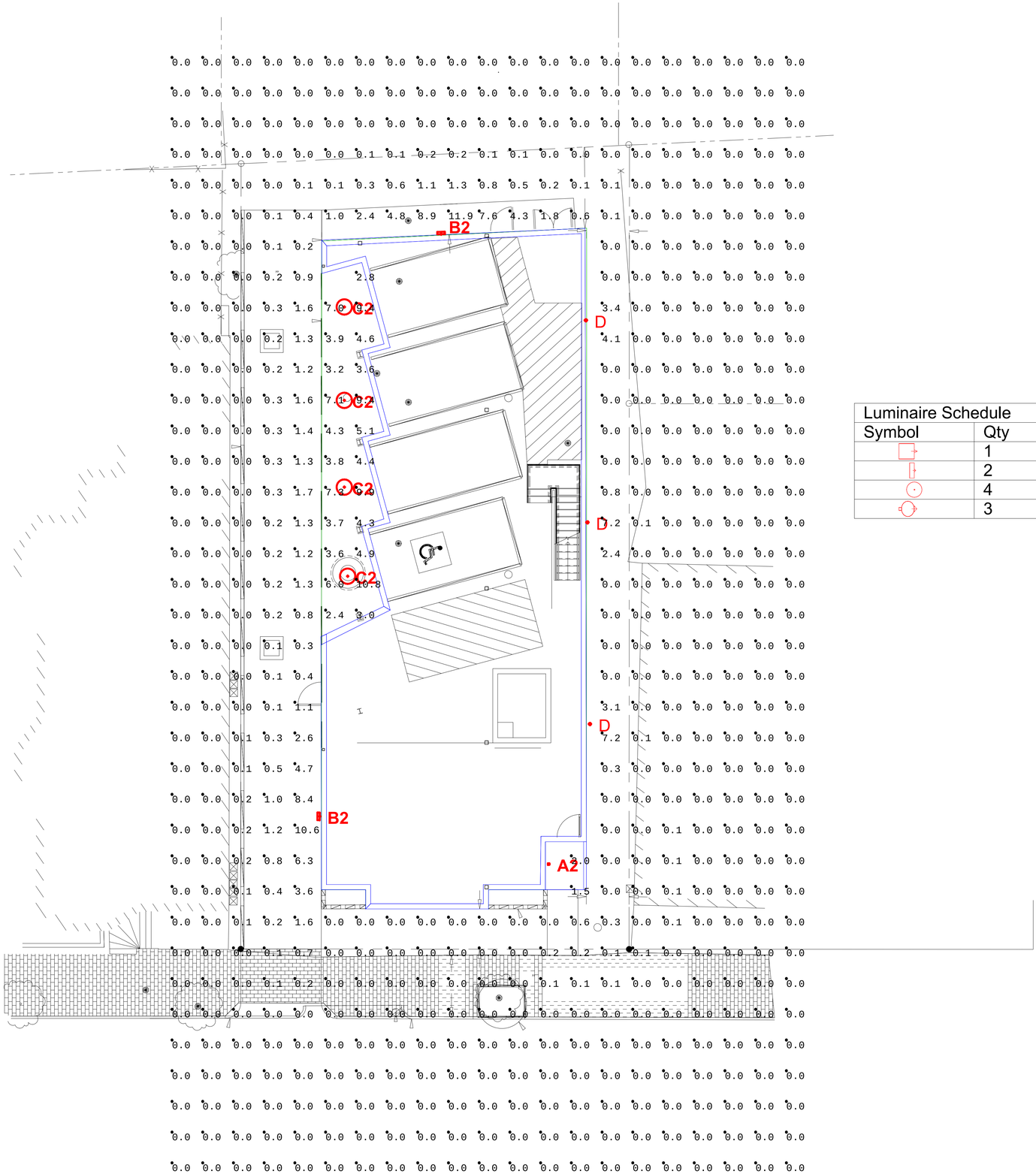
"A2": **Kichler "Toman"**: Wall-mounted sconce at covered entrance porch: up-down lighting, LED 7 watts. This will be controlled by a time clock.

"B2": **Compass Cuso**: Wall-mounted sconce at perimeter walls, down-lighting only, LED 17 watts. These fixtures will be motion detector fixtures.

"C2": **Halo "ML 56":** Recessed downlights in soffit above garage doors, down-lighting only, LED 9.6 watts. These fixtures will be controlled by a time clock.

"D": **Bega 33580**: Wall-mounted fixture, LED 4 W, with very narrow light distribution. These fixtures will be motion detector fixtures.

Attachments:
Photometric calculation plan
cut sheets for light fixtures



Luminaire Schedule				
Symbol	Qty	Label	Tag	Description
	1	A2	Kichler	49687BK/7W LED LAMP MAX
	2	B2	Compass	CUSO XX
	4	C2	HALO	ML5606930-692SC
	3	D	BEGA	33 580 K3 XX

VIP Code: 1WXN4M7S13 | 866-344-3875 | Live Chat | Login | My Lists | My Cart

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Customer Care | Professional Discounts

Shop by Room | Shop by Style | Shop by Category | Shop by Collection | Best Sellers | Sales & Clearance | Open Box

Questions about delivery times? Call a Lighting Expert now at **866.344.3875**

Home » Toman » Outdoor Wall Lights » Kichler 49687BK

Kichler 49687BKL18

Toman LED 14 inch Black Outdoor Wall, Medium

Zoom Image

Call 844.344.3536 For Trade Pricing

Found It Cheaper Somewhere Else?

Call or Live Chat our Lighting Experts for the best price! 866-344-3875

$189.99 PER EACH

Starting at $16/mo with affirm. Prequalify now

Original List Price: ~~$286.05~~ (You Save 33%)

Finish
Black

Bulb Type
LED

1 | Add To Shopping Cart

Add to List | Price Alert

Return Policy | Shipping Policy | 110% Price Match

6 IN STOCK
Updated 05/05/2021

FREE Shipping & Returns

NO Restocking Fee

110% Price Match Guarantee

Bulbs Included

Related Product

Kichler 49686BK
Toman 1 Light 10 inch Black Outdoor Wall...
$93.99

Kichler 49686BKL18
Toman LED 10 inch Black Outdoor Wall, Sm...
$104.99

Kichler 49686OZ
Toman 1 Light 10 inch Olde Bronze Outdoo...
$93.99

LNYExpress
FREE 2-DAY SHIPPING
FOR ORDERS PLACED BEFORE 2PM EST ON KICHLER PRODUCTS!
CHECK ELIGIBILITY »

Product Information | General Information | Manufacturer's Catalog(s) | Questions

General Information

Get 25% Off

ı LED 14 inch Black Outdoor Wall, Medium

This 1 light Outdoor Wall from the Toman collection by Kichler will enhance your home with a perfect mix of form and function. The features include a Black finish applied by experts. This item qualifies for free shipping!

ENERGY STAR

Brand Informa

- Brand: Ki

+ FREE SHIPPING & RETURNS ON ALL BRANDS

Free Returns
Within 30 days of purchase for like new, uninstalled items.

110% Price Match
Find a lower price and we'll beat it by 10% of the difference.

Have a question about this product? Ask us! | Live Chat | Submit a Question

ew York
ours

COMPASS®

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

CUSO

SLIM LED AC/EMERGENCY OUTDOOR LIGHT

tradeSELECT®

FEATURES

- Includes self-diagnostic/self-test feature to monitor proper operation
- Quick installation
- Universal 120-277VAC input, 60Hz.
- Includes long-life 7.2V Nickel Cadmium battery for UL recognized 90 minute operation
- Full re-charge within 24 hours
- Provided with water-proof test switch and AC-On indicator
- 0°C to 50°C Standard Model, -25°C to 50°C with optional heater
- UL924 and Wet Location Listed

UL924 NFPA 70 NFPA 101

RELATED PRODUCTS

- Exit & Message Signs
- Emergency Lighting Units
- Battery Packs
- Remote Heads & Fixtures

SPECIFICATIONS

DESCRIPTION

- The CUSO Series is an architectural, low-profile outdoor light, offering "normally On" AC and emergency lighting with powerful LED illumination
- The housing is fully sealed and gasketed, and has an IP65 rating
- Designed for wall mounting with universal K/O pattern in back-plate for easy installation to most standard size junction boxes
- Includes a single ½" NPT conduit entry in the top, center of the housing
- Illumination provided by 8 high power LEDs which achieve 1,600 lumens in AC and 600 lumens in emergency
- Available in 3000K or 4000K color temperature
- Models at 3000K include a photo-sensor and PIR(passive infra-red) motion detector which cannot be altered
- The unit will only turn on in AC mode when motion is detected. Models at 4000K include a photo-sensor and do not include motion detector
- The unit can be controlled by a switch, timer or the photo-cell

APPLICATION

- The CUSO Series can be applied in areas that are susceptible to rain and severe moisture like parking decks, and outdoor commercial applications to meet all Path of Egress requirements

COMPLIANCES

- UL924 Listed for Wet Location
- NFPA 101
- NFPA 70
- OSHA

WARRANTY

- 5 year full unit warranty
- See HLI Standard Warranty for additional information

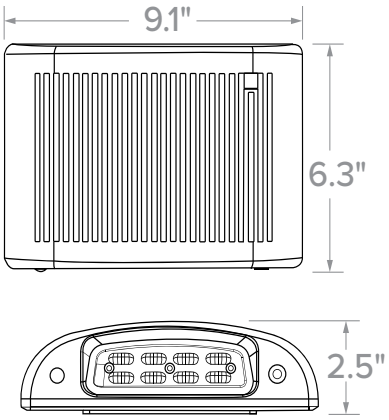
ENERGY CONSUMPTION

	Max.	Max. with heater
120VAC, 60Hz	3.59W	3.40W
277VAC, 60Hz	3.59W	3.40W

ORDERING GUIDE

Catalog Number	Description
CUSO DB	Outdoor AC/EM, 3000K, Photo-sensor and PIR Motion Detect, Self-Diag., Dark Bronze
CUSO DB-H	Outdoor AC/EM, 3000K, Photo-sensor and PIR Motion Detect, Self-Diag., Dark Bronze, Heater
CUSO BK	Outdoor AC/EM, 3000K, Photo-sensor and PIR Motion Detect, Self-Diag., Black
CUSO BK-H	Outdoor AC/EM, 3000K, Photo-sensor and PIR Motion Detect, Self-Diag., Black, Heater
CUSO WH	Outdoor AC/EM, 3000K, Photo-sensor and PIR Motion Detect, Self-Diag., White
CUSO WH-H	Outdoor AC/EM, 3000K, Photo-sensor and PIR Motion Detect, Self-Diag., White, Heater
CUSO4DB-ND	Outdoor AC/EM, 4000K, Photo-sensor, Self-Diag., Dark Bronze
CUSO4DB-H-ND	Outdoor AC/EM, 4000K, Photo-sensor, Self-Diag., Dark Bronze, Heater
CUSO4BK-ND	Outdoor AC/EM, 4000K, Photo-sensor, Self-Diag., Black
CUSO4BK-H-ND	Outdoor AC/EM, 4000K, Photo-sensor, Self-Diag., Black, Heater
CUSO4WH-ND	Outdoor AC/EM, 4000K, Photo-sensor, Self-Diag., White
CUSO4WH-H-ND	Outdoor AC/EM, 4000K, Photo-sensor, Self-Diag., White, Heater

DIMENSIONS



Single Carton Weight	4 lbs.
Master Carton Quantity	6 each

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701 Millennium Blvd • Greenville, SC 29607 / Tel (864) 244-1010 / Website www.compasslightingproducts.com

HUBBELL Lighting

Type:
BEGA Product:
Project:
Modified:

Application
Designed to provide down lighting effects for interior and exterior locations featuring narrow beam light distribution.

Materials
Luminaire housing constructed of die-cast marine grade, copper free (≤ 0.3% copper content) A360.0 aluminum alloy
Clear safety glass
Reflector made of pure anodized aluminum
Silicone applied robotically to casting, plasma treated for increased adhesion
High temperature silicone gasket
Mechanically captive stainless steel fasteners

NRTL listed to North American Standards, suitable for wet locations
Protection class IP 64
Weight: 3.5 lbs

Electrical

Operating voltage	120-277V AC
Minimum start temperature	-40° C
LED module wattage	4.0 W
System wattage	6.0 W
Controllability	0-10V dimmable
Color rendering index	Ra > 80
Luminaire lumens	318 lumens (3000K)
LED service life (L70)	60,000 hours

LED color temperature

☐ 4000K - Product number + **K4 (*EXPRESS*)**
○ 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	4.5 W (Amber)
System wattage	8.8 W (Amber)
Luminaire lumens	90 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:

Wall luminaires with light in downward direction

	LED	β	A	B	C
33 580	4.0 W	23°	4 3/8	7 1/2	5

β = Beam angle

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
© copyright BEGA 2018
Updated 03/20/19

Description

The Halo ML56 LED Downlighting System is a series of modular LED Modules for use with designated 5" or 6" ML56 LED trims in new construction, remodel and retrofit installation. Compatible with Halo 5" H550 and 6" H750, H2750 Series LED housings. And in retrofit of existing housings the ML56 Series fits 5" or 6" Halo and others. ML56 Modules are offered in 600 Series, 900 Series, and 1200 Series, 90CRI, and four color temperatures 2700K, 3000K, 3500K, 4000K. ML56 Modules are universal voltage 120V – 277V and dimmable at 120V. The ML56 lens provides uniform diffuse illumination standard.

Catalog #		Type
Project		
Comments		Date
Prepared by		

Specification Features

Mechanical

Light Module

- Module includes LED package, LED driver, heat sink, and lens
- Durable die-cast aluminum construction.
- Heat sink designed to conduct heat away from the LED keeping the junction temperatures below specified maximums, including insulated ceiling environments

Lens

- Impact-resistant polycarbonate
- Convex form for lamp-like appearance
- High lumen transmission
- Diffusing for even illumination

Mounting

- Modules attach to reflector and baffle trims via locking tabs, and attach to eyeballs via keyed twist-to-lock mating bosses
- The complete module and trim assembly installs into housings with precision formed torsion springs located on the trim
- Friction Blade mounting is an alternate option using the accessory 6" Friction Blade Kit model ML56CLIP (order separately). Friction blades provide alternative to torsion springs for retrofit in 6" housings without torsion mounting tabs. ML56CLIP is compatible with 6" baffle and reflector trims only (691, 692, 693, 695, 696 series). For eyeball trim (694 series) use ML7RAB retrofit adapter band.

Housing Compatibility

A complete ML56 system includes a LED Module, LED trim, and a compatible housing (new construction, remodel, or existing retrofit). Housing compatibility in the ML56 System is determined by the ML56 trim dimensions. ML56 trims are available in 5" and 6" aperture (5" = 59xx series and 6" = 69xx series trims). Refer to Housing – Trim Section in this document.

LED

- 900 Series = 900 design lumens typical.
- Delivered lumens vary depending upon 5" or 6", color temperature, and trim finish.
- Color Temperature options: 2700K, 3000K, 3500K, 4000K
- CRI: 90, R9>50
- L70 at 50,000 hours, projected in accordance with IES TM-21
- LED is a chip on board design consisting of a multiple LED package to create one virtual light source for a productive "cone of light"

Color Specification & Quality Standards

- A tight chromaticity specification to ensures LED color uniformity, sustainable Color Rendering Index (CRI) and Correlated Color Temperature (CCT) over the useful life of the LED
- LED color uniformity of 3 SDCM exceeds ENERGY STAR® color standards per ANSI C78.377- 2008.
- High color performance with 90CRI minimum, and R9 greater than 50.
- Every Halo LED Module is quality tested and performance measured, and then serialized in a permanent record to register lumens, wattage, CRI and CCT.
- Halo LED serialized testing and measurement process ensures color and lumen consistency on a per-unit basis, and validates long-term product consistency over time
- Halo ML56 LED Modules include lumen, CRI, and CCT designations in the model number Example: **ML5609930**
  56 = 5" / 6" aperture series
  09 = 900 lumen series
  9 = >90 CRI
  30 = 3000K nominal CCT

Electrical Power Connections

- LED connector is a non-screw base luminaire disconnect offering easy installation with the matching Halo 5" H550 series and 6" H750 and H2750 series housings (housing selected depends upon LED trim 5" or 6").
- LED Connector meets high-efficacy luminaire requirement for a non-screw base, and where required.
- The included E26 medium screw-base Edison adapter* provides easy retrofit of incandescent housings (see Housing Section).

Ground Connection

Separate grounding cable included on the module for attachment to the housing during installation.

LED Driver

- Driver is universal voltage 120V-277V, and may be controlled from a switch in this range of main inputs (switchable at 120V, 220V, 230V, 240V, and 277V)
- Driver is dimmable at 120V operation when connected to a compatible dimmer.
- Driver is a high efficiency, electronic power supply providing DC power to the LED.
- Driver meets FCC EMI/RFI Consumer Level limits on 120V main inputs, and is compliant for use in residential and commercial installations.
- Driver features high power factor, low THD, and has integral thermal protection in the event of over temperature or internal failure.
- Driver is replaceable, if replacement should be required.

Dimming

Designed for dimming capability to nominal 5% in normal operation with standard 120V Leading Edge (LE) and Trailing Edge (TE) phase control dimmers (Consult dimmer manufacturer for dimmer compatibility and details. Note, some dimmers require a neutral in the wallbox.)

Warranty

Cooper Lighting Solutions provides a (5) five year limited warranty on the Halo ML56 LED Module.

LED Module in New or Retrofit Existing Construction – Housings other than Halo

- If used in recessed housings other than Halo the Cooper Lighting Solutions 5-year limited warranty applies to the LED Module and Trim only.
- As with any electrical installation, a qualified electrician must ensure compatibility of use with a particular housing; this includes all applicable national and local electrical and building codes. Installer is responsible to properly and securely retain the LED Module and LED Trim in the housing at time of installation.

D2W™

ML56 LED System

900 Series / 90 CRI

ML5609927
ML5609930
ML5609935
ML5609940

5-Inch and 6-Inch 900 Lumen LED Module for New Construction, Remodel and Retrofit

For use with 59x and 69x Series Trims

FOR USE IN INSULATED CEILING AND NON-INSULATED CEILING RATED HOUSINGS

HIGH EFFICACY LED WITH INTEGRAL DRIVER - DIMMABLE

Energy Data
ML56 900/90 Series
(Values at non-dimming line voltage)
Minimum Starting Temp: -30°C (-22°F)
EMI/RFI: FCC Title 47 CFR, Part 15, (Consumer)
Sound Rating: Class A
Input Voltage: UNV 120V-277V
Power Factor: >0.95 @ 120V and >0.9 @277V
Input Frequency: 50/60Hz
THD: <20%
Input Power: 9.4W
Input Current at 120V: 0.15A
Input Current at 277V: 0.08A
Driver Compliance: UL8750, Class II rated
Maximum IC (Insulated Ceiling) Ambient Continuous Operating Temperature: 25°C (77°F)
Maximum Non-IC Ambient Continuous Operating Temperature: 40°C (104°F)

ML5609927
5" or 6" LED 900 Series

ML5609930
5" or 6" LED 900 Series

ML5609935
5" or 6" LED 900 Series

ML5609940
5" or 6" LED 900 Series

SECTION P: ARCHITECTURAL DESIGN NARRATIVE

May15, 2021

City of Portland
Historic Preservation Board
Planning and Development
389 Congress Street
Portland, ME 04101

RE: Major Site Plan Review- Alternative Design Review Certificate submission for 30-32 Atlantic Street, Portland ME

To Whom it may concern:

On behalf of Kestrel, LLC, the owner and developer of the 30-32 Atlantic Street project, we are submitting the attached application and associated materials for review by the Historic Preservation Board and staff for the purpose of issuing a Certificate of Approval for the project to proceed under the Alternative Design Review process and the Munjoy Hill Neighborhood Conservation District overlay zone.

The proposed building is on a vacant site, on as street that has a mixture of 1-1/2 to 3-1/2 story houses (plus a one-story American Legion); there are also a number of 4 to 4-1/2 story residential buildings on nearby streets.

The R-6 Infill Development Design Principles & Standards have shaped this building's design, and as such, the current design takes its inspiration from the classic triple-decker, with a dominant vertical bay on the street elevation, flat roof, brick base below the wood siding, vertically-proportioned windows, a human-scaled entrance porch, and a street facade with more than 80% of living space on the ground floor (100% at upper floors). Garage doors are well-set back from the street view and recessed into the facade. The primary siding is an engineered wood lap siding, with a complementary vertical siding of the same material and same color at selected areas – primarily the central bay.

As you will see, we have chosen to NOT max-out the height of the building, except at the central bay; we found that a consistent 35' roof all across the building width made the building look far too boxy, and therefore reduced both height and width of rooflines. Set back from the street, selective other areas (such as the elevator shaft) are also at the maximum 35', but these elements will be nearly invisible from the street view. Similarly, roof deck, railings and mechanical equipment are all positioned at the lower, main roof elevation and are obscured by the high level roof at the central bay – thus, for all intents and purposed, invisible from the street. The one exception to the under-35’ roofs is the bulkhead for the stair up to the roof, which is approximately 4’-0” above the 35’, but this is set far back from the main façade of the building.

The side yard location on the north side of the building is slightly wider than the minimum 5' setback, but note that this facade is the least fenestrated, both due to the internal plan layouts and to the limitation on window openings when the building wall is less than 10' from the lot line.

Other notable details are the fairly tall fascia trim on the primary roof, to either side of the higher bay. This fascia serves to obscure the roof slope behind, as well as the gutters along the long side walls of the building. A brick base along the front façade, integrated with brick planters in front, reference the traditional masonry bases seen consistently throughout the neighborhood.

And, importantly, the building's design includes numerous sustainable features, including a highly insulated envelope with triple-glazed windows, low VOC materials and finishes, high-efficiency lighting throughout, plentiful daylight, ERVs to provide high levels of filtered outside air, infrastructure to allow for a future photovoltaic array on the roof, and a rain-garden to manage stormwater.

We believe that the proposed multi-family building will be a handsome building in scale with its context and will be a quiet - but genuine - asset to the neighborhood.

DESIGN PRINCIPLES AND STANDARDS

PRINCIPLE A: Overall Context

Atlantic Street is a two-way, 50' wide street that runs between Congress Street at the north and Fore Street at the south end. The proposed project site is on the west side of the street, between Gilberts Lane and Fore Street. The street has a significant downward slope, starting at Congress Street, though the actual proposed project site has a relatively gentle downward slope of approximately 2.5' from north to south.

The project is located on a vacant site that was formerly owned by the neighboring property to the south, #28, and was used as a side yard to that building. As such, it is currently home to grass and some trees, as well as a brick-paved on-grade patio. It is, however, interesting to note that a residential building once stood on the site, with an unknown demolition date. (The buildings on either side, visible in the photograph below, remain to this day.)

32 Atlantic St., circa 1924
source: City of Portland

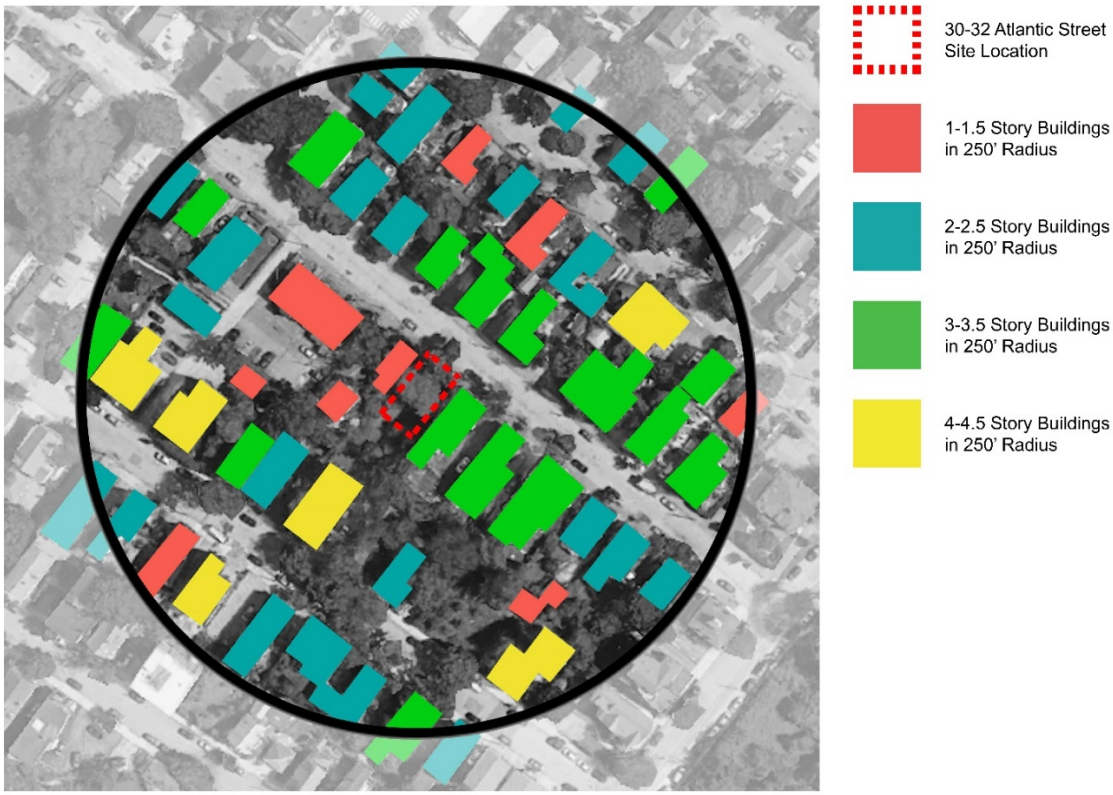
The dominant building disposition context of the area is that the buildings are located along one of the side lot lines, with a driveway along the opposing lot line. Relative to our site at 30-32 Atlantic, #28 to the south has a driveway on the south side of the lot, while #34 to the north has a driveway on the north side of the lot – but the majority of driveways along Atlantic Street are on the south (downhill) side of the lots. An existing curb-cut is already in place on the south side of the 30-32 Atlantic lot. There are very few vacant lots in the area, though there are two other lots on Atlantic Street without buildings.

Other general observations about Atlantic St. and its neighboring parallel streets, St. Lawrence and Munjoy Streets include:

- The west side of Atlantic Street, from Fore to Congress is truly a polyglot of sizes and shapes, from a 1-story ranch (#68) to the bizarre flat-roofed American Legion building (#42), to a wide 3-story Mansard-roofed building sitting on a grassy plinth and deep front yard (#74). The only triple-decker on the west side of Atlantic Street is directly adjacent to the project site (#28).
- The east side of Atlantic Street is more consistent in size, with several 3-story or very tall 2.5 story buildings. One of the more striking buildings on the east side is a very wide, all-brick, 3-story building with a flat roof (#55). Many of the buildings on the east side have entrance porches located along the side of the building – i.e. no doorway along the front façade. There appear to be fewer building with projecting bays on the east side of Atlantic.
- St Lawrence Street, from Fore to Congress, has more large buildings than Atlantic Street, including eight flat-roofed triple deckers, and some very tall 3-story buildings.
- Munjoy Street has some very handsome new multi-families: the 4-story building at #72, as well as the 3-story, very wide #65. This street sems to set a local "precedent' of multi-unit buildings with garages entered from the side of the building, rather than having garage doors within the street facade.

It is hard to say that there is a dominant size of building in the immediate context: there are many of each size ranging from one-an-a-half stories to four+ stories. While the neighboring building adjacent to the proposed building site on the south side is a classic flat-roofed triple-unit 3-story building, the neighbor directly north is a small one-and-a-half gabled roof building. The home directly across the street is a two-and-half story with the first floor raised well above the street, so that the building appears quite tall.

The diagram below shows building sizes within a 250' radius of the site.



It is also very difficult to find consistent building typologies on Atlantic Street and its neighboring parallel streets, St. Lawrence and Munjoy Streets. Buildings vary from simple one-and-half story single-family residences to four-plus story multi-family buildings -- and everything in between. While the majority of the buildings are older, gable-roofed buildings, there are also numerous examples of classic flat-roofed triple deckers, and contemporary interpretations of all sizes. This variety can be seen in the photos below of the immediate context (project site is highlighted in yellow) as well as in Section U.

West side of Atlantic St.

East side of Atlantic St.
(directly across from project site)

However, considering the three streets (Atlantic/St. Lawrence/Munjoy) in the blocks from Fore Street to Congress Street, there are some distinct commonalities:

- Almost every building, of any size, has an exposed brick basement wall, rising roughly 2’ to 4’ above grade, with a change to clapboard or other siding at the elevated first floor height.
- Most buildings are set approximately 2’ to 5’ back from the sidewalk line. Many have narrow-tread stairs rising from the sidewalk line to a shallow stoop at the first floor level, while others have side entrance porches. The space between the front façade and the sidewalk is often planted. Most first floors are elevated – presumably, in part, because of the steep slope of the streets.
- Very few houses have centered entrances – the entrance is usually on one side of the front façade, or around the side of the building. Entrances are usually defined by some kind of porch structure, even if it is very shallow in depth.
- The vast majority of buildings are two-and-a-half stories or higher.
- Facade materials above the brick base are typically painted clapboard, but the exposure width varies. Even newer buildings tend to use horizontal lap siding. Colors run the gamut from white with white window trim, to very dark blue with black window trim.
- If a building has a projecting bay, the bay usually has its own unique roof line. The bay is usually defined by unique trim around the windows and at the cornice of the projecting bay. The windows in the bay are often different from the other windows on the building, and thus there may be two to three sizes of windows on the front façade.
- Almost all windows are vertically proportioned and vary on the front façade from two to three sizes per building.

- Massing and roof forms are typically simple, though most gable roofs have dormers. Gables are generally perpendicular to the street.
- The houses along the corners of Fore Street are almost uniformly larger and grander, and the buildings along the corners at Congress Street are generally more commercial, than the buildings in the blocks in-between.
- The dominant building-site disposition of the area is that the buildings are located along one of the side lot lines, with a driveway along the opposing lot line. No buildings on Atlantic Street have garage doors along the front façade, though there are several free-standing garages recessed to the back and side of the lots.

Standard A-1: Scale and Form- *Height/Massing/Principle Façade Proportion, Roof Shapes, Scale*
The scale, form and proportion of the proposed building all fall within or under the maximum allowed by the prevailing zoning of the site. The building's design is predicated on the three-story flat-roofed "triple decker" typology as the underlying form-giver, with a dominant vertical bay and flat roof, and an entrance oriented to the street. The adjacent building to the south, #28, is also a triple-decker.

Standard A-2: Composition of Principle Façade – *Openings Proportion, Rhythm solids to voids*
There is no single dominant building type or façade in the immediate vicinity of the site, so it is difficult to compare facades, other than some of the unifying characteristics noted above (brick base, shallow setback from the street, asymmetrical entrance, etc.) The proposed building is relatively wide, compared to other buildings nearby, but the three story bay in the middle of the width serves to mitigate the perception of a too-wide building. The vertical bay is just under 50% of the width of the overall façade (16.25':35'), and – like so many of the bays on all building types in the area - has its own unique windows. The brick base wraps around the entire front façade, like almost all others in the area. The bay is closer to the south corner of the façade, in order to create an adequate width for the entrance porch on the north corner. The asymmetrical bay and entrance oriented to one side of the building are typical of buildings in the area. The total area of windows is 24% of the front façade, similar in proportion to many neighboring buildings.

Standard A-3: Relationship to the Street- *Rhythm of Spacing/Structure on Streets/Orientation*
The proposed building is set back from the street by 5.25', in keeping with the small front yards found on adjoining properties and most properties in the area. The front setback is approximately the average distance of the neighboring buildings' setbacks from the sidewall: #28 (4.8') and #36 (5.6'). As an observation, it seems that most neighboring buildings' setbacks are just enough to allow for steps and a shallow stoop to get up to the first floor level, with the remaining interstitial yard used as a planter. As a modern day equivalent, our setback is just enough to accommodate an ADA-compliant ramp from the sidewalk up to the entrance porch, with planters filling the remaining yard between the building and the sidewalk.
Similar to the dominant pattern of the neighborhood, the building is closer to one lot line, in order to provide a driveway along the other side. As with a great many buildings on Atlantic Avenue, this driveway is on the "downhill' side.

PRINCIPLE B: Massing

Standard B-1: Massing- *Bulk/Size/Volume/Scale/Shape*
As noted above, the "inspiration" for this building is the ubiquitous triple-decker. However, it must be said that this typology – while common and "beloved" - is one of Portland's homeliest building types. Reminiscent of a shoebox turned on its side, the flat-topped buildings are usually relieved only by the front bays and perhaps a jog or two on one of the two long building facades. To that end, this project seeks to create a livelier and more appealing version in its roofline and form, by

letting its vertical bay pop up above the main roof form – thus breaking up the mass both vertically and horizontally. The higher bay rises to a few inches under the maximum allowable height of 35' and serves to hide from view the mechanical equipment and roof terrace railings behind. The lower primary roof, at just over 30', is well under the maximum allowable height – thus reducing the overall scale of the building in relation to its neighbors. The resultant primary roof is actually lower than the neighboring 3 story building, and – while it is much higher than the building to the north, is 15% lower than lower than what is allowed by zoning.

The cladding on the center bay is vertical, in contrast the horizontal siding elsewhere; again, this appears to reduce the width of the building, while also creating a unique treatment at the bay, taking cues from the unique decorative treatment that is often given to bays on historic buildings of all types.

As is typical with the triple decker typology, the building is the maximum length allowed by zoning, and therefore has long north and south facades. The south and west facades are relieved by a covered terrace on the second floor and full-width terrace on the third floor, again, referential to the typical rear decks or balconies of the classic triple deckers. The south massing is further diminished by the recessed garage bays at the first floor level.

Standard B-2: Roof Forms
As is common with 3 story, multi-unit building in Munjoy Hill and throughout Portland, the roof is for all intents and purposes flat. (For drainage purposes, it actually crowns along the center east-west axis and pitches to north and south by ¼" per foot to gutters on the north and south facades). Because of the slight pitch, the cornice trim on the east façade is quite tall in order to present to the street a uniform cornice height, with built-up trim providing depth and shadow lines to the cornice. The upper roof - also flat - at the top of the bay has a similar cornice trim, though the cornice trim's height in this location clearly marks this roof as the secondary roof-form. The roof of the recessed entrance porch has a protruding cornice, similar to the upper cornices.

Standard B-3: Main Roofs & Subsidiary Roofs
See Standard B-2 above.

Standard B-4: Roof Pitch
See Standard B-2 above.

Standard B-5: Façade Articulation
The façade offers a fresh version of many of the enlivening features of buildings in the area; the bay is asymmetrically set along the width of the building, but has a symmetrical treatment within itself, similar to bays throughout the area. The bay serves to break down the scale of the building, with a better relationship to its north neighbor, #36. The clearly-articulated entrance provides an inviting sheltered transition space into the building entrance. While the siding is intended to all be the same color, the change in orientation clearly marks that the bay is a "special' part of the building.

Standard B-6: Garages
Much of the recent outcry about Munjoy Hill's "modern building boom" was focused on the newer buildings' incorporation of dominating street-facing garage doors at the expense of inviting living spaces along the streetscape. Having always hated the gaping maw of garage doors in urban and suburban architecture, it did not take regulations to determine that the garage doors were not going to sully this street façade! The gently zig-zagging south façade, recessed under the second floor at the rear half of the building, provides space for the five individual garage doors. Though seen obliquely from the street, this creates an inviting, small-scaled passage to multiple parking spaces. The resultant front façade, including the entrance porch, is thus 100% living- and people-space.

PRINCIPLE C: Orientation to the Street

Standard C-1: Entrances
The proposed design includes an inviting recessed entrance porch with a decorative cornice around the projecting roof, wood floor, and sconce light. The orientation of the entrance is along one side of the house, as is typical. While the typical first floor in this neighborhood is at least a few feet above grade, the first floor entrance to this building is just a few inches above grade, in order to provide an ADA-compliant transition from the sidewalk to the entrance door, as well as an ADA-compliant entrance from the garage interior to the building. As such, it is not consistent with the context, but on the other hand, this avoids visually-discordant lifts or ramps. The framing of the porch, with its corner column and projecting cornice does reference local details.

Standard C-2: Visual Privacy
Given the first floor elevation at just a few inches above average grade and an 8'-0" ceiling height at the first floor, the first floor window sills are approximately 42" above grade. Any higher sill height would make the first floor apartment unpleasant. The planter in front of all windows in the first floor apartment create a buffer that will prevent people from getting too close and peering into windows, and the apartment interior includes "public" living spaces (i.e. not bedrooms or bathroom). The building owner will provide window treatment to provide further privacy.

Standard C-3: Transition Spaces
As described above, the recessed entrance porch provides a transition space between the brick-paved entrance path and building entrance, as does the planter between the building and the sidewalk. Planting will be symmetrical about the bay, with taller plants in front of windows to either side of the bay.

PRINCIPLE D: Proportion & Scale

Standard D-1: Windows
In keeping with the local vernacular, all windows are vertically proportioned. With the exception of the windows on the front bay, all of the other windows on the front façade, and in the majority of the south façade are 30" wide x 48" high windows. The front bay assembles three vertical windows as a single unit and central feature window at the center of the bay at each floor, with a common width; the height changes from 4'-6" at the first floor to 5'-6" at the 2nd floor, to 6'-6" at the third floor, reflective of the increasing ceiling heights within. The same window sizes occur on the other facades – that is, the 30"x48" windows with the tripe-unit windows (all 5'-6"high) occurring at the living spaces. Fundamentally, there are the two major window types: the single vertical unit and the triple-unit. All windows (and exterior sliders at the rear terraces) are Bruegmann bluEvolution 82 MD triple-glazed, high performance, tilt-turn UPVC windows.

Standard D-2: Fenestration
The percentages of window & door areas relative to each façade are the following:
East (main street façade): 24%
South: 25%
West: 28%
North: 7%. *Note: this façade is 5.6 feet from the lot line, and the spaces behind this wall are generally circulation, fire stair and other non-primary spaces – thus the decision and/or requirement to limit windows on this façade.*

Standard D-3: Porches
The entrance porch is intended as a transition space, not a "resting space"; its dimensions are 5.3' wide x 6.6' deep, with a total area of 35 SF. It is not required for open space calculations and is intended to reflect the characteristic provision of the "get- out-of-the-rain-and-get-your-keys-out" space just in front of the entrance doors, similar to entrance stoops nearby.

PRINCIPLE E: Balance

Standard E-1: Window & Door Height
On the east, primary façade, there are two clear window patterns. The smaller, single windows all align vertically, while the taller windows at the center of the bay have a higher head height. This rhythm of alignments is consistent on all three floors. Similarly, on the south facades, all of the single windows are vertically aligned, while the "special" triple units are taller and higher. At the west façade, all windows have a uniform height across the façade, though the sliders onto the

terraces at the recessed walls have a lower head height for structural reasons. On the north wall, all windows are the same height and have uniform head heights across all floors.

Standard E-2: Window & Door Alignment
Windows and/or doors are stacked for vertical alignment throughout.

Standard E-3: Symmetricity
The center bay, though not symmetrically located in the width of the façade, is clearly the central visual element of the east façade, and all windows are clearly centered in this bay. It would be reasonable to say that the facade has an A-B-AA rhythm, as do other buildings in the neighborhood.

PRINCIPLE F: Articulation

Standard F-1: Articulation
The primary articulation of the public, street-facing façade is the three-story bay, which is directly reminiscent of the articulated bay of triple-deckers. As with that typology, the windows on the bay are vertically proportioned, but slightly different than the windows on the flat façade to either side. The bay is formed with perpendicular sides, rather than angled, for a more contemporary interpretation of the bay, and siding is run vertically for further emphasis on the 'special-ness' of this section. Finally, this bay crowns at a higher level than the primary roof height, to provide interest at the skyline and to reduce the perceived width of the overall building.
The higher bay serves to conceal roof terraces and mechanical equipment set far back from the front façade, though the roof terrace trees will provide a lovely green skyline, when seen from a distance.
Cornices at the top of all roof lines along the front façade, and including the first floor level entrance porch, are articulated similarly, though will be dimensionally different for their respective scales.
A brick base, up to approximately 2.5' above grade, wraps the front facade below the siding, giving a solid base to the building.

Standard F-2: Window Types
Windows are fundamentally two types: a single vertical unit of consistent size, and a triple unit comprised of three equal-width sashes. On the front facade, the height of the triple units varies with the floor level, relating to interior ceiling heights, but the width remains constant. A 3" wide flat trim cases all around all windows.

Standard F-3: Visual Cohesion
The building materials are very simple: engineered wood lap siding run horizontally; vertical siding *in the same color* at the front bay and at rooftop bulkheads which rise above the primary roof level; a dark brick base below the siding along the front façade. A similarly-colored dark masonry will be used at the set-back wall of the garage doors at the south elevation. The siding is intended to be a mid-intensity color, with dark window and door frames as seen below.

Standard F-4: Delineation between Floors
Window heads, aligned across all facades, clearly indicate the delineation of floors. A horizontal trim is added at the vertical siding on the bay, directly above the window heads. This serves two purposes: to delineate the top of each floor, as well as to conceal the horizontal joint in siding panel heights.

Standard F-5: Porches
As described above, the entrance porch is seen as a transitional space and version of the neighborhood entrance stoop, as opposed to an outdoor living space. It is tucked in under the second floor, within the mass of the building. The side wall is solid and clad in the same wood siding as elsewhere, for a "quiet' enclosure without introducing a new material at such a small area. A square wooden column anchors the open corner of the porch.

Standard F-6: Main Entries
The main entrance, located within the entrance porch, is oriented to the street and is a clear part of the front façade. The entry sequence is domestic in scale, with a full glass door and sconce-lit porch providing a welcoming entrance in the day or night.

Standard F-6: Articulation
All eaves project over the building façade by a minimum of 6". The cornice trim on the east, primary façade serves to obscure the gutters and wraps around both corners of the building until the gutters begin. The cornice trim on the upper bay roof wraps around and continues for the full length of the bay roof. Cornices on the rear bulkheads and west faced are simpler, flat trim details and follow the slight pitch of the roof-lines.
As noted above, the proposed trim is a flat stock 3" all around the window and door openings, which is in proper scale with the openings and overall building.

PRINCIPLE G: Materials

Standard G-1: Materials
Consistent with the majority of buildings in the neighborhood context, the primary siding for the project is painted horizontal lap siding. The proposed material is LP SmartSiding, with a horizontal lap at the majority of the building, and a vertical board & batten treatment at the central bay and at the bulkhead walls above the primary roof. All siding will be in the same color. The horizontal siding will have an exposure of 6.84". The battens on the vertical siding will be centered every 8", using 1.5" wide battens, so the exposure between battens is 6.5".

Standard G-2: Material & façade design
The layering of materials on the building facades is conventional, with a masonry base (brick at the front façade, concrete foundation walls, elsewhere), with wood siding above.

Standard G-3: Chimneys
Not applicable.

Standard G-4: Window Types
There are fundamentally two window types: the single unit and the triple unit. The triple units are higher than the single units, consistently, and there is a small height difference at each floor at the triple units. Reference Standards E-1 and F-1 above.

Standard G-5: Patios & Plazas
Not applicable.

P. Utilities

The project will include the installation of multiple utility services to the proposed residential building. There are no existing utilities located on the proposed site per Boundary & Topographic Survey prepared by Owen Haskell, Inc. apart from the infringing gas services located on the east and west property boundaries. See Sheet C-20 for additional Information.

Water:

A proposed 6" parent connection will tie into the existing 6" cast iron water main and will branch off to provide a 6" sprinkler and 1.5" domestic service connection to the proposed development. These services will have an associated 6" gate valve and a 1.5" curb stop.

Sewer:

The proposed 6" sewer lateral is anticipated to accept the wastewater within the internal parking area and elevator sump, after draining from an oil water separator. The proposed service will tie into an existing combined sewer main within Atlantic Street.

Stormwater:

The proposed stormwater drainage plan includes floor drains, a field inlet, foundation drain and a high-performance rain garden. The rain garden will capture the runoff from the roof drain providing attenuation and treatment. The remaining stormwater will be caught by the proposed floor drains, catch basins, and field inlet. The stormwater will tie into the existing combined sewer main within Atlantic Street.

UGE/T/C:

Features surrounding the site include overhead wires connecting to an existing utility pole located on the Atlantic Street frontage of the proposed property. This pole is proposed to be relocated, remaining along the same frontage to accommodate safe site access. The proposed services are to be routed underground from the relocated utility pole.

Gas:

It is proposed to install a gas service off the existing main within Atlantic Street to service the proposed building.

Ability to serve letters were sent out to the respective utility companies on June 21, 2021, in accordance with the City of Portland Code of Ordinances. Responses from the utility companies can be found attached to this section.

Q. Construction Management Plan

Project Address: 30-32 Atlantic Street, Portland, ME

Project Description:

The proposed project includes the development of a 3-story building with four units of residential housing and on-site parking.

Project Team Summary:

Owner:	Kestrel LLC
General Contractor:	TBD
Civil Engineer:	Acorn Engineering, Inc.
Architect:	Lauren Reiter
Structural Engineer:	TBD

The Owner/GC and all subcontractors will work with the City of Portland and adjacent landowners to minimize potential 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 Ordinances, 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 pre-construction 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. Prior to scheduling a preconstruction meeting and issuance of permits all requirements from the following sections are to conform; Section 1.5 Enforcement, Section 14.5 Review Procedures, Section 14.11 Post-Approval Procedures, and 14.14 Amendments.

1. Street Opening and Street Occupancy Permits:

   Required permits regarding street opening and occupancy will be obtained from the Department of Public Works. The requests shall conform to the approved Construction Management Plan.

2. Blasting:

   Although not anticipated, if blasting occurs, it shall conform to Article VIII. In Chapter 14 of the City Code and Section 3.7 in the City's Technical Manual.

3. Building Code:

   Employ the best practices, as applicable, of Chapter 33 Safeguards During Construction, from the 2009 International Building Code.

D. Construction Administration and Communication

The Contractor will work closely with adjacent abutters, businesses, and all parties informed, as far in advance as possible, of scheduled work, particularly work anticipated to cause significant noise, vibrations, or dust. Communication in order to comply with all agreements, ordinances, and special permits will be of the utmost importance. Contractor contact information shall be posted on a sign on the construction fence along the Atlantic Street frontage. Additional signage necessary for communication shall be provided but will be temporary and removed upon completion of the project.
The contact information for the project personnel is:

Lauren Reiter
Cornerstone Building & Restoration
(917) 502-2225

GC and Subcontractor information will be posted along the Atlantic Street frontage once contracted.

E. Construction Schedule

The GC shall submit a construction timeline at or prior to the pre-construction meeting. Construction may occur during the daytime hours as defined in Section 17-18 of the Construction Activities for Building permit and City Code Section 25-129, Noise, dust, and debris. Between September 1st and May 31st, 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 1st to August 31st, construction activity may continue until 8 pm. No construction activity shall begin

before 8 am on a Saturday, Sunday, or legal holiday. Extended hours or night work may be requested for special circumstances and street utility work if needed. These requests will be subject to approval by the Public Works Authority.

Due to the limited space within the project parcel, deliveries will need to be stored in an alternate location, or deliveries must be small enough to fit within the property. Deliveries will be scheduled between 7 am and 5 pm.

The estimated timeframe of the proposed project is outlined below:

Project Start Date:	Spring 2022
Project End Date:	Fall 2022

A more detailed work schedule shall be provided by the GC at or before the pre-construction meeting with the City.

F. Security

1. The Construction Management Plan, Sheet C-03, depicts all proposed fencing and other barriers, with the intent of separating pedestrian and vehicle circulation from the construction site. Construction entrances per detail shall be installed.

2. Structures undergoing construction, alteration, or demolition operations, including those in underground locations, shall comply with NFPA 1 Chapter 16. *Safeguarding Construction, Alteration, and Demolition Operations*.

3. Fire Safety Program: Prior to construction, an overall construction and demolition fire safety program shall be developed. Essential items to be emphasized include the following:
    - Good Housekeeping
    - On-site security
    - Installation of new fire protection systems as construction progresses
    - Preservation of existing systems during demolition
    - Organization and training of an on-site fire brigade
    - Development of a pre-fire plan with the local fire department
    - Rapid communication
    - Consideration of special hazards resulting from previous occupancies
    - Protection of existing structures and equipment from exposure fires resulting from construction, alteration, and demolition operations.

4. Blasting, if required, shall conform with all measures of Article VIII. Regulation of Explosives in the Land Use Code and Section 3.7 Standards for Blasting and Regulation of Explosives in Portland's Technical Manual.

5. Temporary security lighting shall be shown on the Construction Management Plan, and all fixtures shall be full cutoffs.

G. Construction Permitting and Traffic Control Plans

1. Construction Activity in Public Streets

Construction activity in the public right-of-way shall be compliant with Chapter 25 Article VII of the City Code. At no time will it be permissible for construction activity, including delivery vehicle to close or block streets or affect public safety access without prior notice and approval of the Department of Public Works.

2. Sewer and Stormwater

Sewer and stormwater system connections are controlled by Chapters 24 and 32 of the City Code of Ordinance. Required permits for new connections and/or abandonment of existing connections are available through the Street Opening Clerk at the Department of Public Works. Rules and Regulations for these utility systems are available through the City Engineer's office of the Department of Public Works and in Section II of the Technical Manual. This will apply to the new connections within Atlantic Street.

3. Traffic Control Plans

Construction activity that impacts the existing public street system must be controlled to protect the safety of the construction workers and all modes of the traveling public. The Contractor shall submit a satisfactory "Maintenance of Traffic" (MOT) plan prior to any street opening permit approval. This document shall contain all pertinent information from the Maine Department of Transportation's Traffic Control Plan Standard Specification 652.3.3.

The MOT will address the work required for utility connections in Atlantic 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 Atlantic 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.

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

H. Site Management and Controls

1. Regular trash and debris shall be managed appropriately, and its removal shall comply with all local, state, and federal regulations.

2. Street cleaning and sweeping shall be followed as outlined in the erosion and sedimentation control notes and report. Damage to the street shall be avoided and shall be the responsibility of the Contractor.

3. Dust shall be controlled and shall comply with Section 25-129 and the erosion and sedimentation control notes, plan, and details.

4. Noise shall be controlled and shall comply with Section 17-18 and Section 25-129.

5. Rodent Control shall be provided, if applicable, by a professional exterminator and shall be consistent with Chapter 22 of the City Code.

6. Snow and Ice Removal shall be provided. Pursuant to Section 25-173, the Contractor shall ensure a safe means of travel within the work zone by the following steps:

    a. Snow/ice removal or commence automatically from 1" or greater of snow or ice
    b. Remove snow as needed within the work zone, including parking spaces. Driveways and site lines shall not be blocked by piles of snow.
    c. Clear all walks and ramps within the work zone
    d. Sand or salt as needed
    e. Clear all basin or drainage to help snow melt
    f. The above steps shall be carried out Sunday-Saturday including holidays.

I. Erosion & Sedimentation Control

1. The Contractor shall install all erosion and sedimentation controls as depicted on the approved Construction Management Plan, C-03, and the approved erosion and sedimentation control report, prior to the pre-construction meeting for inspection by the City. The Contractor shall regularly inspect the control measures, no less than weekly and after storm events (0.5" or more in 24 hours). Additionally, temporary or permanent stormwater management systems shall be inspected and maintained to ensure working order. The Contractor shall document all inspection activities and corrective actions and be prepared to

provide these documents for inspection by the City, Maine Department of Environmental Protection (MDEP) or the U.S. Environmental Protection Agency (EPA) upon request.

2. Due to the existing sparse landscaping on site, no protection during construction will be necessary.

3. Stored materials shall be identified and avoid being located under/near trees.

J. Construction Staging Area

1. The Contractor shall submit a plan with locations depicted for the location of material staging areas, the location of on-site temporary construction trailers, the location of on-site truck delivery holding areas, the location of on-site truck washing stations, masonry mixing stations, the general location of the construction security fence and the general location of temporary construction dumpsters. This plan shall be submitted at or prior to the pre-construction meeting. Any open storage areas shall be shown on the plan.

2. Delivery Truck Holding Areas On-Site: The majority of materials delivered to the site will be scheduled such that they are able to be off-loaded immediately. On days when the construction activities require multiple truck deliveries, these deliveries will be carefully scheduled so that there is always adequate on-site area for the holding of trucks until they can be unloaded. Once at the site, all vehicles will be brought within the fence line and will make every attempt to avoid queuing on public streets. If, for any reason, on-site holding of trucks is not feasible, an off-site location must be designated and shown on the submitted plan referenced above in J.1.

3. All deliveries for materials shall comply with the City's noise requirements.

K. Parking During Construction

1. Adequate parking for construction workers shall be provided along Atlantic Street or arrangements for off-street parking at an off-site location shall be provided.

2. Truck Routes and Volumes: The following quantities are estimated as part of the reconstruction:

    - Gravel & Stone – 155 CY. Earthwork subcontractor(s) pit to project site.
    - Hot Mix Asphalt – 51 tons. Paving subcontractor(s) pit to project site.

L. Special Measures as Necessary

No special measures are necessary for the proposed reconstruction.

S. Solid Waste Disposal

The property management company or Owner shall be responsible for locating the solid waste and recyclable material to the space allocated for solid waste storage.

The solid waste containers will be enclosed and screened from the public view. A private hauler will be contracted with for removal.

T. Parking Analysis

Per Land Use Code Section 19 Off Street Parking Table 19-A: Off Street Parking Minimums for Single, Two, or Multifamily units: 1 space is required per dwelling unit. Additionally, Table 19-B Categorical Vehicular Exceptions to Off-Street Parking Minimums Zone R6: No off-street parking required for first three dwelling units. See calculation below for required off street parking for the proposed 4-unit structure proposed at 30 Atlantic Street.

Required Off Street Parking = 4 units at 1 space per unit – first three units = (4 spaces – 3 spaces) = 1 Off street parking spaces required.

Proposed Parking = 3 Off street parking spaces

SECTION U: PHOTOGRPAHIC DOCUMENTATION of NEIGHBORHOOD

May 15, 2021

Please see the attached photographs and other documents describing the neighborhood context and nearby examples of three- and four-story buildings – both historic and contemporary.

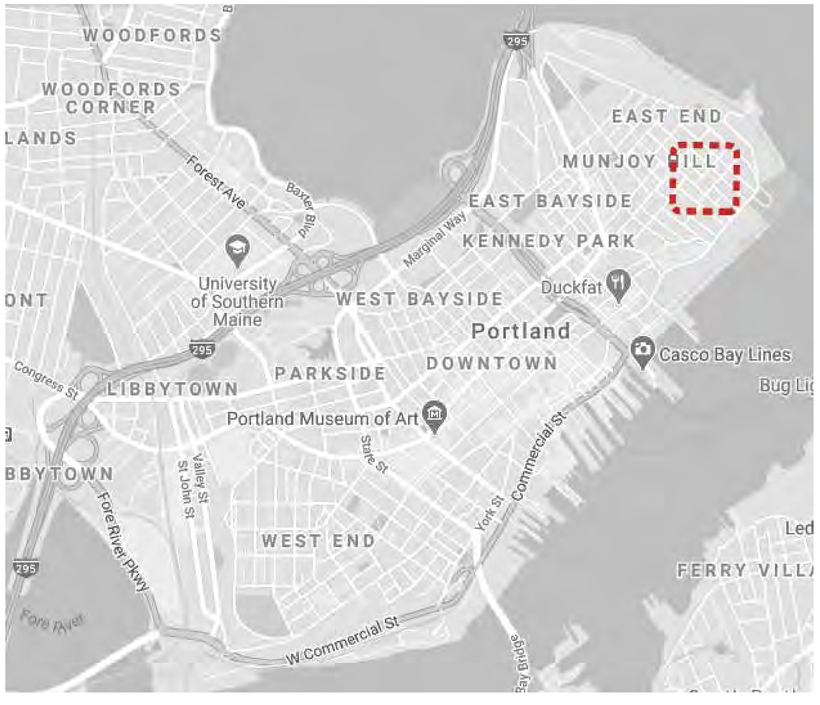
Included in this section are renderings of the proposed building, shown in context with the existing neighbors.

30-32 Atlantic Street

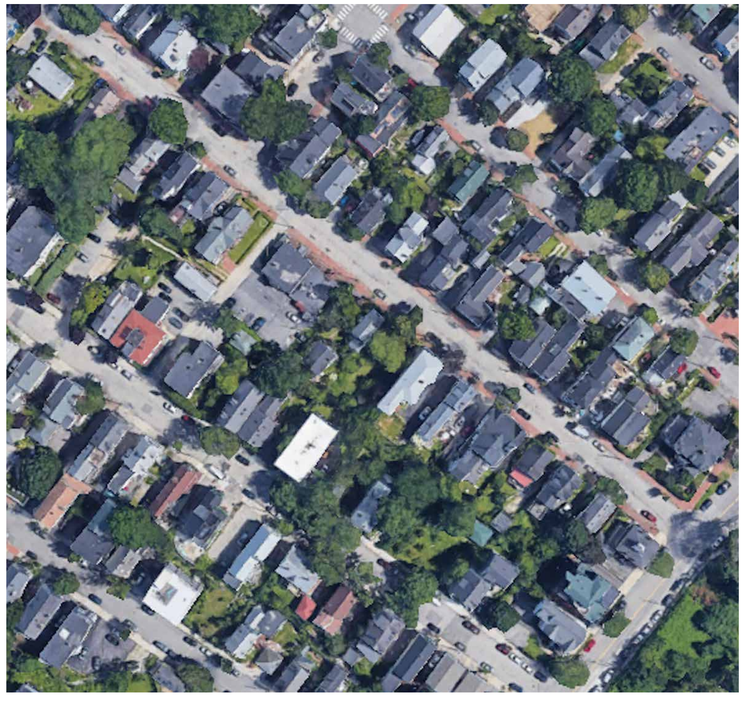
Lauren J. Reiter Architect / Cornerstone Building and Restoration

05/15/2021

30-32 Atlantic Street Project Site Context



Map of Portland with Site Neighborhood Highlighted



Atlantic Street and Surrounding Blocks

Site with Superimposed 250’ Radius

Atlantic Street (East Side)

← Congress Street

Fore Street →

Atlantic Street (West Side)

← Fore Street

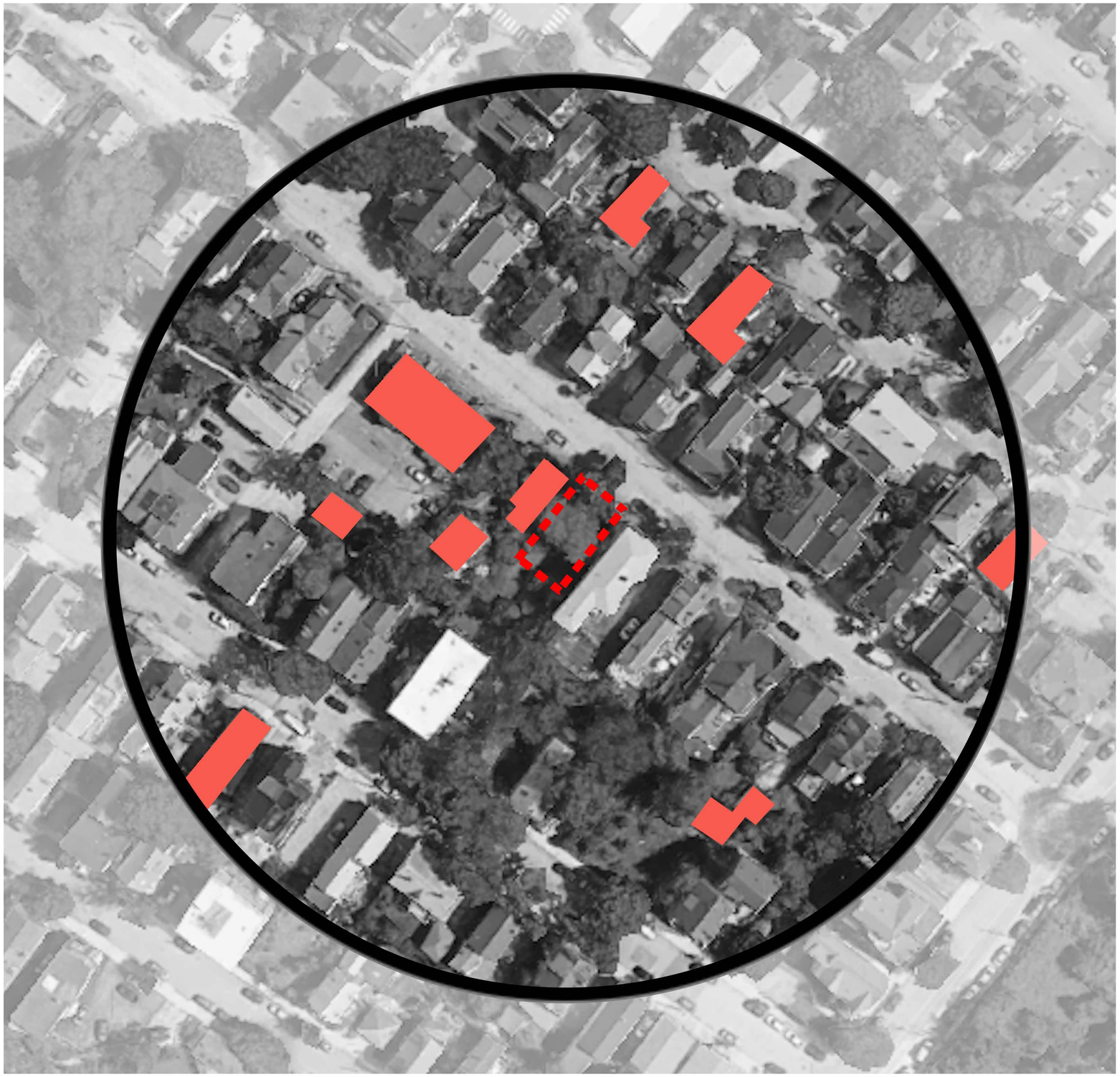
Congress Street →

Atlantic Street “Zoomed In” Elevations

30-32 Atlantic Street and Immediately Surrounding Buildings (Looking West)

View Across the Street from 30-32 Atlantic Street (Looking East)

Relative Heights of Surrounding Buildings



30-32 Atlantic Street
Site Location

1-1.5 Story Buildings
in 250’ Radius

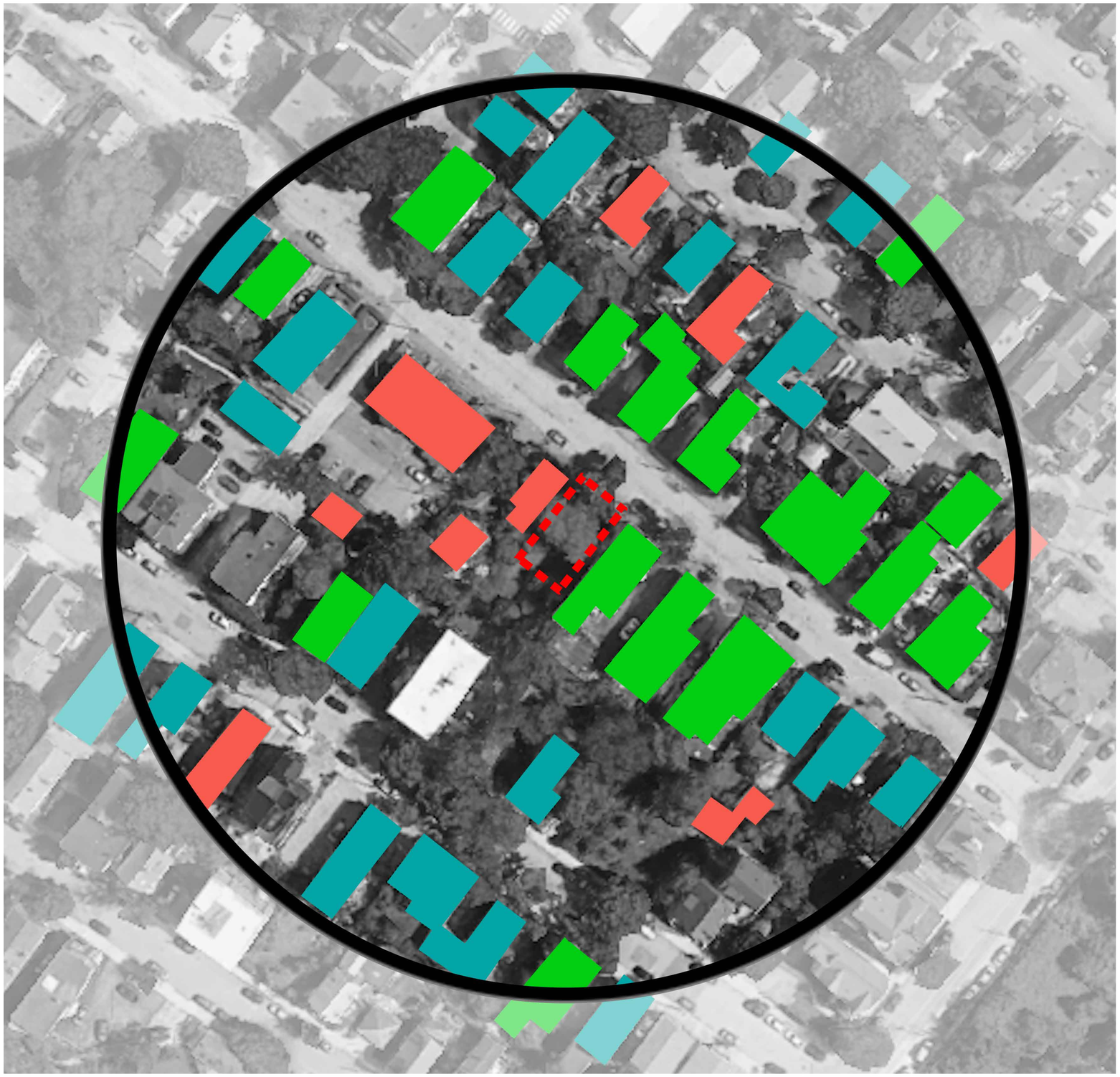
Relative Heights of Surrounding Buildings

30-32 Atlantic Street
Site Location

1-1.5 Story Buildings
in 250’ Radius

2-2.5 Story Buildings
in 250’ Radius

Relative Heights of Surrounding Buildings



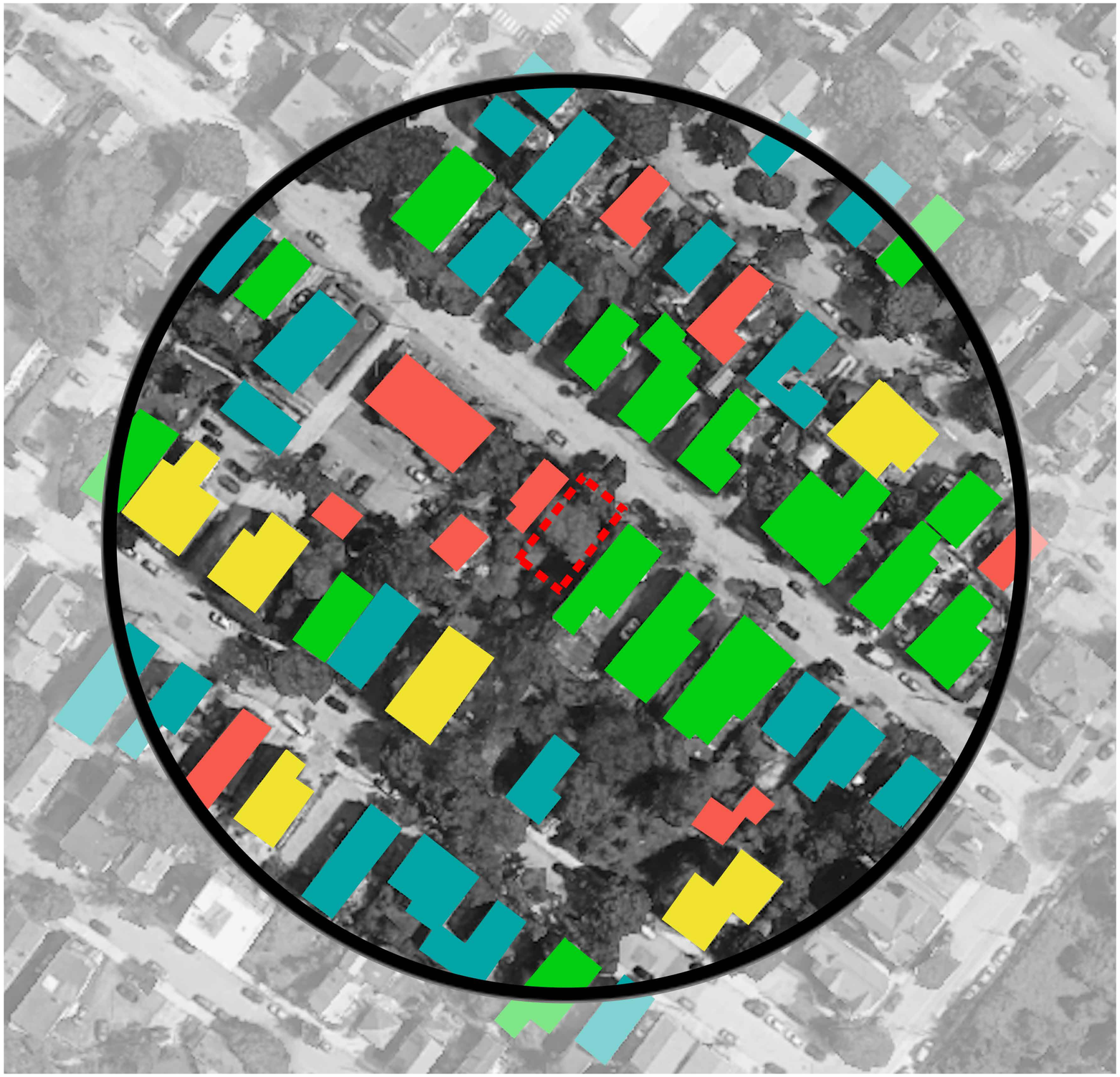
30-32 Atlantic Street
Site Location

1-1.5 Story Buildings
in 250’ Radius

2-2.5 Story Buildings
in 250’ Radius

3-3.5 Story Buildings
in 250’ Radius

Relative Heights of Surrounding Buildings



30-32 Atlantic Street
Site Location

1-1.5 Story Buildings
in 250’ Radius

2-2.5 Story Buildings
in 250’ Radius

3-3.5 Story Buildings
in 250’ Radius

4-4.5 Story Buildings
in 250’ Radius

Context: 3 Story Buildings Near Project

1. 65 Munjoy Street

2. 91-93 Atlantic Street

3. 60 Munjoy Street

4. 22 O'Brion Street

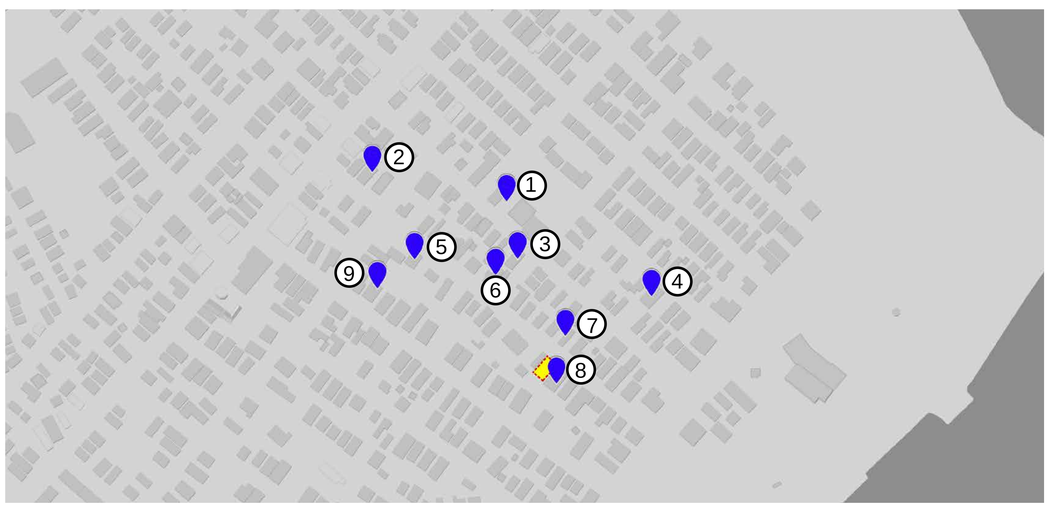
5. 74 Atlantic Street

6. 55 Atlantic Street

7. 29 Atlantic Street

8. 28 Atlantic Street

9. 77 St. Lawrence Street



Relative Locations to 30-32 Atlantic Street

Context: 4 Story Buildings Near Project Site

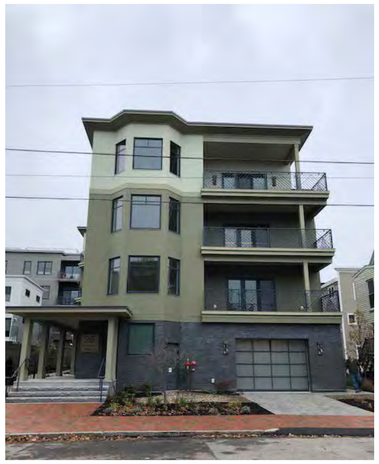
1. 9 Moody Street

2. 56 Wilson Street

3. 72 Munjoy Street

4. 60 Munjoy Street

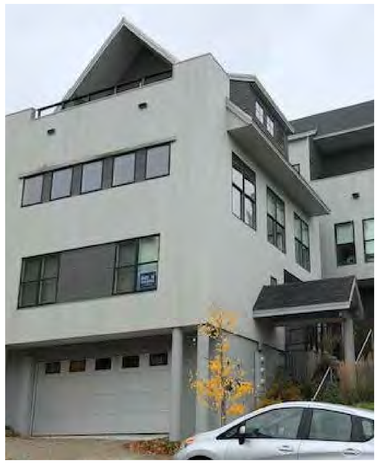
5. 18-20 Munjoy Street



6. 25 Monument Street

7. 65 Waterville Street

8. 29 St. Lawrence Street



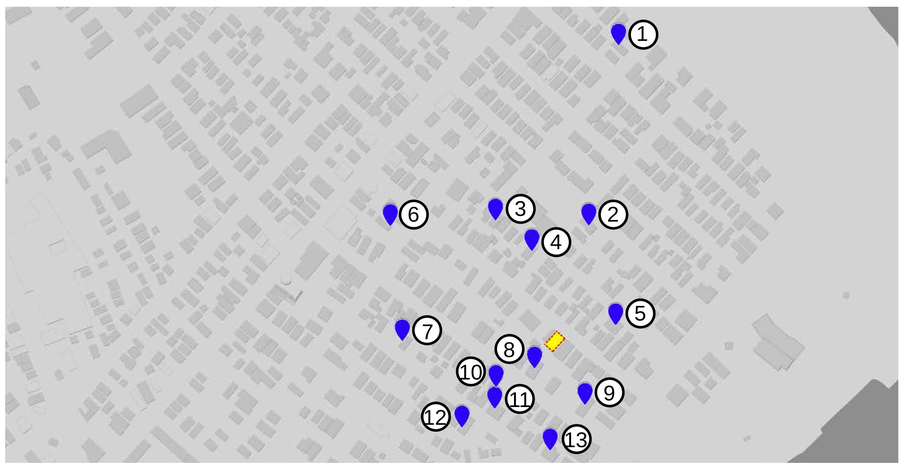
9. St. Lawrence Street

10. 32 St. Lawrence Street

11. 29 Waterville Street

12. 36 Waterville Street

13. 9 Waterville Street



Relative Locations to 30-32 Atlantic Street

30-32 Atlantic Street Site

Existing Site (Open Lot 30-32)

1928 Photo of 28 Atlantic Street

Proposed Infill on 30-32

1924 Photo of 30-32 Atlantic Street (Demolished)

28-36 Atlantic Street 3D Render

30-32 Atlantic Street

Lauren J. Reiter Architect / Cornerstone Building & Restoration

ACORN ENGINEERING, INC.

Planning Division
City of Portland, Maine
389 Congress Street, 4th Floor
Portland, ME 04101

October 6, 2021

Subject: 30-32 Atlantic Street Development

I, Samuel Lebel, hereby certify that a neighborhood meeting was held on October 5, 2021, remote via Zoom at 5:30 pm.

I also certify that on September 24, 2021, invitations were mailed to the following:

1. All addresses on the mailing list provided by the Planning Division which includes property owners within 500 feet of the proposed development.

2. Residents on the "interested parties" list.

Sincerely,

Sam Lebel

Samuel Lebel, P.E.
Project Manager
Acorn Engineering, Inc.

Included with this certification are:

1. Copy of the invitation sent
2. Sign-in sheet
3. Meeting minutes

A C O R N

ENGINEERING, INC.

Dear Neighbor: September 24, 2021

On behalf of Cornerstone Building & Restoration, we are pleased to invite you to a virtual neighborhood meeting to discuss a proposed Major Site Plan/Subdivision Application related to the property located at 30 Atlantic Street. The project proposes to construct a 3-story, 4-unit residential building on a 0.12-acre infill lot which is currently vacant. There will be three covered parking spaces and interior bike storage, with improvements to the sidewalk along the project frontage.

Meeting Location: As a safety measure, this meeting will **be held remotely via Zoom**, consistent with the City's Planning Board protocol. **Please email office@acorn–engineering.com to request a link or phone number to join the meeting.** You may also call the office line (listed below) to request this information.

Meeting Date/Time: Tuesday, October 5, 2021, at 5:30 p.m.

The City code requires that property owners within 500 feet of the proposed development and residents on an "interested parties list" be invited to participate in a neighborhood meeting. Both the sign-in sheet and recorded meeting minutes will be submitted to the Planning Board. If you have any questions, please do not hesitate to call the office at (207) 775–2655. We look forward to seeing you at the meeting.

Sincerely,

Samuel J. Lebel, P.E.
Acorn Engineering, Inc.

Lauren J. Reiter, R.A.
Project Architect

Sign In Sheet

10/5/2021
30-32 Atlantic Street Portland, ME 04101

Members of the Public in Attendance:

NAME	E-MAIL
1. Ali Mann	alimann@gmail.com
2. Joe Lewis	joe@portcitylegal.com
3. Maryellen Sullivan	Maryellen@portcitylegal.com
4. Jackie Mann	jackiemann5@gmail.com
5. Bernard Moor-Jankowski	

Developer and Consultant Team in Attendance:

NAME	E-MAIL
1. Sam Lebel	slebel@acorn-engineering.com
2. Zachary Stevens	zstevens@acorn-engineering.com
3. Lauren Reiter	lreiter@cornerstonebr.com
4. Kent Parson	waspstar@comcast.net

30-32 Atlantic Street
Major Site Plan Submission

Neighborhood Meeting Minutes

October 5, 2021 / 5:30 pm
Remote meeting via Zoom

Project Team Attendees:

Sam Lebel (SL): Civil Engineer/Presenter (Acorn Engineering)

Zachary Stevens (ZS): Civil Engineer/Note Taker (Acorn Engineering)

Lauren Reiter (LR): Architect/Presenter (Cornerstone Building & Restoration)

Kent Parson (KP): Owner/Applicant (Kestrel LLC)

Meeting started at approximately 5:30 pm.

Presentation:

Kent Parson:
- Introduction and Background of himself
- Looking forward to becoming part of the community.

Sam Lebel:
- Project manager/civil engineer
- Introduction of project and project team
- Meeting about site plan review
- This meeting is part of the planning board approval process, a sign in sheet is available for everyone which will become public record along with the meeting minutes.
- Overview of site in relation to neighborhood
- Site is currently vacant
- Proposed use is a 3-story, 4-unit building.
- Site layout follows local pattern with the driveway building layout in regard to abutting properties.

- Includes covered parking for 3 parking spaces that are hidden from the street. The parking includes an ADA parking space.
- Access from public sidewalk with landscaped front yard
    - Additional landscape area on north and rear sides of structure meets the city's requirement of landscape area
- Located in the R6 zoning district
- The proposed rain garden will provide water quality treatment for the site and discharge into the municipal system with Atlantic Street.
- Field inlets will also be utilized to collect the site's stormwater, and route it to the municipal system within Atlantic Street.
- Overview of proposed utilities.

Lauren Reiter:

- Project architect
- Neighborhood Study
    - Including review of building sizes in the vicinity to show scale relationship to proposed building.
- Overview of floor plans and layout and different uses
    - First floor covered parking, with 3 parking spaces which includes ADA parking space. First floor includes one two-bedroom apartment unit.
    - Second floor – consists of two two-bedroom apartments
    - Third Floor – consists of one three-bedroom unit (for owner to live).
    - Roof Plan – multiple roof/bay heights – all under the maximum height of 35' except for the proposed roof access which is slightly above the 35' height
- Building is ADA accessible throughout, including the front entrance
- Overview of elevations
- Rendering of proposed building in relation to adjacent buildings.

Sam Lebel:

- Development presentation concluded and public comment process will start.

<u>Comments, Questions & Answers:</u>

Please note that the following questions and answers were not recorded verbatim and aim to represent and summarize the actual questions, answers, and discussion that took place at the meeting.

Ali Mann: What will happen to the existing street tree on the proposed project's frontage?

- **Sam**: The street tree is proposed to be removed and replaced as a part of this project

Jackie Mann: Can you clarify the location of the replacement street tree?

- **Sam**: The street tree is proposed to be located a few feet to the north of the existing tree, we are looking at replacing with a Regal Oak.

Jackie Mann: What is the scale of the proposed tree?
- **Sam**: The caliper would be 2 or 2.5" . It is assumed to be roughly 15' tall when planted.

Joe Lewis: Will the client do any form of mitigation to Atlantic Street in an act of good will for the street to compensate the removal of the tree?
- **Lauren**: As a part of this project there will be a landscaped area including a garden with a brick base along the front façade of the site.
- **Kent**: I'll be giving this some thought, I don't live in the community currently and I'm not sure of its needs. Thank you for bringing this up.
- **Sam**: As part of this project, we are required to contribute to the Street Tree Fund, it's possible those funds could be used within the project vicinity.

Jackie Mann: Could we get an arborist to assess the tree to possibly save the existing tree?
- **Sam**: We can look into this. There are a few factors as a part of construction that will be challenging such as the tree root system conflicting with the proposed utilities and the ADA sidewalk requirement.

Bernard Moor-Jankowski: We are not happy with the proposed replacement tree.
- **Kent**: We will investigate hiring an arborist.

Ali Mann: Will these units be apartments or condos?
- **Lauren**: That is to be determined. Construction cost may be a factor in determining the answer to this question.

Bernard Moor-Jankowski: Do you have an anticipated date for construction?
- **Kent**: The fluctuating construction price is a factor, and we have not set a concrete date for construction.
- **Lauren**: The city review process takes time. As soon as we obtain approvals from the city, we will take it from there.

Joe Lewis: There is now a Historic Preservation District. Now that there are other design considerations, does that play a factor with the design of this project?
- **Lauren**: We are preparing for the first workshop with the Historic Preservation District, we will hear what they have to say, and we will revise our design from there as needed. We don't anticipate a lot of changes from this additional review, since we considered the historic prototypes while designing this project.

Joe Lewis: Do you have any projects within a Historic Zone that have gone to construction?
- **Lauren**: We have a couple active projects going into construction, but they were not in the Historic District, or they were approved prior to the Historic Preservation District being approved for Munjoy Hill. The projects we do have within the Historic Zone are renovations.

Closing Comments

Sam Lebel:

- Meeting Minutes will be available on planning board website / attached to memo as part of the public record
- A Planning Board Workshop is the next step, the date for that is unknown.
- Thanks everyone for joining and the discussion

Meeting concluded at approximately 6:15 pm.

The abovementioned material was as interpreted and recorded from handwritten notes. Please note and relay any discrepancies or disputed information in the recorded minutes to the below address so that they can be reviewed, revised, and resubmitted, as necessary.

Recorded by,

Zachary Stevens, EI
Design Engineer
Acorn Engineering, Inc.
ZStevens@acorn-engineering.com

ACORN ENGINEERING, INC.

Austen Torres Davis – City Planner
Planning Division, City of Portland
389 Congress Street
Portland, ME 04101

October 22, 2021

Subject: Comment Response Letter
30-32 Atlantic Street Redevelopment – Portland, Maine

On behalf of Kestrel LLC, we are pleased to respond to the comments that we've received thus far.

Planning Dpt.

Comment *– Deed & Title Document does not mention specifically 30-32 Atlantic Street.*

Response – Please refer to the updated Section C. and note that Exhibit A had been inadvertently left off of this. This exhibit, now attached, references both 30 and 32 Atlantic St.

Comment *– Please clarify – are units to be apartments or condominiums?*

Response – The Owner's preference is to build apartments, but may convert the building to condominiums for financial reasons. Please note that the Owner plans to live full-time in the third-floor unit.

Comment *– Please clarify total area of site. Our municipal GIS portal shows one lot is 2,597 and the other is 2,598 square feet. Combined totaling 5,195, which differs from the 5,235 used in application. This is important for accurately calculating impervious surface ratio.*

Response – A Boundary & Topographic Survey was conducted by Owen Haskell, Inc on December 14th, 2020. The Survey shows a 5,235-sf lot size for 30-32 Atlantic Street and is accurate within the CAD linework and would take precedence over the GIS.

Utilities:

Comment *– If power line crosses both over lot frontage and Atlantic Street, additional planning and coordination with Central Maine Power is likely necessary for wire tension etc. Please provide additional information about removal/relocation of utility pole.*

Response – Additional notes have been added to the plans to communicate that continued coordination with CMP will be required, depending on the final service layout. This is typical during the local planning process. The existing utility pole is located within the proposed drive aisle. On July 22nd 2021, A site visit was conducted by Acorn Engineering and CMP to coordinate the existing Utility pole to be relocated. A field planner represented CMP onsite and marked out

the proposed location for the proposed utility pole. Approximately 7.75' of sidewalk is available between the proposed utility pole and the proposed curbing on the property line of 30-32 Atlantic Street.

Americans with Disabilities Act Considerations:

Comment *– The driveway and parking spaces do not currently conform to ADA van-accessible parking space standards.*

- *9 foot width complies with ADA but aisles should be at least 5 feet in width, considering tenant may enter on either side of vehicle.*
- *Van-accessible standards are 11 feet in width, wider than the proposed width of the driveway.*

Response –

- The proposed ADA space is 9' wide and has an adjacent 9' wide access aisle. Both of these dimensions exceed the standard for a Van space (16' total width).
- The proposed ADA parking space is in conformance with Americans with Disabilities Act standards per the below requirement since it applies to a parking space where a person would physically exit the vehicle. We are not aware of any standard that requires a minimum corridor width since exiting the vehicle would not occur in this area.
    - Space width for van: 11' (although it may be 8' wide if its access aisle is eight feet wide).

Comment *– Each floor is accessible via elevator, but the roof is not. Considering the roof would only be used by those occupying the third-floor apartment, it would remain inaccessible to those occupants if they need to use an elevator. (Defeating the purpose of having a rooftop deck)*

Response – The developer/owner plans to live full-time in the third-floor unit. In addition, height requirements within the Munjoy Hill Neighborhood Conservation Overlay District prevent an elevator bulkhead location on the roof level.

Landscape Preservation:

Comment *– The application does not include information on steps taken to avoid removing the street tree in the public right-of-way, or the cost of doing so. Were any steps taken to preserve and maintain this tree?*

Response – The project team anticipates the removal of the tree for the following reasons:

- ADA accessibility: Presently the sidewalk is severely warped and out of compliance with the ADA regulations, due to the tree roots force and facilitation of heaving.
- Ground disturbance: given the minimal frontage, subsurface utilities will be relatively congested and will undoubtedly disrupt the root system when trenching. Furthermore, the foundation footings will be less than 10' from the center of the tree with an excavated depth of at least 5', causing more disturbance to the tree roots. Lastly, the granite curb along the sidewalk is currently well below its required 7" reveal. The excavation of these granite slabs and resetting of curb directly adjacent to the tree will cause more disturbance. Lastly, the tree itself is noted on the Tree GIS as having a "root issue".

- De-Limbing: As shown on Google Street View, the tree is required to be de-limbed by utility companies to facilitate overhead electrical and telecom infrastructure. In addition, the proposed construction of the building and ongoing maintenance will require de-limbing of the tree at the property line. As a result, the tree will likely lose much more of its canopy than what's typically recommended at any one time.

In conclusion, while it is not the preference of the project team to remove mature street trees, in this case it is not feasible to preserve this tree which is a function of conformance with federal laws as well as its actual survivability post-construction. In favor of providing infill housing, the tree is proposed to be replaced with a more appropriate street tree species that grows in a more columnar fashion.

Comment *– Tree on site is noted as Twin 12" while the street tree is shown as 32". Please confirm adherence to tree replacement standards in Land Use Code.*

Response – The 12" tree is near the center of the site and will need to be removed as part of this project. The project will contribute to the Street Tree Fund in compliance with the Land Use Code.

Comment *– Application notes that, "The project anticipates preserving a minimum of 30% existing trees 10" or greater within the required setback." but site plan shows no existing trees to be preserved.*

Response – This passage was written erroneously as the survey lacks some of the existing trees. Based upon a site visit, a waiver is requested to remove two trees as allowed under the Land Use Code Sec 14.6.2.B.4 & 5 with a contribution to the City fund.

Comment *– Are there any plans to salvage or reuse the brick on site, those on the current sidewalk, or the granite step shown in the site survey?*

Response – They will likely be salvaged for use elsewhere, but are not currently proposed to be reused on site.

Zoning:

Comment *– Please revise building plan to conform to required height of 35'. While HVAC equipment shielded from view is allowed to be higher than this limit, the proposed stairway bulkhead is not.*

Response – The proposed rooftop stairway bulkhead has been removed from the plan set. In place, a hatch on the roof will be used to access the roof level which will be reflected in the forthcoming revised elevations and floor plans.

Comment *– How was the landscaped area calculated? > 20.4% is rather close to what is required.*

Response – The landscaped area is calculated by the below equation.

- (1 - (Impervious Area / Lot Area)) = Landscaped Open Space Ratio.

Thus, resulting in 20.4% open space. Any surface that does not consist of uncompacted vegetation was counted as impervious area.

Transportation:

Comment *– The applicant shall provide vehicle turning template details that confirm vehicles can perform ingress and egress movements into and out of the parking spaces.*

Response – Please see Section AA for the vehicle turning templates.

Comment *– A barrier should be installed that protects the abutting building from vehicle maneuvers. A wooden guard rail barrier has been installed on similar projects in the city. The turning template analysis should assume this guard rail, as should calculations of driveway dimensions.*

Response – A wood guardrail has been added to the plans and incorporated into the turning templates.

Comment *– The City is concerned the area as part of the handicap vehicle space, to the right of space #3, will be used as a parking space. The applicant should consider strategies that address this concern.*

Response – Should a tenant (or owner) require an accessible space, that person will have claim to the ADA space and accompanying aisle. This will be written into the condo docs and/or rental agreement.

Comment *– The plan should note changes to the number of on-street parking spaces on Atlantic Avenue.*

Response – There is no change to the on-street parking count.

Comment *– The applicant should consider plantings in front of the proposed building that do not impact sight distance as vehicles back into the street.*

Response – The plantings are not anticipated to impact sight distances for vehicles exiting 30-32 Atlantic Street as they are all low-lying shrubs and flowers.

Public Works Dpt:

Construction Management Plan:

Comment *– The CMP should be updated with contact information for the earthwork contractor and the general contractor.*

Response – The Construction Management Plan will be updated with contact information regarding earthwork and general contractors when the contractors are brought into this project. At this time, they are unknown.

Comment *– The CMP narrative mentions a Construction Management Plan (sheet C-03) but I do not see that in ePlan. Please provide sheet C-03.*

Response – The Construction Management Plan (C-03) has been uploaded.

Comment *– CMP narrative missing reference noting use of public parking spaces require street occupancy permit. Please see most recent template on City's website: https://www.portlandmaine.gov/DocumentCenter/View/18030/General-Construction-Management-Template*

Response – The Construction Management Narrative has been updated to include the references to public parking spaces. Refer to Section R. Construction Management Report for additional information

Comment *– The Construction Management Plan (sheet C-03) shall depict location of the material staging areas, the location on onsite temporary construction trailers, the location on onsite truck delivery holding areas, the location onsite truck washing stations, masonry mixing stations, the general location of the construction security fence and the general location of temporary construction dumpsters. An open storage areas shall be shown on the plan.*

Response – We have added several of these items to the plan; however, some of the requested items are at the sole discretion of the Contractor and their means and methods. The logistics can be provided by the Contractor to the City for review once a GC is contracted with.

Comment *– Contractor parking along Atlantic Street is not acceptable. Parking must be provided on site or arrangements for an off-site parking location must be established. Please see the most recent template on the City's website. Parking arrangements should be noted in the CMP narrative and shown on Sheet C-03 if on-site.*

Response – The CM Narrative now prohibits on-street parking for contractors.

Comment *– CMP narrative should include Section L: Dewatering Plans. Please see most recent template on City's website.*

Response – The dewatering section has been added to the Construction Management Narrative. Refer to Section R. Construction Management Report for additional information.

Site Plan:

Comment *– Snow storage not sufficient – will need plan to remove off-site.*

Response – A snow storage area is shown on the site plan. During larger snowstorm events, snow will be required to be removed from the site, typical of small urban sites. Please see General Site Note #7 on Sheet C-10 for snow removal plan.

Comment *– Street / parking signs should be shown on the existing conditions plan and/or the site plan.*

Response – There are no existing standalone street parking signs located along the project's frontage or within the purview of the Site Plan.

Comment *– Elevator sump should connect to oil/water separator.*

Response – The elevator sump has been updated to discharge into the oil water separator prior to entering the sanitary sewer system within Atlantic Street.

Comment *– Will the riprap channel at rear for roof drain continue to edge of focal point system? Does the entire roof discharge to the right rear of the parcel or is some rooftop runoff being directed toward the front of the lot?*

Response – The entire roof will be redirected to the rear of the site and discharge onto the riprap channel. The riprap will not extend to the focal point, but will dissipate the roof drain outlet into a grassed swale with a modest slope that will convey the stormwater to the rain garden.

Comment *– The building's foundation is proposed 5-5.5ft from the eastern property boundary. Structural plans not provided with civil set for Planning review. If footings cross property boundary, site may need an easement for the footings.*

Response – Given the 3-story building, the spread footings are not anticipated to encroach upon the property line.

Plan Details:

Comment *– Pipe trench detail has some inconsistencies from the City's standard detail. Paved areas dimensions are incorrect.*

- *We do not include the rigid insulation in our spec; this will need to be approved by the City engineer and should not alter the other dimensions of the materials.*
- *Please note the required width of crushed stone beside the pipe - shown as dimension "B" in the City's' detail.*

Response – The Pipe Trench detail has been updated to be in conformance with the City of Portland Detail. See Sheet C-44 for additional information.

Comment *– Sewer and Storm Drain Tee / Wye Connection Detail is missing the slope.*
Response – The Sewer and Storm Drain Tee / Wye Connection Detail has been updated to include

the slope. See Sheet C-43 for additional information.

Comment *– Vertical granite curb in the City's ROW must be set in concrete.*

Response – We have revised the detail so the curbing will be set in concrete.

Erosion & Sedimentation Control:

Comment *– Application does not show an erosion & sedimentation control plan, only the details. Please point city staff in the right direction or submit one for review.*

Response – In addition to the narrative and details, erosion control measures are shown on the Construction Management Plan C-03 in the form of a erosion control mix berm and a stabilized construction entrance.

Comment *– Plans for supportive excavation should be provided for review to the Permitting Department with copies and/or notes in the ESC Plan.*

Response – These plans will be submitted as part of the building permit process, which is typical.

Comment *– Stormwater Management Plan and Maintenance Agreement required. Please provide a copy to Jodie Keene and Doug Roncarati for review once submitted.*

Response – An Inspection and Maintenance Plan has been included as part of this submission. Please refer to Section AB for additional information.

Public Safety:

Comment *– Line Safety Office does not see any site issues for Fire for this project.*

Response – Thank you for your review.

City Arborist

Comment *– The City favors saving the street tree in the public right-of-way due to its location and size and wonder can the project be constructed as proposed without damaging or affecting the tree's health? This would include future underground utility trenches and sidewalk reconstruction.*

Response – The project team anticipates the removal of the tree for the following reasons:

- ADA accessibility: Presently the sidewalk is severely warped and out of compliance with the ADA regulations, due to the tree roots force and facilitation of heaving.
- Ground disturbance: given the minimal frontage, subsurface utilities will be relatively congested and will undoubtedly disrupt the root system when trenching. Furthermore, the foundation footings will be less than 10' from the center of the tree with an excavated depth of at least 5', causing more disturbance to the tree roots. Lastly, the granite curb along the sidewalk is currently well below its required 7" reveal. The excavation of these granite slabs and resetting of curb directly adjacent to the tree will cause more disturbance. Lastly, the tree itself is noted on the Tree GIS as having a "root issue".
- De-Limbing: As shown on Google Street View, the tree is required to be de-limbed by utility companies to facilitate overhead electrical and telecom infrastructure. In addition, the proposed construction of the building and ongoing maintenance will require de-limbing of the tree at the property line. As a result, the tree will likely lose much more of its canopy than what's typically recommended at any one time.

In conclusion, while it is not the preference of the project team to remove mature street trees, in this case it is not feasible to preserve this tree which is a function of conformance with federal laws as well as its actual survivability post-construction. In favor of providing infill housing, the tree is proposed to be replaced with a more appropriate street tree species that grows in a more columnar fashion.

Please let us know if you have any additional questions or comments.

Sincerely,

Samuel J Lebel, P.E.
Project Manager
Acorn Engineering, Inc.

Zachary M Stevens, E.I
Design Engineer
Acorn Engineering, Inc.

Carle Henry <cdhenry3@yahoo.com> Oct 7, 2021, 1:49:41 PM (4 days ago)
to Planning Board

Please see below - thank you!

Carle Henry
207.807.4078 | m
Sent from my iPhone

Begin forwarded message:

From: Carle Henry <cdhenry3@yahoo.com>
Date: October 7, 2021 at 12:25:11 PM EDT
To: City Council <council@portlandmaine.gov>
Subject: MHHD follow up

Council,

Last night, the HPB held a workshop to review a proposed 3 story, 4 condo unit to be built on Atlantic Street.

Comments from the board, staff and the public were interesting & informative.

1. Deb Andrew's stated the design standards in an HD are no different than the MH Conservation Overlay District.

2. A member of the public who worked hard to support the MHHD challenged the scale and size, as well as the design standards.

The public is starting to question what has been gained by an HD.

- zoning is not addressed
- design standards have not changed
- tax breaks for multi rehabs are not available

All 3 of the above items were cited as reasons for the HD. While I knew none of these would be addressed, the public was led to believe differently by misleading staffers and by aggressive proponents.

Additionally, multiple home owners (advocates of the MHHD) have moved forward making changes to their homes without HPB review.

So, I have to ask: what exactly did the City gain?

Home values have also continued to increase so stability has not been achieved (another false rallying cry of the proponents)….more people are excluded from living here.

Councilor Zarro reversed his vote because
1. A study will be done about the effects of HDs (but only if the 12th HD would be approved)

2. A fund could be created to help people pay for the increased cost of maintaining. After the vote, the Mayor came out against this position & this fund has not moved forward by Zarro or anyone

3. The HD ordinance would be reviewed. Nothing happened happened on this front either so 1 person can still initiate an HD anywhere in Portland but an HD can never be removed by citizens

Seriously, what did the city gain from a 12th HD?

Carle Henry
207.807.4078 | m
Sent from my iPhone

Comments - 30-32 Atlantic Street

Assigned… Subscribe

0 views

Ananda Moor-Jankowski <anandakmj@gmai… Oct 25, 2021, 9:53:04 PM (10 hours ago)
to planningboard@portlandmaine.gov

Dear Members of the Planning Board:

I live with my family at 37 Atlantic Street, across the street and a couple of houses up from 30-32 Atlantic Street. I've reviewed the Major Site Plan application materials available online, attended the virtual neighborhood meeting, and attended the Historic Preservation Board's remote workshop for this property and would like to submit the following comments.

We are greatly distressed by the proposed removal of the existing 32" linden tree. This is arguably the most majestic tree on Atlantic Street, a tree with magnificent presence in a neighborhood of strikingly motley street trees, including many newly planted diminutive specimens. Intensely fragrant and buzzing with bees in early summer, a tower of green late into fall, and a striking silhouette through the winter, this tree is a cherished natural asset in our neighborhood.

Through correspondence with Planner Austen Torres Davis and the remote meetings with the Client team, I understand that this tree is structurally compromised, with a crack in its trunk and central leader. I also realize that saving this tree would severely limit development options for this property. Of course, our preference is to preserve this tree. If this isn't possible, however, we would strongly advocate for the replacement street tree to be "something of real significance," to quote Historic Preservation Board member Rob Whitten. The proposed 2" caliper Regal Prince Oak is an almost comically narrow, columnar tree with fastigiate branching that will certainly never offer the presence or unique seasonal qualities of the existing linden. We request that the City and applicant select a larger caliper tree of a species with a majestic form and stature that offers aesthetic and ecological benefits in all seasons.

In addition to the street tree, we are concerned about the scale, massing, color, and cladding of the proposed building. Atlantic Street has a fairly unique cluster of smaller scale houses just north of 30-32, one of which we live in. The proposed building would be one of the largest, bulkiest buildings on the street, and would not offer a comfortable or appropriate transition between the larger multi-unit buildings to the south and the smaller single-family houses to the north. Furthermore, we find the color and contrasting orientations of the cladding to be incongruous with the surrounding context.

Thank you very much for considering these comments. We look forward to continuing our participation in the review process as it progresses.

Sincerely,

30-32 ATLANTIC STREET DEVELOPMENT

KESTREL, LLC.
PORTLAND, MAINE

LEGEND

EXISTING		PROPOSED
REFER TO THE EXISTING CONDITIONS PLAN FOR ADDITIONAL INFORMATION	UNDERDRAIN	
	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	
UE — UE	UNDERGROUND ELECTRIC LINE	UGE
W — W	UNDERGROUND WATER LINE	1"W — 1"W
64	MINOR CONTOURS (1 FT)	64
65	MAJOR CONTOURS (5 FT)	65
GAS	GAS LINE	GAS
SS — SS	STORM DRAIN LINE	> — >
	SEWER LINE	S — S
	EXISTING/PROPOSED BUILDING	
OHE/T/C	OVERHEAD ELECTRICAL/TELEPHONE/CABLE	OHE/T/C
	UNDERGROUND ELECTRICAL/TELEPHONE/CABLE	UGE/T/C
	PROPERTY LINE	
	SETBACKS	
	BITUMINOUS PAVEMENT	
	BRICK	

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CALL BEFORE YOU DIG
1–888–DIG–SAFE
1–888–344–7233

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

NATURAL GAS:

UNITIL SERVICE CORP.
1075 FOREST AVENUE
PORTLAND, ME 04103
CONTACT: BRIDGET HARMON
(207) 541–2536

PROJECT TEAM

DEVELOPER/ARCHITECT:

CORNERSTONE BUILDING & RESTORATION
PORTLAND, MAINE
CONTACT: LAUREN J. REITER, R.A.
(917) 502–2225

SURVEYOR:

OWEN HASKELL, INC.
FALMOUTH, MAINE
CONTACT: RANDY R. LOUBIER, PLS
(207) 774–0424

CIVIL ENGINEER:

ACORN ENGINEERING, INC
PORTLAND, MAINE
CONTACT: SAM LEBEL, PE
(207) 775–2655

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

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
CAD	COMPUTER AIDED DESIGN
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
DIP	DUCTILE IRON PIPE
DIA.	DIAMETER
DIM.	DIMENSION
EA.	EACH
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EQUIV.	EQUIVALENT
EST.	ESTIMATE
EX.	EXISTING
FFE	FINISH FLOOR ELEVATION
FT.	FEET
GAL.	GALVANIZED
ID	INNER DIAMETER
IN.	INCH
INV.	INVERT
L	LENGTH
MAX.	MAXIMUM
MDOT	MAINE DEPARTMENT OF TRANSPORTATION
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
OWS	OIL WATER SEPARATOR
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
SIM	SNOW AND ICE MELT
SMH	SEWER MANHOLE
SPEC.	SPECIFICATION
TC	TOP OF CURB
TW	TOP OF WALL
TYP.	TYPICAL
UD	UNDERDRAIN
UGE	UNDERGROUND ELECTRIC

ISSUED FOR	BY	DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL	1/8/21
MAJOR SITE PLAN	ZMS	3/22/23

DRAWING NAME: COVER SHEET & LEGEND
PROJECT NAME/ADDRESS: 30–32 ATLANTIC STREET DEVELOPMENT
CLIENT/OWNER OF RECORD: KESTREL LLC. 72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE REPRODUCED WITHOUT WRITTEN PERMISSION OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND REPRODUCERS TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 5332, PORTLAND, MAINE 04101
(207) 775–2655

FILE: 1109.5_DETAILS
JN: 1109.5
SCALE: AS NOTED
DESIGNED BY: SJL
DRAWN BY: ZMS
CHECKED BY: SJL/WHS

STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
LICENSED
PROFESSIONAL ENGINEER
1/8/21

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 EXISTING CONDITIONS SURVEY BY OWEN HASKELL, INC. DATED 12/14/2021.

8. 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.

9. CONTRACTOR TO DETERMINE SOIL CLASSIFICATION INDEPENDENTLY FOR TRENCH, SHORING, AND OTHER SIMILAR CONSTRUCTION MEANS AND METHODS APPLICATIONS.

10. 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.

11. 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 DIRECTLY ACROSS THE SITE ALONG ATLANTIC STREET.

12. THE CONTRACTOR SHALL PROVIDE A GPS MODEL OF THE PROPERTY TO PROVIDE TO ACORN ENGINEERING.

13. THE CONTRACTOR SHALL SURVEY ROCK SURFACE PRIOR TO EXCAVATION AND DEVELOP VOLUME CALCULATIONS TO SHARE WITH THE ENGINEER, ACORN ENGINEERING INC. (ACORN), IF ANY.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL TREES AND SHRUBS ON THE PROJECT WHICH ARE NOT TO BE REMOVED.

15. 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. CONCRETE MAY NEED TO BE CURED FOR 28 DAYS PRIOR TO BACKFILLING AT THE DISCRETION OF THE STRUCTURAL 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 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 LICENSED PROFESSIONAL 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 SITE PLAN – LEVEL III AND SUBDIVISION PERMIT FROM THE CITY OF PORTLAND.

2. THE CONTRACTOR SHALL REVIEW THE ABOVE REFERENCED PERMITS PRIOR TO SUBMITTING A BID FOR THIS PROJECT, AND INCLUDE COSTS AS NECESSARY TO COMPLY WITH THE CONDITIONS OF THESE PERMITS.

3. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY REQUIRES A STREET OPENING PERMIT FROM THE CITY OF PORTLAND. ADDITIONALLY, COORDINATE WITH THE DEPARTMENT OF PUBLIC WORKS.

GRADING AND DRAINAGE NOTES:

1. TOPSOIL STRIPPED FROM THE SITE THAT IS SUITABLE FOR REUSE AS LOAM (MEETS THE REQUIREMENTS WITHIN SECTION 615 OF THE MDOT STANDARD SPECIFICATIONS, MOST RECENT VERSION AND IS FREE OF TRACEABLE AMOUNTS OF CONTAMINANTS) SHALL BE STOCKPILED WITHIN THE PROPOSED LIMIT OF WORK AREA. THE CONTRACTOR SHALL NOT ASSUME THAT ANY STRIPPED TOPSOIL WILL BE ACCEPTABLE FOR REUSE WITH THEIR ESTIMATE.

2. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY; NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING. DEWATERING SHALL INCLUDE TREATMENT OF SILT THROUGH THE USE OF A DIRTBAG BY ACF ENVIRONMENTAL OR APPROVED EQUIVALENT. FLOWS FROM DEWATERING ACTIVITIES SHALL NOT BE DISCHARGED INTO SANITARY SEWERS.

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, IF APPLICABLE.

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 PERMIT CONDITIONS, FINDINGS OF FACT AND ORDER (IF ANY), AND THE 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 5.5' 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.

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY	DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL	1/8/21
MAJOR SITE PLAN	SJL	2/25/21

DRAWING NAME: GENERAL NOTES

PROJECT NAME/ADDRESS: 30-32 ATLANTIC STREET DEVELOPMENT

CLIENT/OWNER OF RECORD: KESTREL LLC.
72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

ACORN ENGINEERING, INC.

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ACORN ENGINEERING, INC.
PO BOX 3422, PORTLAND, MAINE 04101
(207) 775-2655

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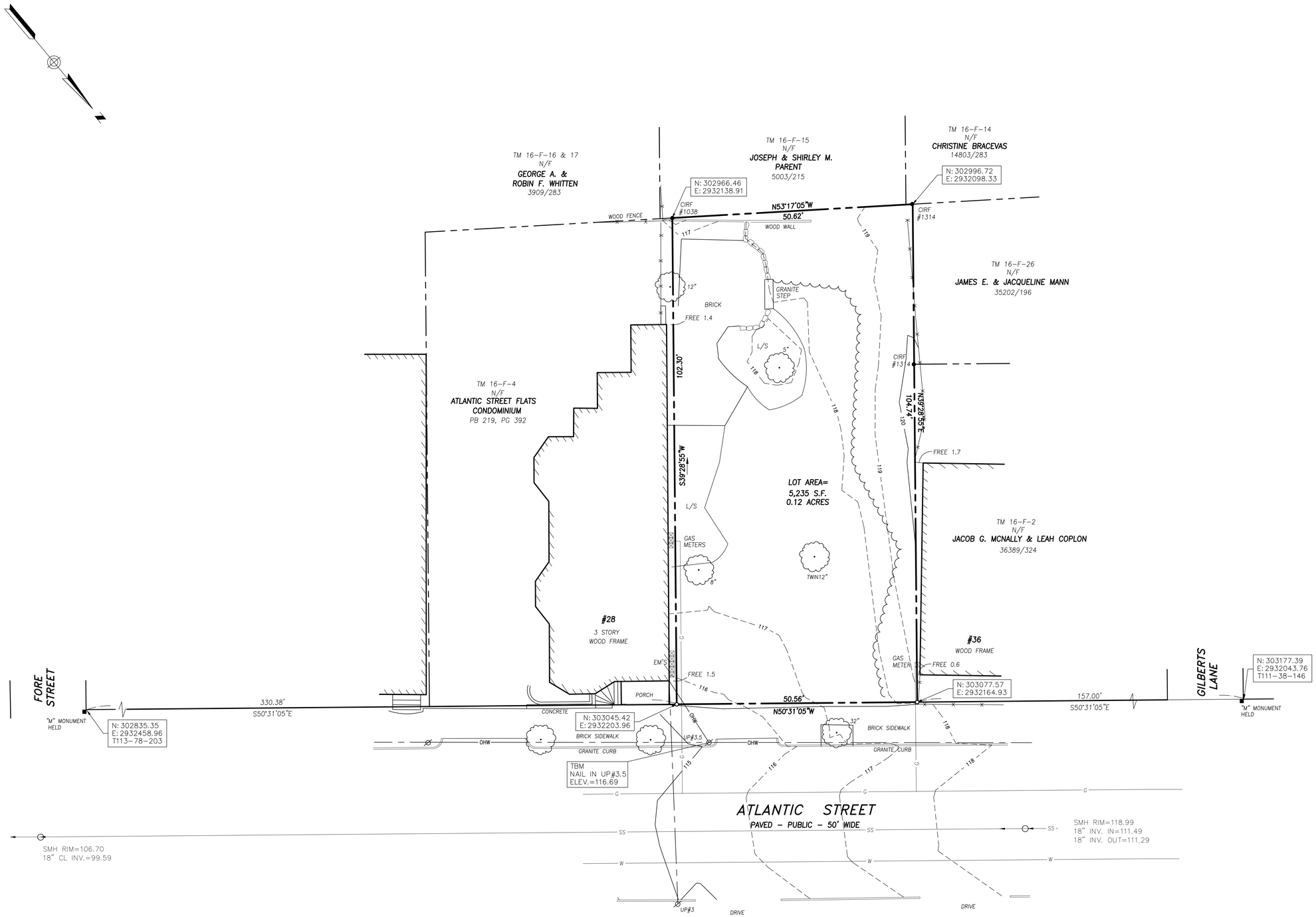
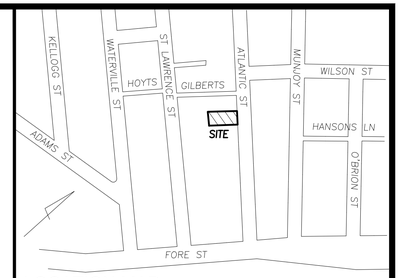
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	ZMS
CHECKED BY:	SJL/WHS

STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
LICENSED
PROFESSIONAL ENGINEER
8/18/21

DRAWING NO.
C-02





LOCATION MAP

N.T.S.

LEGEND

- IRON PIPE OR ROD FOUND
- MONUMENT FOUND
- CAPPED IRON ROD SET
- UTILITY POLE
- MANHOLE
- EM/GM ELECTRIC/GAS METER
- DECIDUOUS TREE
- IPF/IRF IRON PIPE OR ROD FOUND
- N/F NOW OR FORMERLY
- 000/000 DEED BOOK / PAGE
- L/S LANDSCAPE
- FENCE
- STONEWALL
- CURB
- OHW OVERHEAD WIRES
- W WATER LINE
- G GAS LINE
- SS SANITARY SEWER
- 100 1' CONTOUR

PLAN REFERENCES

1. CITY OF PORTLAND CITY BLUE SHEET FOR ATLANTIC STREET.
2. E.C. JORDAN CO. WORKSHEETS FOR FORE STREET AND ATLANTIC STREET.
3. CONDOMINIUM PLAT "ATLANTIC STREET FLATS, A CONDOMINIUM" 28 ATLANTIC STREET, PORTLAND, MAINE MADE FOR OWNER OF RECORD 28 ATLANTIC STREET LLC MAY 3, 2019 BY OWEN HASKELL, INC. RECORDED IN PLAN BOOK 219, PAGE 392.

GENERAL NOTES

1. OWNER OF RECORD: KESTREL, LLC
118 ROWLEY DRIVE, STONINGTON, CT 06378
C.C.R.D. BOOK 37252 PAGE 290
2. LOCUS IS SHOWN AS LOTS 3, 25 ON CITY OF PORTLAND'S ASSESSORS MAP 16 BLOCK F.
3. PROPERTY IS LOCATED IN CITY OF PORTLAND RESIDENTIAL ZONE R6.
4. BEARINGS ARE BASED ON CITY DATUM UTILIZING THE CONTROL POINTS SHOWN.
5. ELEVATIONS ARE BASED ON ELEVATIONS ARE CITY DATUM AS BASED ON CITY MONUMENT T102-69-7 ELEVATION 131.02.

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE 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

12/14/2020
DATE

STATE OF MAINE
RANDY R. LOUBIER 2407
PROFESSIONAL LAND SURVEYOR

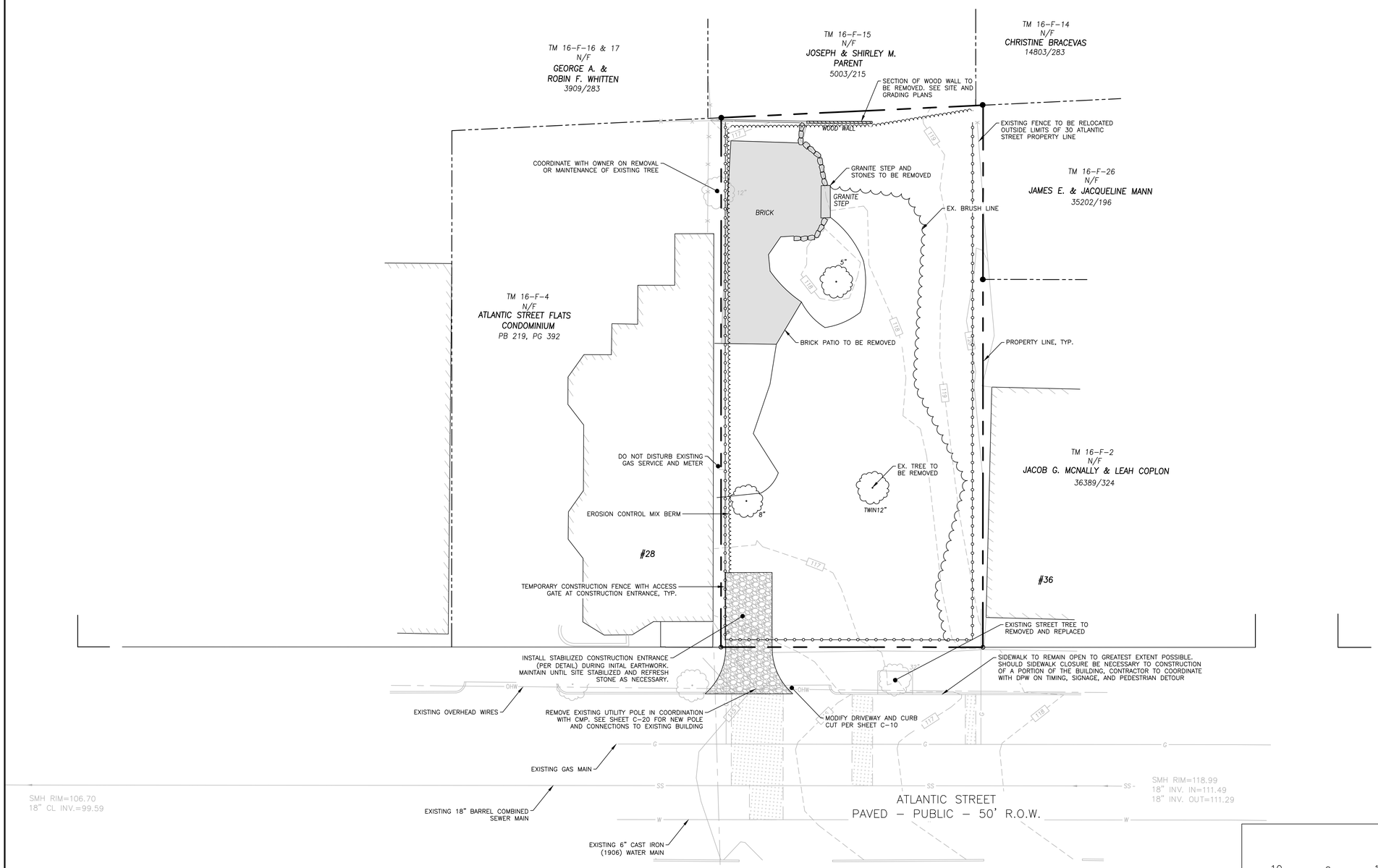
Boundary & Topographic Survey
At
30-32 Atlantic Street, Portland, Maine
Made for
Kent Parson
30 Atlantic Street, Portland, Maine

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

DRAWN BY:	RS / JLW	DATE:	DEC. 14, 2020	JOB NO.	2020-341 P
CHECKED BY:	RRL	SCALE:	1" = 10'	DRWG. NO.	1

GENERAL NOTES:

1. EXISTING ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
2. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTOR SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" TO DEMONSTRATE PROPER DISPOSAL OF ALL MATERIALS.
3. SITE DEMOLITION SHALL NOT OCCUR UNTIL PROPER ABATEMENT PROCEDURES HAVE OCCURRED. ABATEMENT, IF NECESSARY, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE POTENTIAL CONFLICT WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.
5. ALL CONSTRUCTION SIGNAGE IS TEMPORARY AND WILL BE REMOVED AT PROJECT COMPLETION. FINAL SIGNAGE WORDING AND PLACEMENT LOCATION TO BE ACCEPTED BY THE CITY.
6. SEDIMENT BARRIERS TO BE PLACED DIRECTLY ON THE FRONT AND SIDE PROPERTY LINES, DOWN GRADIENT OF THE PROPOSED PROJECT WORK PER DETAIL; FENCES ARE OFFSET OF THE PROPERTY LINES AS SHOWN ON THE PLAN FOR CLARITY PURPOSES AND DO NOT NECESSARILY DEPICT THE PHYSICAL LOCATION.
7. CONTRACTOR SHALL PLACE CATCH BASIN INLET PROTECTION ON CATCH BASINS AND FIELD INLETS DOWN-GRADIENT OF ALL NON-STABILIZED SURFACES, PER DETAIL.
8. DEMOLITION PLAN IS NOT INCLUSIVE OF ALL EXISTING ITEMS TO BE REMOVED AS PART OF SITE CONSTRUCTION INCLUDING BUT NOT LIMITED TO LANDSCAPING, UTILITIES, WORK WITHIN THE ROW, ETC. ALL DEMOLITION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF PORTLAND REGULATIONS.
9. CONTRACTOR TO BE RESPONSIBLE FOR PROVIDING OFF-SITE PARKING TO EMPLOYEES; ON-SITE PARKING WILL NOT BE PROVIDED OR GUARANTEED. CONTRACTOR TO BE RESPONSIBLE FOR OBTAINING THE APPROPRIATE PERMITS FROM THE CITY FOR CLOSING ANY ON-STREET PARKING SPACES DURING THE CONSTRUCTION PERIOD.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR SNOW REMOVAL ALONG CONSTRUCTION FENCE AND GATE.
11. 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.



PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL	1/8/21
MAJOR SITE PLAN	SJL	9/22/21
COMMENT RESPONSE	SJL	10/22/21

DRAWING NAME: CONSTRUCTION MANAGEMENT PLAN

PROJECT NAME/ADDRESS: 30-32 ATLANTIC STREET DEVELOPMENT

CLIENT/OWNER OF RECORD: KESTREL LLC. 72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

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PO BOX 3477, PORTLAND, MAINE 04101
(207) 775-2655

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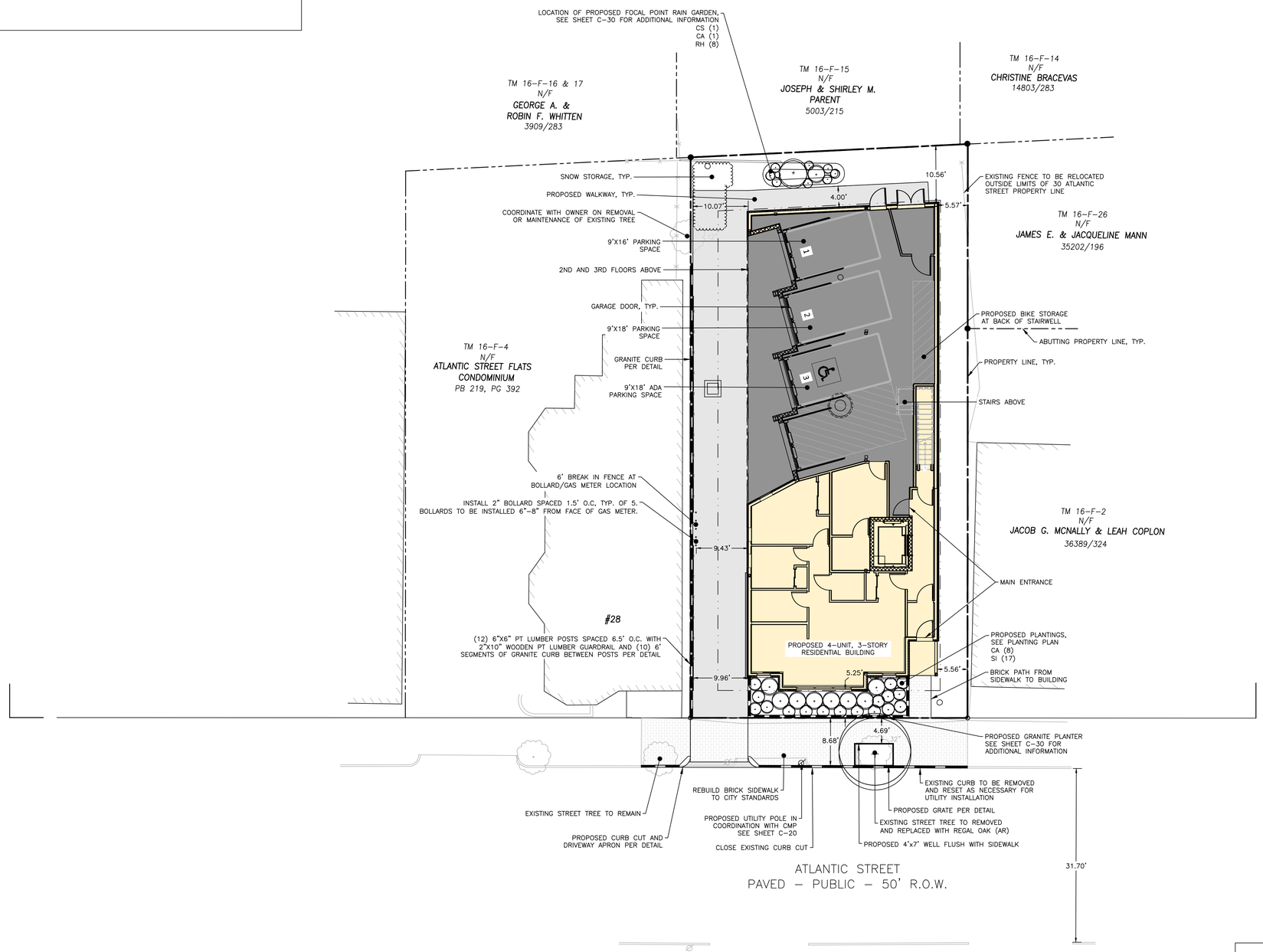
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	ZMS
CHECKED BY:	SJL/WHS

STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
LICENSED
PROFESSIONAL ENGINEER
10/15/21

DRAWING NO.
C-03

GENERAL NOTES:

1. ALL BRICK SIDEWALK AND VERTICAL GRANITE CURB TO BE REPLACED SHALL BE REBUILT TO CITY OF PORTLAND STANDARD.
2. ALL PAVEMENT STRIPING AND MARKINGS SHALL COMPLY TO CITY OF PORTLAND STANDARDS.
3. ANY ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
4. CURB TO BE REMOVED, STOCKPILED AND RESET IN ACCORDANCE WITH DETAIL. BROKEN CURB SHALL BE PROPERLY DISPOSED OF AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
5. ALL RAMPS TO CONFORM TO ADA GUIDELINES. SLOPE SHALL NOT EXCEED 1 INCH PER FOOT.
6. ALL SITE SIGNAGE TO COMPLY WITH MUTCD STANDARDS. CONTRACTOR TO COORDINATE AND INSTALL.
7. FOLLOWING COMPLETION OF CONSTRUCTION, THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SITE LIGHTING, TRASH REMOVAL AND SNOW REMOVAL.
8. PLAN REFERENECES
   8.1. PLAN TITLED "BOUNDARY & TOPOGRAPHIC SURVEY" PREPARED BY OWEN HASKELL, INC. DATED DECEMBER 14TH, 2020



SPACE AND BULK STANDARDS		
ZONING: R6 RESIDENTIAL & MUNJOY HILL NEIGHBORHOOD CONSERVATION OVERLAY DISTRICT	REQUIRED	PROPOSED
MINIMUM LOT SIZE	2000 SF	5235 SF
MINIMUM STREET FRONTAGE	20'	51'
MINIMUM FRONT YARD SETBACK	5'	5.25'
MINIMUM SIDE YARD SETBACK	5'	5.56'
MINIMUM REAR YARD SETBACK	10'	10.56'
MAXIMUM LOT COVERAGE	60%	58.2%
SIDE YARD STEPBACK	10'	N/A
REAR YARD STEPBACK	7.5'	N/A
MINIMUM LOT WIDTH	20'	51'
MAXIMUM BUILDING HEIGHT	35'	< 35'
MINIMUM LANDSCAPED OPEN AREA	20%	20.4%
MAX IMPERVIOUS AREA	80%	79.6%
MAXIMUM NUMBER OF DWELLING UNITS	725 SF/UNIT = 7 UNITS	4 UNITS
RESIDENTIAL PARKING	1 SPACE PER UNIT AFTER 3 UNITS = 1 SPACE	3 SPACES
MINIMUM INTERNAL RESIDENT BICYCLE STORAGE SPACES	2 SPACES/5 UNITS = 1.6	2

PARKING SUMMARY	
	# PARKING SPACES
STANDARD (9'X18')	1
COMPACT (9'X16')	1
ADA (9'X18')	1
TOTAL PROPOSED SPACES	3

PLANT SCHEDULE				
ID	BOTANICAL NAME	COMMON NAME	QTY	SIZE
TREES				
QR	QUERCUS ROBUR X BICOLOR LONG	REGAL PRINCE OAK	1	2" CAL.
SHRUBS				
CS	CORNUS SERICEA	RED TWIG DOGWOOD	1	3 GAL.
CA	CLETHRA ALNIFOIA	RUBY SPICE SUMMERSWEET	9	3 GAL.
SI	SALIX INTEGRA 'HAKURO NISHIKI'	DAPPLED WILLOW	17	3 GAL.
PERENNIALS				
RH	RUDBECKIA HIRTA	BLACK-EYED SUSAN	8	1 GAL.

PERMISSIBLE VEHICLE SUMMARY			
SPACES	MAX WHEEL BASE	MAX LENGTH	MAX WIDTH
1	9.2'	15.5'	6.3'
2,3	9.2'	16'	6.3'

10 0 10 20

SCALE: 1" = 10'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL	1/8/21
MAJOR SITE PLAN	SJL	8/22/23
COMMENT RESPONSE	SJL	10/23/23

DRAWING NAME: SITE & LANDSCAPE PLAN

PROJECT NAME/ADDRESS: 30-32 ATLANTIC STREET DEVELOPMENT

CLIENT/OWNER OF RECORD: KESTREL LLC. 72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

ACORN ENGINEERING, INC.

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(207) 775-2655

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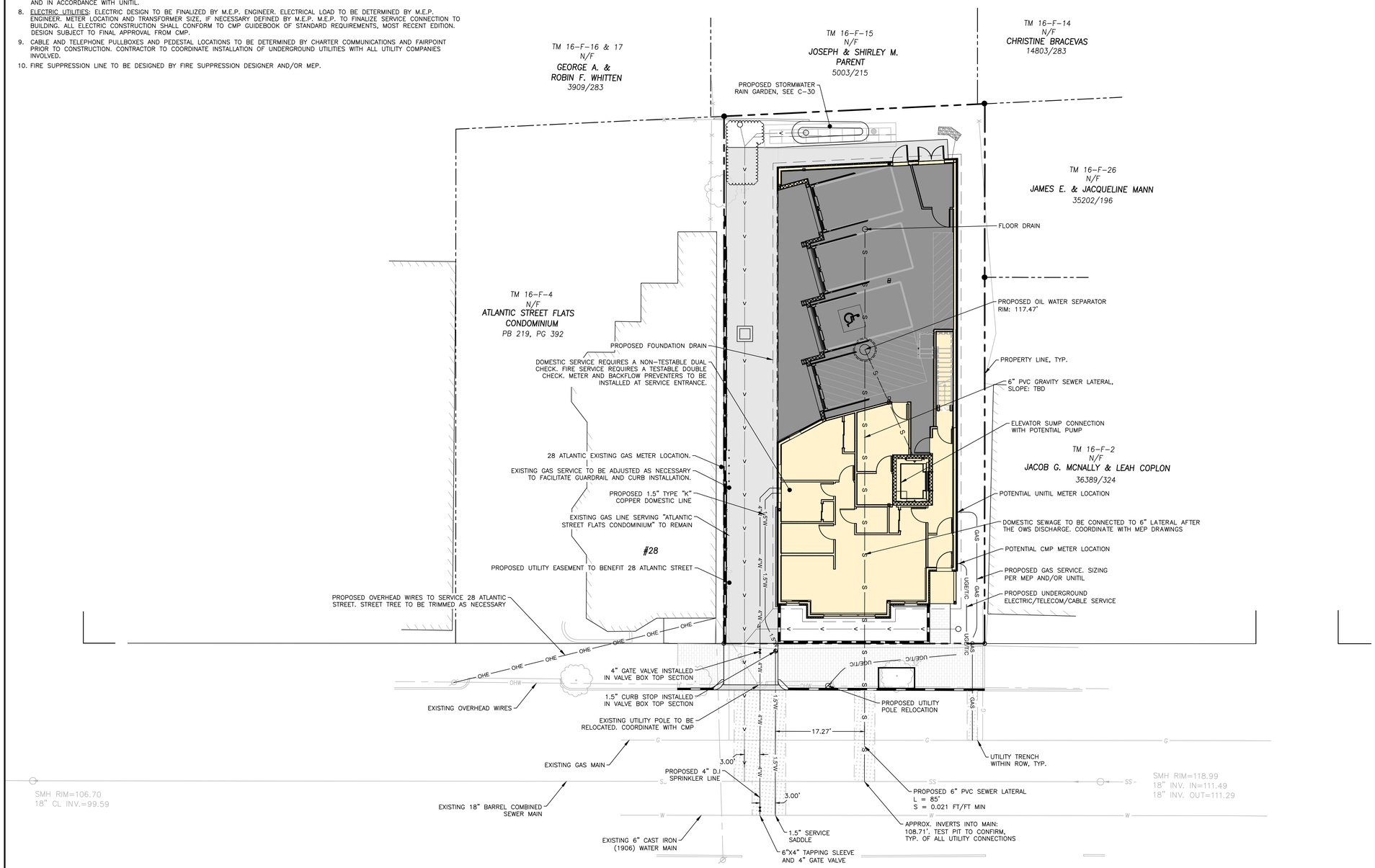
STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
LICENSED
PROFESSIONAL ENGINEER
10/15/21

DRAWING NO.

C-10

GENERAL NOTES:

1. LOCATION OF PROPOSED CONNECTIONS ARE APPROXIMATE. CONTRACTOR TO CONTACT ENGINEER IF FIELD INFORMATION VARIES FROM INFORMATION ON PLANS.
2. CONTRACTOR IS TO BE CAUTIONED THAT CERTAIN LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES HAVE BEEN PROVIDED THROUGH UTILITY COORDINATION OR OTHER OBSERVATIONS. INFORMATION IS NOT TO BE RELIED UPON AS EXACT OR COMPLETE. CONTRACTOR TO FIELD VERIFY AND COORDINATE WITH UTILITY COMPANY AND DIG SAFE NO LESS THAN 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF ALL UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DIFFERENTIATIONS FROM EXISTING CONDITIONS, INCLUDING UTILITY INFORMATION, PRIOR TO ANY CHANGES.
3. FOR ALL UTILITIES, ACORN ENGINEERING DESIGN LIMITS END AT EXTERIOR WALL OF BUILDING. METERING OF UTILITIES TO BE COMPLETED BY M.E.P. UNLESS SPECIFIED OTHERWISE.
4. CONTRACTOR TO COORDINATE WITH ARCHITECT ON FINAL UTILITY CONNECTIONS WITHIN THE BUILDING.
5. SEWER UTILITIES: CONTRACTOR TO COORDINATE WITH ARCHITECT FOR FINAL SERVICE CONNECTION. SEWER UTILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL STANDARDS. VALVE FOR BACKFLOW PREVENTION SHALL BE INSTALLED WITHIN THE THE PROPERTY LINES FOR EACH CITY SEWER CONNECTION. CONTACT ENGINEER IF INVERT FIELD CONDITIONS VARY FROM DESIGN.
6. WATER UTILITIES: FINAL PIPE SIZING PROVIDED BY M.E.P. ENGINEER AND FIRE PROTECTION DESIGNER. INTERNAL METERING, BACKFLOW PREVENTION, AND PRESSURE REDUCERS TO BE COMPLETED BY M.E.P. ENGINEER. DOMESTIC WATER PIPE SIZES WILL DETERMINE THE FINAL WATER METERING OPTIONS. METER MAY BE SMALLER THAN PROPOSED WATER MAIN. WATER METERING, PRESSURE REDUCER AND BACKFLOW PREVENTION TO BE IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARDS. CONTRACTOR TO FOLLOW METERING GUIDELINES OF THE PORTLAND WATER DISTRICT AND CITY OF PORTLAND.
7. GAS UTILITIES: PROJECT GAS LOAD, GAS UTILITY DESIGN, AND FINAL GAS SERVICE LOCATION AND METERS TO BE DEFINED BY M.E.P. AND IN ACCORDANCE WITH UNITIL.
8. ELECTRIC UTILITIES: ELECTRIC DESIGN TO BE FINALIZED BY M.E.P. ENGINEER. ELECTRICAL LOAD TO BE DETERMINED BY M.E.P. ENGINEER. METER LOCATION AND TRANSFORMER SIZE, IF NECESSARY DEFINED BY M.E.P. M.E.P. TO FINALIZE SERVICE CONNECTION TO BUILDING. ALL ELECTRIC CONSTRUCTION SHALL CONFORM TO CMP GUIDEBOOK OF STANDARD REQUIREMENTS, MOST RECENT EDITION. DESIGN SUBJECT TO FINAL APPROVAL FROM CMP.
9. CABLE AND TELEPHONE PULLBOXES AND PEDESTAL LOCATIONS TO BE DETERMINED BY CHARTER COMMUNICATIONS AND FAIRPOINT PRIOR TO CONSTRUCTION. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND UTILITIES WITH ALL UTILITY COMPANIES INVOLVED.
10. FIRE SUPPRESSION LINE TO BE DESIGNED BY FIRE SUPPRESSION DESIGNER AND/OR MEP.



10 0 10 20

SCALE: 1" = 10'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL	1/8/21
MAJOR SITE PLAN	SJL	8/22/23
COMMENT RESPONSE	SJL	10/23/23

DRAWING NAME: UTILITY PLAN

PROJECT NAME/ADDRESS: 30-32 ATLANTIC STREET DEVELOPMENT

CLIENT/OWNER OF RECORD: KESTREL LLC. 72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM 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.
PO BOX 4232, PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1109.5_CIVIL
JN:	1109.5
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	ZMS
CHECKED BY:	SJL/WHS

STATE OF MAINE — SAMUEL J. LEBEL — No. 16505 — LICENSED PROFESSIONAL ENGINEER — 10/15/21

DRAWING NO.

C-20

GENERAL NOTES:

1. ALL WORK WITHIN THE CITY STREET RIGHT OF WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.
2. DESIGN OF TEMPORARY SOIL RESTRAINT MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IF NECESSARY FOR CONSTRUCTION.
3. CONTRACTOR SHALL ENSURE THAT UNDERDRAINS ARE CONSTRUCTED WITH POSITIVE OUTLET TO PROPOSED CONNECTIONS.
4. CATCH BASIN INLET PROTECTION TO BE INSTALLED WITHIN ANY STRUCTURES DOWNGRADIENT OF ACTIVE CONSTRUCTION.
5. SEDIMENTATION BARRIERS ARE TO BE INSTALLED DOWNGRADIENT OF ALL ACTIVE CONSTRUCTION WORK PER DETAIL. BARRIERS TO NOT EXTEND PAST PROPERTY LINES; BARRIERS SHOWN OFFSET FROM PROPERTY LINES ON PLANS FOR VISUAL PURPOSES ONLY.

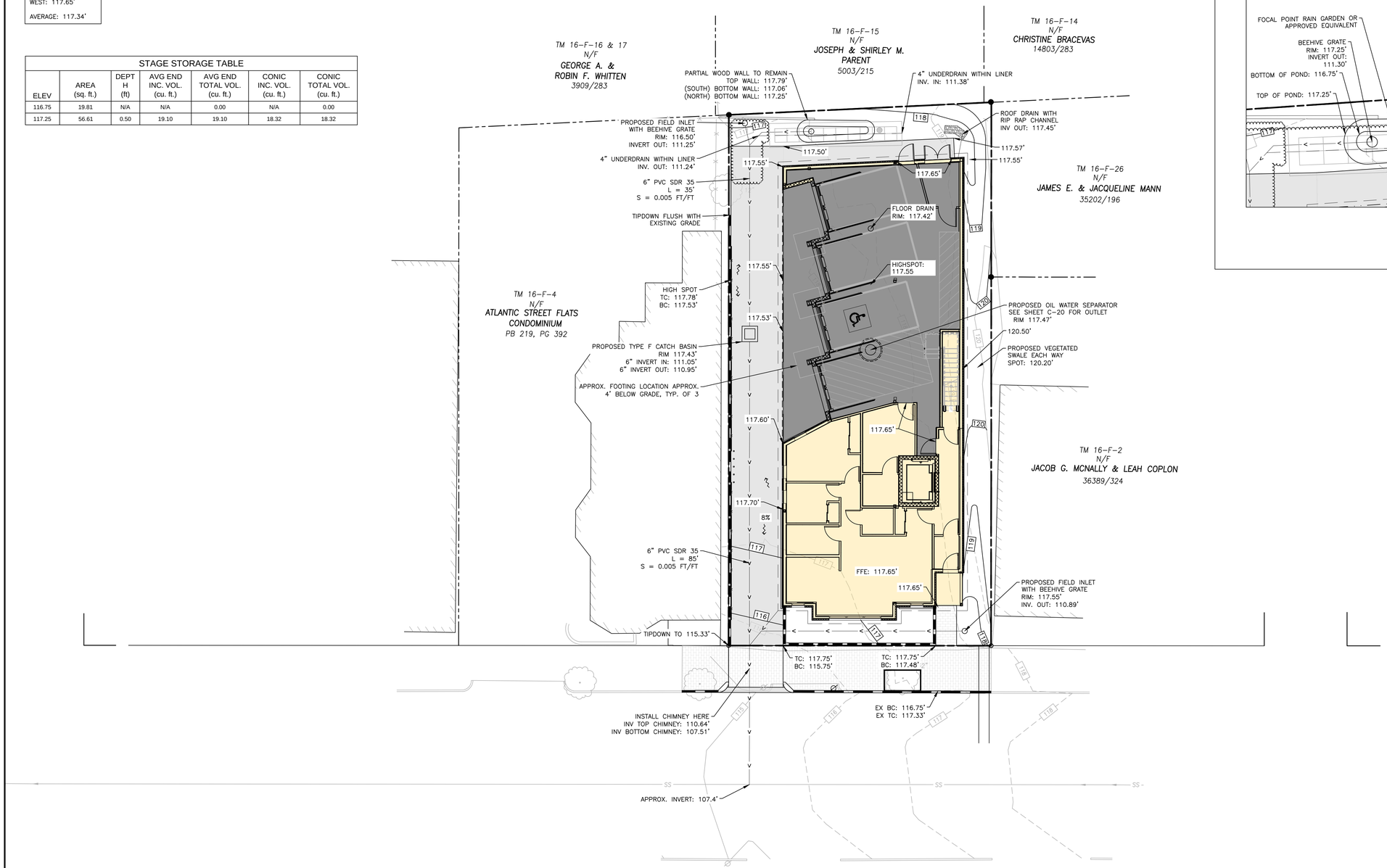
BUILDING ELEVATIONS

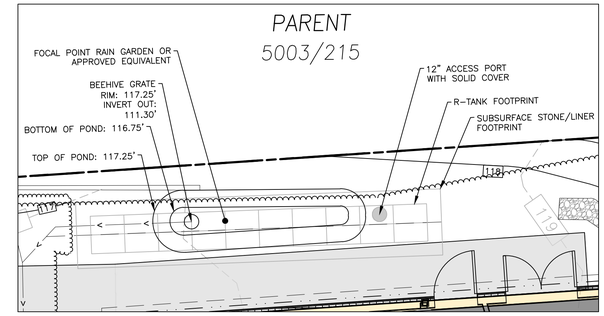
NORTH: 117.87'
EAST: 116.30'
SOUTH: 117.55'
WEST: 117.65'

AVERAGE: 117.34'

STAGE STORAGE TABLE

ELEV	AREA (sq. ft.)	DEPTH (ft)	AVG END INC. VOL. (cu. ft.)	AVG END TOTAL VOL. (cu. ft.)	CONIC INC. VOL. (cu. ft.)	CONIC TOTAL VOL. (cu. ft.)
116.75	19.81	N/A	N/A	0.00	N/A	0.00
117.25	56.61	0.50	19.10	19.10	18.32	18.32





FOCAL POINT INSET
1" = 5'

SCALE: 1" = 10'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL	1/8/21
MAJOR SITE PLAN	SJL	2/22/21
COMMENT RESPONSE	SJL	10/22/21

DRAWING NAME: GRADING & DRAINAGE PLAN

PROJECT NAME/ADDRESS: 30-32 ATLANTIC STREET DEVELOPMENT

CLIENT/OWNER OF RECORD: KESTREL LLC.
72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

ACORN ENGINEERING, INC.

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ACORN ENGINEERING, INC.
PO BOX 3422, PORTLAND, MAINE 04101
(207) 775-2655

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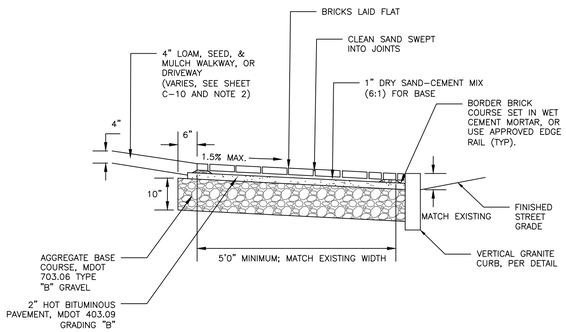
DRAWN BY:	ZMS
CHECKED BY:	SJL/WHS

STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
LICENSED
PROFESSIONAL ENGINEER
10/15/21

DRAWING NO.
C-30



NOTES:

1. BRICKS TO BE USED:

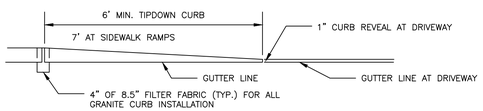
   NEW CONSTRUCTION:
   4"X8" PINE HALL PATHWAY PAVER BRICK; MFG. BY PINE HALL BRICK CO., MADISON, NORTH CAROLINA. LACHANCE ITEM #193623;. PINE HALL PATHWAY PAVER BRICK.

   REPAIR/MAINTENANCE TO EXISTING BRICK SIDEWALKS:
   VERMONT BACKER SUPPLIED BY GAGNE AND SONS SPECIFICATION NUMBER: "VERMONT PAVER BRICK", ITEM NUMBER #VBBB

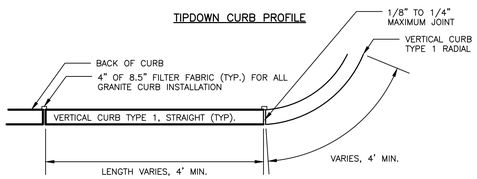
2. INSTALL BRICK FLUSH UP TO BUILDING, PAVEMENT, STAIRS, CONCRETE SURFACES, CURB OR LANDSCAPED AREAS.

BRICK SIDEWALK WITH BITUMINOUS BASE DETAIL

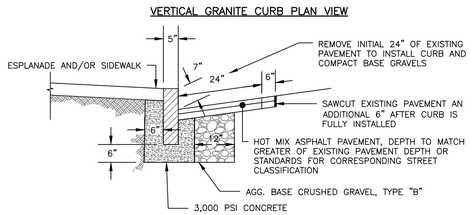
NOT TO SCALE



TIPDOWN CURB PROFILE



VERTICAL GRANITE CURB PLAN VIEW



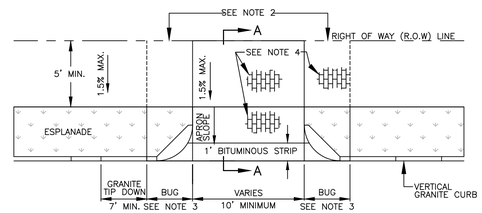
VERTICAL GRANITE CURB CROSS SECTION

NOTES:

1. CURB SHALL BE RESET IN ACCORDANCE WITH MDOT 609.08 WITH THE EXCEPTION OF CURB SPACING TO BE INSTALLED PER DETAIL.
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 AND TIPDOWN INSTALLATION IN EXISTING STREETS DETAIL

NOT TO SCALE



APRON SLOPE TABLE

LAND USE	MAXIMUM RECOMMENDED GRADE CHANGE AT STREET(G)
RESIDENTIAL WITH <9 PARKING SPACES	14%
ALL OTHER DRIVEWAYS	10%

NOTES:

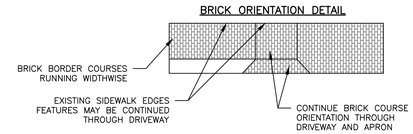
1. MATCH EXISTING GRADE AT R.O.W LINE. WHERE REQUIRED TO MEET A.D.A. AND DRIVEWAY APRON SLOPE REQUIREMENTS, A CONSTRUCTION EASEMENT MAY BE REQUIRED.
2. IF MATCHING THE EXISTING GRADE AT ROW CAUSES APRON SLOPE TO EXCEED RECOMMENDED %, SIDEWALK TRANSITION AREAS MAY BE ADDED, BUT SHALL NOT EXCEED 8.33%.
3. TWO-FOOT RADIUS CORNER GRANITE PIECES ("BUGS") ARE REQUIRED AT LOW-VOLUME DRIVEWAYS UNLESS OTHERWISE DIRECTED BY DPW. AT OTHER DRIVEWAYS, STANDARD FLARE/TIPDOWN TREATMENTS SHALL BE USED.
4. ALL MATERIALS TO COMPLY WITH CITY'S SIDEWALK & DRIVEWAY MATERIAL POLICY. BRICK IN DRIVEWAY APRONS, WHERE APPLICABLE, SHALL BE ORIENTED IN THE SAME WAY AS THE ADJACENT BRICK SIDEWALK.

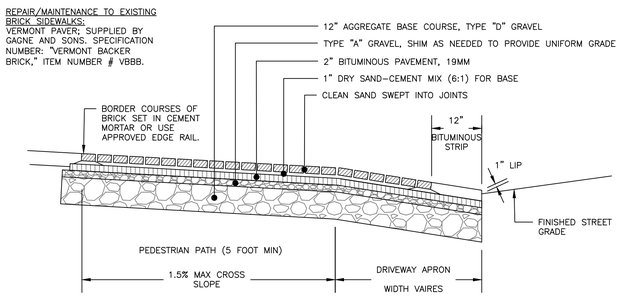
BRICKS TO BE USED:

NEW CONSTRUCTION:
4"X8" PINE HALL PATHWAY PAVER BRICK; MFG. BY PINE HALL BRICK CO., MADISON, NORTH CAROLINA, OR APPROVED EQUAL.
LACHANCE ITEM #193623, PINE HALL PATHWAY PAVER BRICK.

REPAIR/MAINTENANCE TO EXISTING BRICK SIDEWALKS:
VERMONT PAVER; SUPPLIED BY GAGNE AND SONS, SPECIFICATION NUMBER: "VERMONT BACKER BRICK," ITEM NUMBER # VBBB.

BRICK ORIENTATION DETAIL



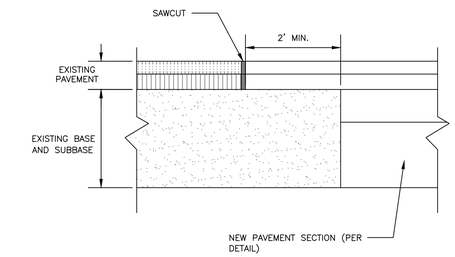


BRICK DRIVEWAY APRON WITH BITUMINOUS BASE

NOT TO SCALE

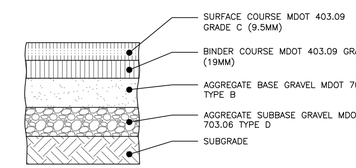
NOTES:

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 **LOCAL** BITUMINOUS PAVEMENT SECTION DETAIL AT A MINIMUM OR THE THE EXISTING PAVEMENT AND AGGREGATE BASE AND SUBBASE DEPTH WHICHEVER IS GREATER.



PAVEMENT SAWCUT DETAIL

NOT TO SCALE



NOTES:

1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557
2. SURFACE AND AGGREGATE MATERIALS SHALL MEET THE CITY OF PORTLAND STANDARDS IN ADDITION TO MDOT STANDARDS.

THICKNESS OF LAYERS	
STANDARD	LAYERS
1-1/2"	SURFACE COURSE MDOT 403.09 GRADE C (9.5mm)
2"	BINDER COURSE MDOT 403.09 GRADE B (19mm)
3"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE B
15"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

BITUMINOUS PAVEMENT PROFILE

NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL	1/8/21
MAJOR SITE PLAN	SJL	8/22/23
COMMENT RESPONSE	SJL	10/23/23

DRAWING NAME: SITE DETAILS – 1

PROJECT NAME/ADDRESS: 30-32 ATLANTIC STREET DEVELOPMENT

CLIENT/OWNER OF RECORD: KESTREL LLC. 72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

ACORN ENGINEERING, INC.

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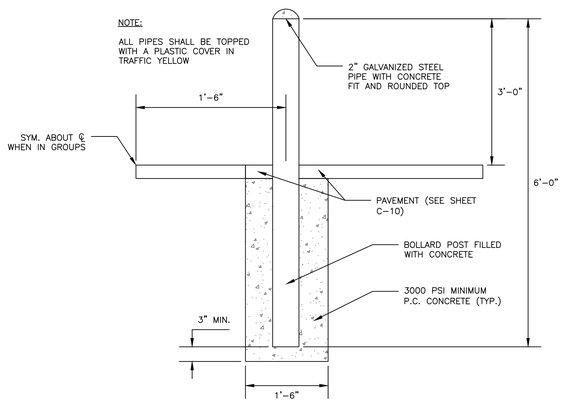
ACORN ENGINEERING, INC.
PO BOX 3477, PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1109.5_DETAILS
JN:	1109.5
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	ZMS
CHECKED BY:	SJL/WHS

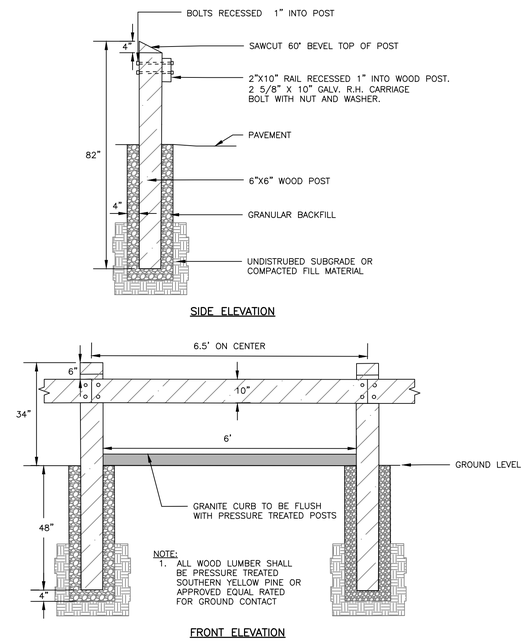
STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
LICENSED
PROFESSIONAL ENGINEER
10/15/21

DRAWING NO.

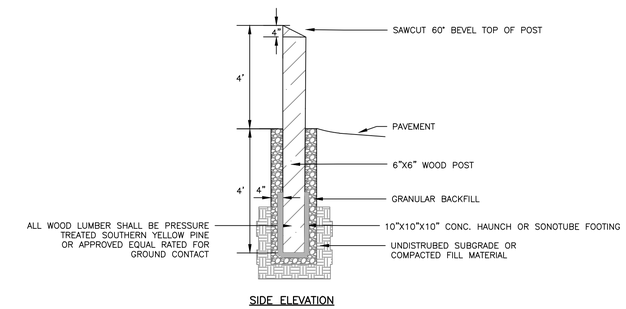
C-40



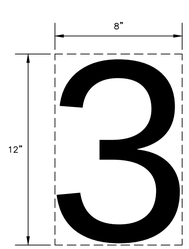
PIPE BOLLARD
NOT TO SCALE



WOODEN GUARDRAIL DETAIL
NOT TO SCALE



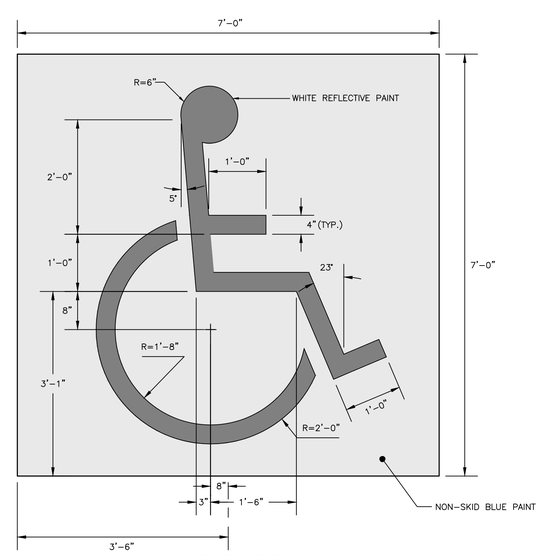
WOOD POST DETAIL
NOT TO SCALE



NOTES:

1. NUMBERS TO BE PAINTED AS THE SAME COLOR AS THE CORRESPONDING PARKING SPACE.
2. BOTTOM OF NUMBER TO BE FLUSH WITH THE FRONT OF THE PARKING SPACE.

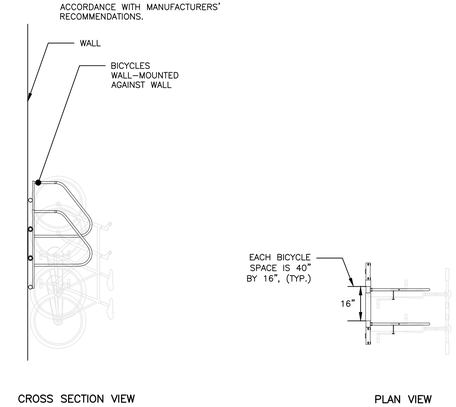
PARKING STALL NUMBER DETAIL
NOT TO SCALE



INTERNATIONAL BARRIER FREE SYMBOL
NOT TO SCALE

NOTES:

1. FINAL LOCATION OF INTERIOR BICYCLE RACKS SHALL CONFORM TO ALL ARCHITECTURAL DRAWINGS. CONTRACTOR TO NOTIFY ENGINEER AND ARCHITECT WITH ANY DISCREPANCIES.
2. BICYCLE MOUNT SHALL BE ULTRA SPACE SAVER AS MANUFACTURED BY DERO, OR APPROVED EQUAL.
3. BICYCLES SHALL BE WALL MOUNTED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.



BICYCLE RACK INTERIOR
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL	1/8/21
MAJOR SITE PLAN	SJL	8/22/23
COMMENT RESPONSE	SJL	10/23/23

DRAWING NAME: SITE DETAILS – 2

PROJECT NAME/ADDRESS: 30-32 ATLANTIC STREET DEVELOPMENT

CLIENT/OWNER OF RECORD: KESTREL LLC.
72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

ACORN ENGINEERING, INC.

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(207) 775-2655

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STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
LICENSED
PROFESSIONAL ENGINEER
10/15/21

DRAWING NO.
C-41

PLANTING NOTES:

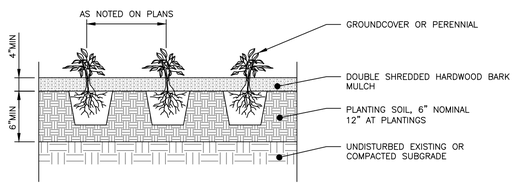
1. ALL PLANT SELECTION AND INSTALLATION SHALL BE IN COMPLIANCE WITH THE CITY OF PORTLAND TECHNICAL MANUAL (SECTION 4).
2. CONTRACTOR TO VERIFY ALL UTILITIES ON PROPERTY AND TO PROTECT ALL UTILITIES DURING EXCAVATION FOR PLANTS.
3. IF THERE IS A DISCREPANCY BETWEEN THE NUMBER OF PLANTS SHOWN ON THE PLAN AND THE NUMBER OF PLANTS SHOWN IN PLANT LIST (IF ANY), THE NUMBER OF PLANTS SHOWN ON PLAN WILL TAKE PRECEDENCE.
4. ALL MATERIAL SHALL COMPLY WITH THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AMERICAN ASSOCIATION OF NURSERYMAN.
5. ALL DISTURBED AREAS NOT TO BE PAVED OR PLANTED SHALL BE LOAMED AND SEEDED AS SHOWN. THE SEED MIX SPECIFICATIONS ARE AS FOLLOWS: LESCO FINE FESCUE LINKS BLEND OF 35% HARD FESCUE, 35% CREEPING RED FESCUE, 20% CHEWINGS FESCUE AND 10% SHEEP FESCUE. ADD 5% LITTLE BLUESTEM AND 5% NORTHEAST WILDFLOWER SEED MIXTURE BY WEIGHT TO THE LINKS BLEND.
6. FOR PRICING PURPOSES, PROVIDE A PER TREE UNIT COST FOR STAKING AND GUYING. IF STAKING AND GUYING IS REQUIRED, REMOVE TREE WRAP, STAKES, AND GUY WIRES AT END OF FIRST GROWING SEASON.
7. FOR TREE PLANTING IN LAWN AREAS, ANY DISTURBED LAWN SHALL BE LOAMED AND SEEDED AS NECESSARY.
8. NEW TREES TO BE INSTALLED WITH A SLOW RELEASE WATERING BAG.
9. CONTRACTOR TO BE HELD RESPONSIBLE FOR THE WATERING AND MAINTENANCE OF ALL PLANT MATERIAL AND LANDSCAPING IMPROVEMENTS FOR AT LEAST 30 DAYS FOLLOWING INSTALLATION. FOLLOWING THIS PERIOD, THE LANDOWNER OR PROPERTY MANAGEMENT SHALL BE RESPONSIBLE FOR CONTINUED WATERING AND MAINTENANCE. CONTRACTOR TO MAINTAIN A ONE YEAR WARRANTY ON ALL PLANTINGS FOLLOWING FINAL INSTALLATION.
10. ALL PROPOSED PLANTS SHALL BE LOCATED AS SHOWN ON THE PLANS. CONTRACTOR TO NOTIFY ENGINEER WHEN PLANTINGS HAVE BEEN MOBILIZED ON SITE. ENGINEER TO INSPECT AND ACCEPT OR REJECT ANY SPECIMENS ON THE BASIS OF APPARENT HEALTH, HARDINESS, AND CONFORMANCE WITH THE PLANTING SCHEDULE. REJECTED SPECIMENS ARE TO BE REPLACED BY THE CONTRACTOR AT NO ADDED COST TO THE OWNER. ACCEPTANCE DOES NOT WAIVE THE REQUIRED ONE YEAR PLANTING WARRANTY.

DIG HOLE AT LEAST 2 TIMES THE DIAMETER OF THE ROOT BALL AND AS DEEP AS THE ROOT BALL (NO DEEPER). SET ROOT BALL CENTERED, WITH THE TOP AT DOWNHILL EDGE OF THE HOLE.

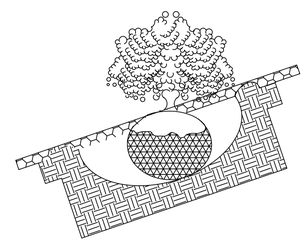
TOPSOIL BACKFILL SHALL BE NATURAL FRIABLE, FERTILE, FINE LOAMY SOIL POSSESSING THE CHARACTERISTICS OF TOPSOIL IN THE VICINITY WHICH PRODUCE A HEAVY GROWTH. TOPSOIL SHALL CONTAIN NOT LESS THAN 6% NOR MORE THAN 20% ORGANIC MATTER. TOP SOIL SHALL HAVE A pH VALUE OF NOT LESS THAN 5.5 NOR MORE THAN 7.0.

CONTAINER GROWN STOCK – REMOVE CONTAINER PROTECTING THE ROOT BALL. GENTLY COMB OUT THE ROOTS. PRUNE DAMAGED ROOTS.

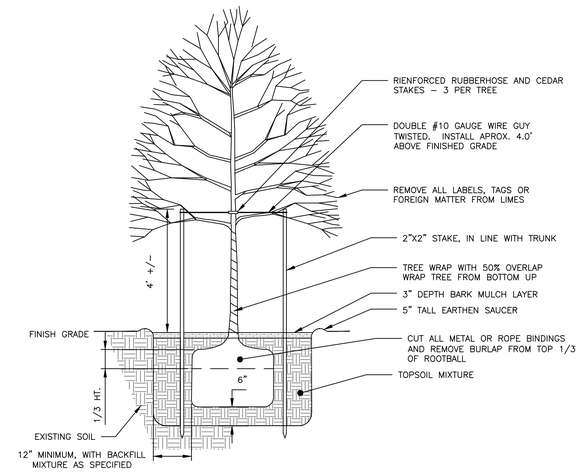
BACKFILL THE HOLE WITH TOPSOIL TO A DEPTH NOT TO EXCEED 8" THEN WATER SUFFICIENTLY TO SETTLE TOPSOIL. REPEAT SOIL BACKFILL, WATER, DRAIN. TOPSOIL SHALL BE TAMPED UNDER EDGES OF THE BALLED PLANTS. BACKFILL TO FINISH GRADE AND CREATE AN EARTHEN SAUCER. SOAK PLANTS TWICE WITHIN THE FIRST TWENTY-FOUR HOURS OF PLANTING.



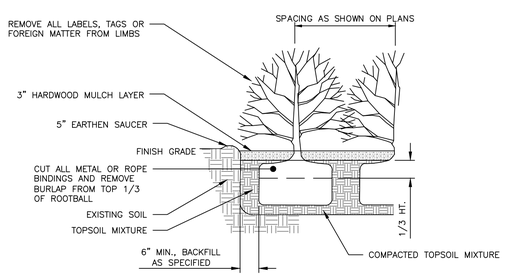
PERENNIAL PLANTING DETAIL
NOT TO SCALE



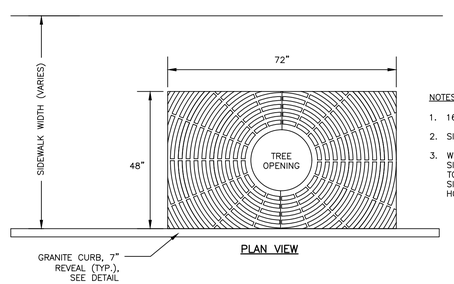
TYPICAL PLANTING
NOT TO SCALE



TREE PLANTING DETAIL
NOT TO SCALE



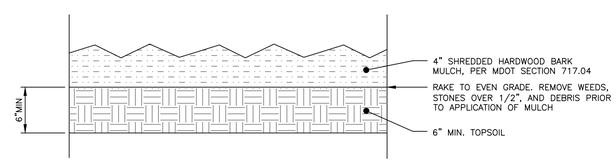
SHRUB PLANTING DETAIL
NOT TO SCALE



NOTES:

1. 16" EXPANDABLE TREE OPENING; .25" SLOT OPENINGS.
2. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.
3. WHEN THE TREE GRATE IS INSTALLED IN A CONCRETE SIDEWALK A NOTCH MUST BE INSTALLED ALONG THE EDGE TO HOLD THE GRATE, WHEN INSTALLED IN A BRICK SIDEWALK IT REQUIRES A FRAME TO BE INSTALLED TO HOLD THE GRATE IN PLACE.

EXPANDABLE TREE GRATE
NEENAH MODEL R-8810
NOT TO SCALE



BARK MULCH DETAIL
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL	1/8/21
MAJOR SITE PLAN	ZMS	8/25/21

DRAWING NAME: LANDSCAPE DETAILS

PROJECT NAME/ADDRESS: 30-32 ATLANTIC STREET DEVELOPMENT

CLIENT/OWNER OF RECORD: KESTREL LLC.
72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

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PO BOX 3477, PORTLAND, MAINE 04101
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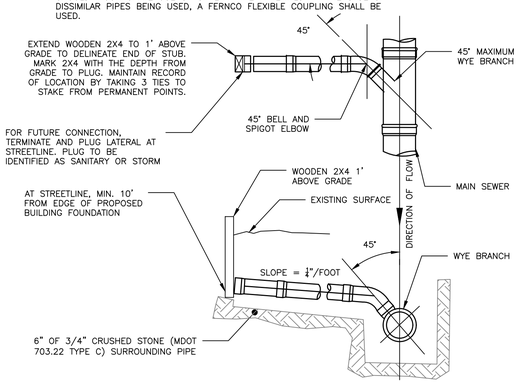
FILE:	1109.5_DETAILS
JN:	1109.5
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	ZMS
CHECKED BY:	SJL/WHS

STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
LICENSED
PROFESSIONAL ENGINEER
8/18/21

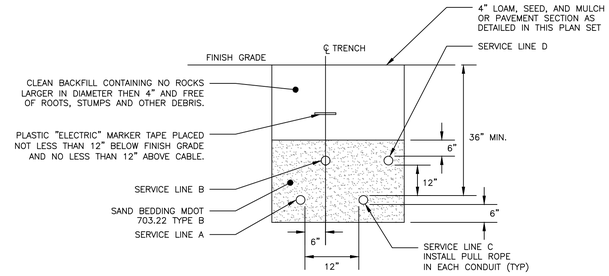
DRAWING NO.
C-42

NOTES:
1. LOCATION WITH WARNING TAPE SHALL BE INSTALLED OVER CENTERLINE OF PIPE AT A MAXIMUM OF 24 INCHES BELOW FINISH GRADE.
2. SITE CONTRACTOR TO COORDINATE CONNECTION OF SEWER LATERAL TO HOUSEHOLD PLUMBING WITH ARCHITECTURAL CONTRACTOR
3. CONNECTION OF PROPOSED SEWER LATERAL TO HOUSEHOLD PLUMBING SHOULD INCORPORATE USE OF SIMILAR PIPE MATERIALS. IN THE CASE OF DISSIMILAR PIPES BEING USED, A FERNCO FLEXIBLE COUPLING SHALL BE USED.



SEWER AND STORM DRAIN TEE/WYE CONNECTION DETAIL

NOT TO SCALE



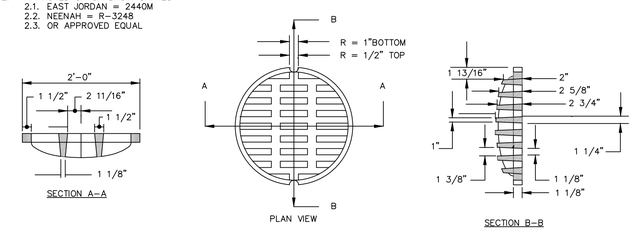
CONDUIT TYPE				
SERVICE	CONDUIT SIZE	GRASS AND PAVED AREAS	UTILITY	REMARKS
A	2-5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
B	2-4"	SCHEDULE 40 PVC	COMMUNICATION	–
C	2-4"	SCHEDULE 40 PVC ELECTRICAL GRADE	SPARE	IF REQUIRED
D	2-4"	SCHEDULE 40 PVC	CABLE	–

NOTES:
1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND-OFF BRACKETS.
2. MINIMUM SEPARATION OF 24 INCHES BETWEEN PRIMARY CABLE/CONDUIT AND GAS LINES SHALL BE MAINTAINED.
3. CONDUITS WITHIN THE CITY RIGHT-OF-WAY SHALL BE ENCASED IN CONCRETE.

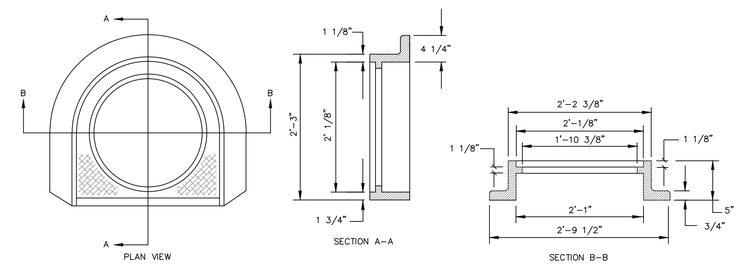
UTILITY TRENCH – PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE

NOT TO SCALE

NOTES:
1. APPROVED CATCH BASIN FRAMES:
   1.1. EAST JORDAN = 73752
   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



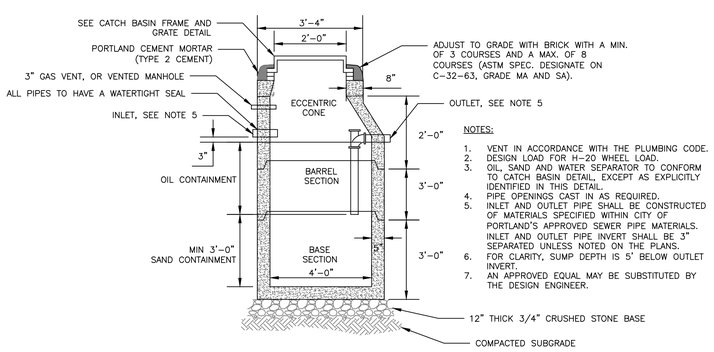
GRATE DETAIL



FRAME DETAIL

OIL AND WATER SEPARATOR FRAME & GRATE

NOT TO SCALE

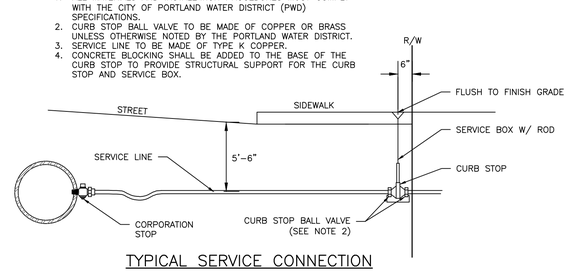


NOTES:
1. VENT IN ACCORDANCE WITH THE PLUMBING CODE.
2. DESIGN LOAD FOR H-20 WHEEL LOAD.
3. OIL, SAND AND WATER SEPARATOR TO CONFORM TO CATCH BASIN DETAIL EXCEPT AS EXPLICITLY IDENTIFIED IN THIS DETAIL.
4. PIPE OPENINGS CAST IN AS REQUIRED.
5. INLET AND OUTLET PIPE SHALL BE CONSTRUCTED OF MATERIALS SPECIFIED WITHIN CITY OF PORTLAND'S APPROVED SEWER PIPE MATERIALS. INLET AND OUTLET PIPE INVERT SHALL BE 3" SEPARATED UNLESS NOTED ON THE PLANS.
6. FOR CLARITY, SUMP DEPTH IS 5' BELOW OUTLET INVERT.
7. AN APPROVED EQUAL MAY BE SUBSTITUTED BY THE DESIGN ENGINEER.

4'-0" DIAMETER PRECAST OIL AND WATER SEPARATOR

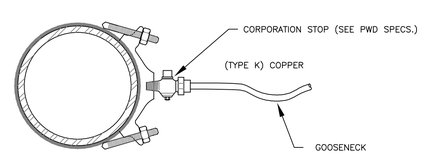
NOT TO SCALE

NOTES:
1. ALL 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.



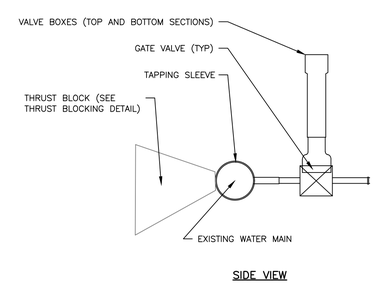
TYPICAL SERVICE CONNECTION

NOT TO SCALE



SERVICE SADDLE: 1-1/2" AND 2" C.C. THREAD

NOT TO SCALE



SIDE VIEW

TAPPING SLEEVE AND VALVE

NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL	7/8/21
MAJOR SITE PLAN	SJL	8/22/23
COMMENT RESPONSE	SJL	10/23/23

DRAWING NAME: UTILITY DETAILS – 1

PROJECT NAME/ADDRESS: 30-32 ATLANTIC STREET DEVELOPMENT

CLIENT/OWNER OF RECORD: KESTREL LLC. 72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

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ACORN ENGINEERING, INC.
PO BOX 3297, PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1109.5_DETAILS
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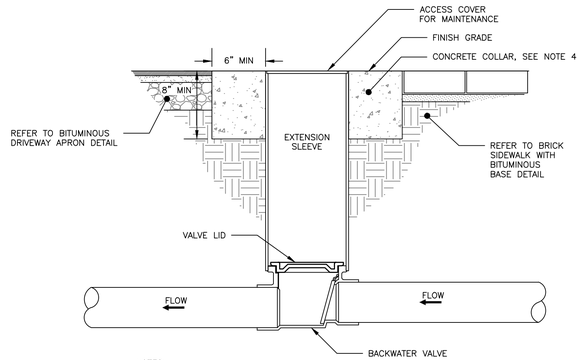
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	ZMS
CHECKED BY:	SJL/WHS

STATE OF MAINE SAMUEL J. LEBEL No. 16505 LICENSED PROFESSIONAL ENGINEER 10/15/21

DRAWING NO.

C-43

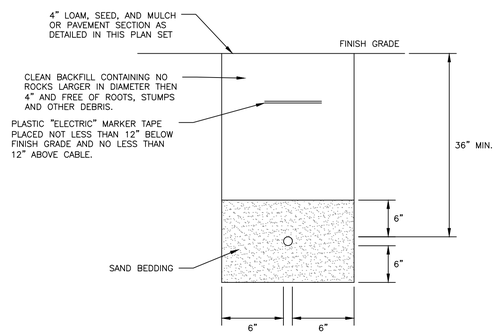


NOTES:

1. BACKFLOW VALVE TO BE PROVIDED BY AGRI DRAIN CORPORATION OR AN APPROVED EQUAL.
2. VALVE TO BE INSTALLED TO MANUFACTURER'S SPECIFICATIONS AND COMPLY WITH RULES AND REGULATIONS AS OUTLINED IN SECTION 2 OF THE CITY OF PORTLAND TECHNICAL MANUAL.
3. VALVE SHALL BE INSTALLED WITH A VALVE BOX AND COVER TO PROVIDE EASY ACCESS AND MAINTENANCE; VALVE COVER SHALL STATE 'SEWER' ON LID FLUSH TO SURFACE. REFER TO VALVE & BOX COVER DETAIL FOR ADDITIONAL INFORMATION.
4. CONCRETE COLLAR AT A MINIMUM 24-HOUR COMPRESSIVE STRENGTH OF 3,000 PSI.

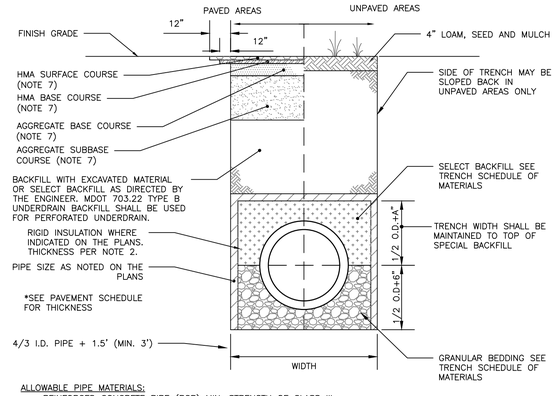
BACKFLOW VALVE ASSEMBLY

NOT TO SCALE



SECONDARY ELECTRICAL TRENCH

NOT TO SCALE



ALLOWABLE PIPE MATERIALS:

- REINFORCED CONCRETE PIPE (RCP) MIN. STRENGTH OF CLASS III
- PVC RING TYPE SEWER (SDR 35) OR EQUIVALENT, MIN PS-46 RATING
- PVC RING TYPE SEWER PIPE MEETING ASTM F 789
- DUCTILE IRON PIPE (DIP)
- ADS N-12 HP TRIPLE-WALL MIN PS-46 RATING
- ADS SANITITE HP MIN. PS-46

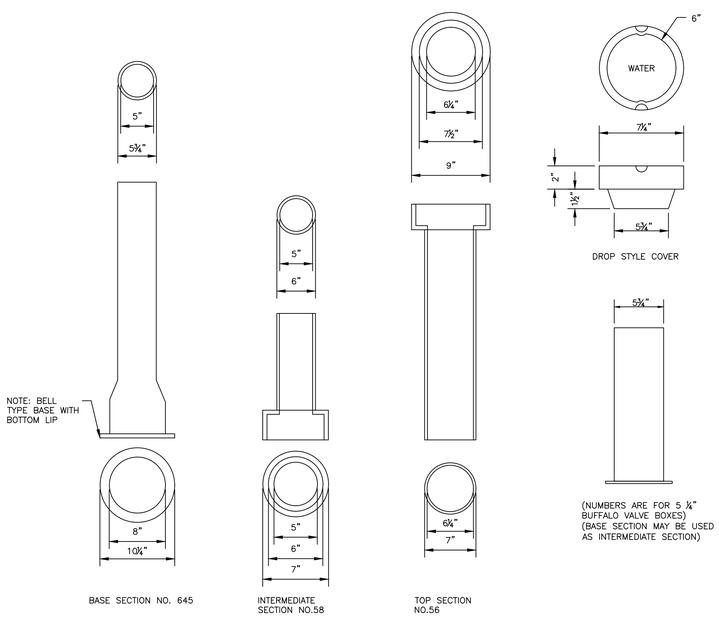
SCHEDULE OF MATERIALS		
TYPE OF PIPE	GRANULAR BEDDING	SELECT BACKFILL
CMP DUCTILE IRON RCP	MDOT 703.22 TYPE B UD BACKFILL	MDOT 703.22 TYPE B UD BACKFILL
PVC/HDPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL
CMP	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE

NOTES:

1. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. STORM DRAIN COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" OF RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2" RIGID INSULATION. OTHER UTILITIES: ADD 2" OF RIGID INSULATION FOR EACH FOOT ABOVE MINIMUM DEPTH.
3. INSTALL WARNING TAPE DIRECTLY ABOVE UTILITIES AT THE TOP OF SUBGRADE.
4. MINIMUM COVER
   4.1. 2'-0" – STORM DRAIN
   4.2. 5'-0" – SEWER
5. NO TREES SHALL BE PLANTED WITHIN 5' OF A SEWER PIPE OR SERVICE
6. THIS DETAIL SHALL BE APPLIED ONLY TO DRAINAGE PIPE TRENCHES OUTSIDE OF THE CITY OF PORTLAND ROW.
7. THICKNESS AS NOTED BY SURFACE DETAILS

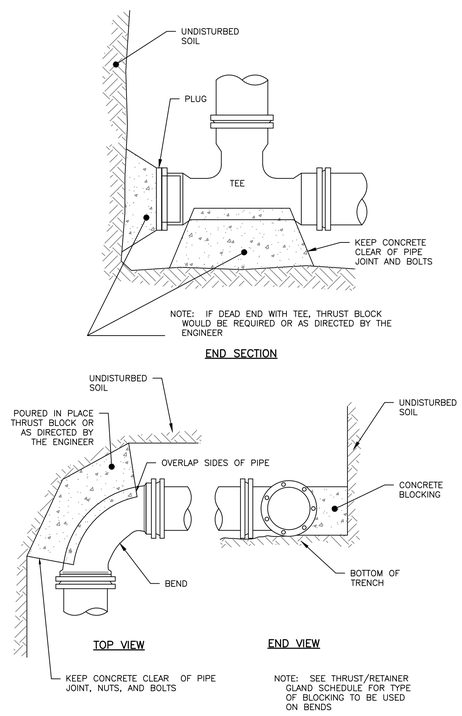
INTERNAL STORM DRAIN AND SEWER TYPICAL TRENCH SECTION

NOT TO SCALE



VALVE BOX & COVER

NOT TO SCALE

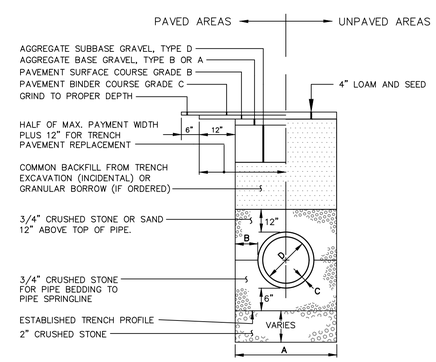


THRUST BLOCKING

NOT TO SCALE

NOTES:
DEPTH OF BITUMINOUS PAVEMENT AND AGGREGATE COURSES SHALL BE DETERMINED BY STREET CLASSIFICATION.

ANY ALTERNATE TRENCHING OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY OF PORTLAND, DEPARTMENT OF PUBLIC SERVICES..



TYPICAL PIPE TRENCH INSTALLATION

NOT TO SCALE

NOTES

1. ALTERNATIVE CONSTRUCTION METHODS OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2. IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
3. DIMENSION "B" SHALL BE SUFFICIENT TO ALLOW CRUSHED STONE BEDDING TO BE PLACED AND COMPACTED UNDER THE HAUNCHES OF THE PIPE; BUT IN ALL CASES DIMENSION "B" SHALL BE AT LEAST 9".
4. DIMENSION "A" IS THE MAXIMUM WIDTH ALLOWED FOR CALCULATING PAY QUANTITIES UNDER GRANULAR BORROW, CRUSHED STONE, STRUCTURAL EARTH EXCAVATION, AND STRUCTURAL ROCK EXCAVATION. DIMENSION "A" SHALL BE BASED ON PIPE DIAMETER "D", AS SET FORTH IN THE FOLLOWING TABLE.

PIPE DIAMETER, D (INCHES)	MAX. TRENCH WIDTH, A (FEET)
4	4.0
6	4.0
8	4.0
10	4.0
12	5.0
15	5.0
18	5.0
21	5.0
24	6.0
27	6.0
30	6.0
36	6.0
42	7.0
48	7.0

TYPICAL PIPE INSTALLATION – NOTES

NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL	1/8/21
MAJOR SITE PLAN	ZMS	9/22/21
COMMENT RESPONSE	SJL	10/22/21

DRAWING NAME: UTILITY DETAILS – 2

PROJECT NAME/ADDRESS: 30-32 ATLANTIC STREET DEVELOPMENT

CLIENT/OWNER OF RECORD: KESTREL LLC. 72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

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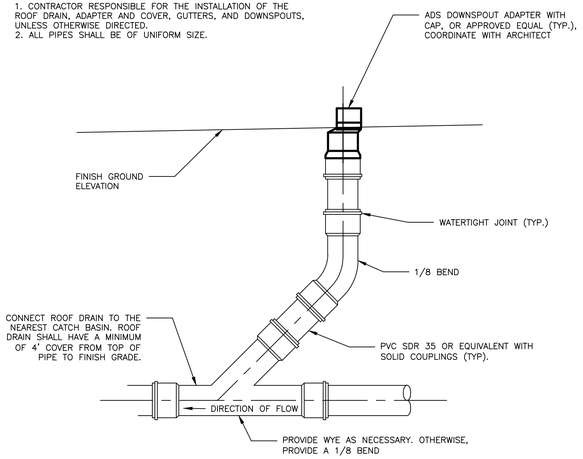
FILE: 1109.5_DETAILS
JN: 1109.5
SCALE: AS NOTED
DESIGNED BY: SJL
DRAWN BY: ZMS
CHECKED BY: SJL/WHS

STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
LICENSED
PROFESSIONAL ENGINEER
10/15/21

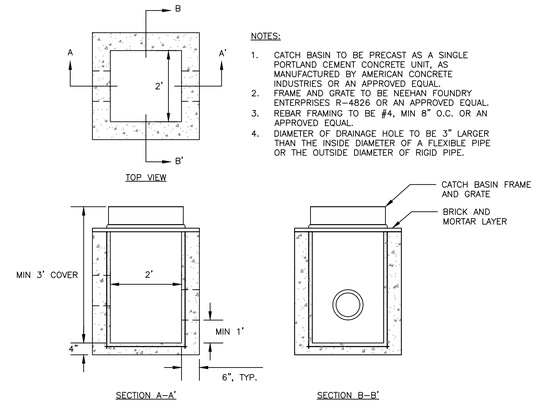
DRAWING NO.
C-44

NOTES:

1. CONTRACTOR RESPONSIBLE FOR THE INSTALLATION OF THE ROOF DRAIN, ADAPTER AND COVER, GUTTERS, AND DOWNSPOUTS, UNLESS OTHERWISE DIRECTED.
2. ALL PIPES SHALL BE OF UNIFORM SIZE.



ROOF DRAIN DETAIL
NOT TO SCALE



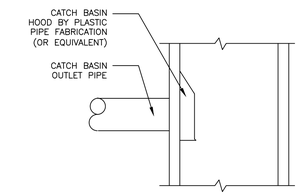
NOTES:

1. CATCH BASIN TO BE PRECAST AS A SINGLE PORTLAND CEMENT CONCRETE UNIT, AS MANUFACTURED BY AMERICAN CONCRETE INDUSTRIES OR AN APPROVED EQUAL.
2. FRAME AND GRATE TO BE NEEHAN FOUNDRY ENTERPRISES R–4826 OR AN APPROVED EQUAL.
3. REBAR FRAMING TO BE #4, MIN 8" O.C. OR AN APPROVED EQUAL.
4. DIAMETER OF DRAINAGE HOLE TO BE 3" LARGER THAN THE INSIDE DIAMETER OF A FLEXIBLE PIPE OR THE OUTSIDE DIAMETER OF RIGID PIPE.

'TYPE F' PRECAST CATCH BASIN
NOT TO SCALE

NOTES:

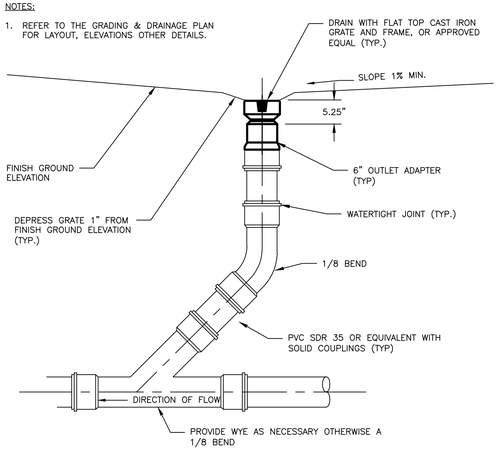
1. INSTALL HOOD ON ALL OUTLETS 24" OR LESS.
2. PREFERRED STYLE DESIGNED TO ELIMINATE CEMENTING OF THE TRAP.
3. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION REQUIREMENTS



CATCH BASIN HOOD DETAIL
NOT TO SCALE

NOTES:

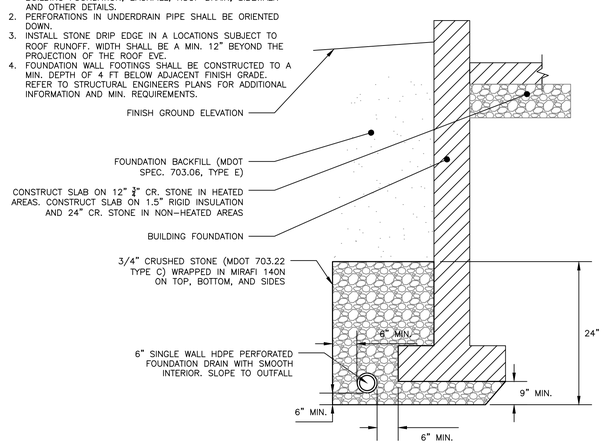
1. REFER TO THE GRADING & DRAINAGE PLAN FOR LAYOUT, ELEVATIONS OTHER DETAILS.



INLINE DRAIN DETAIL WITH FLAT GRATE
NOT TO SCALE

NOTES:

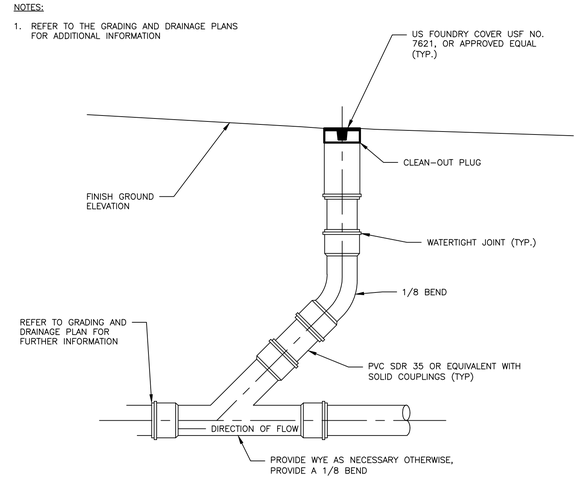
1. REFER TO THE BUILDING ARCHITECTS PLANS FOR THE BUILDING FOUNDATION, BACKFILL, ROOF DRAIN, SIDEWALK AND OTHER DETAILS.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.
3. INSTALL STONE DRIP EDGE IN A LOCATIONS SUBJECT TO ROOF RUNOFF. WIDTH SHALL BE A MIN. 12" BEYOND THE PROJECTION OF THE 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.



FOUNDATION DRAIN DETAIL
NOT TO SCALE

NOTES:

1. REFER TO THE GRADING AND DRAINAGE PLANS FOR ADDITIONAL INFORMATION



CLEANOUT DETAIL
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL	1/8/21
MAJOR SITE PLAN	ZMS	8/25/23

DRAWING NAME: DRAINAGE DETAILS

PROJECT NAME/ADDRESS: 30–32 ATLANTIC STREET DEVELOPMENT

CLIENT/OWNER OF RECORD: KESTREL LLC. 72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

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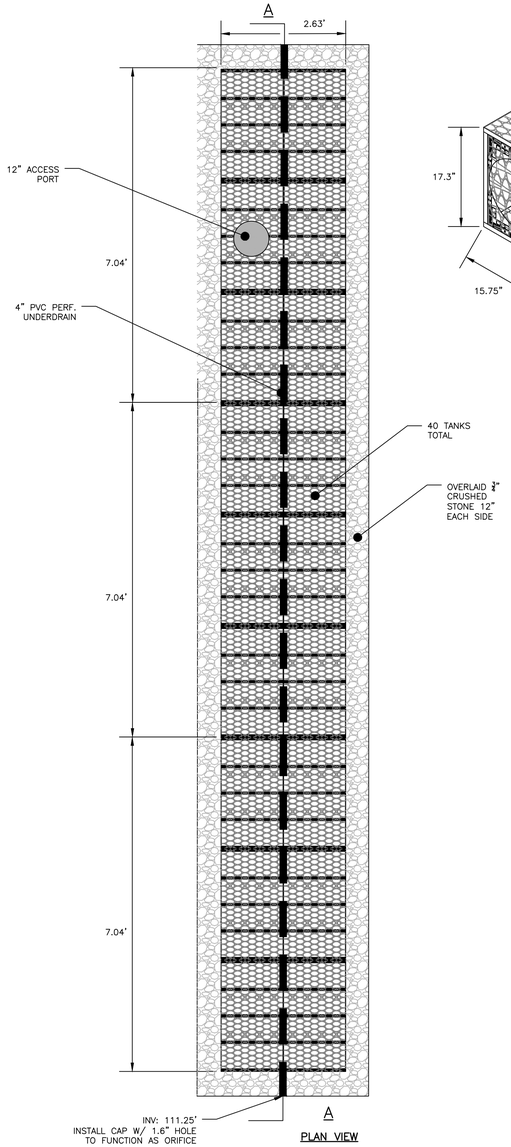
FILE:	1109.5_DETAILS
JN:	1109.5
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	ZMS
CHECKED BY:	SJL/WHS

STATE OF MAINE SAMUEL J. LEBEL No. 16505 LICENSED PROFESSIONAL ENGINEER 8/18/21

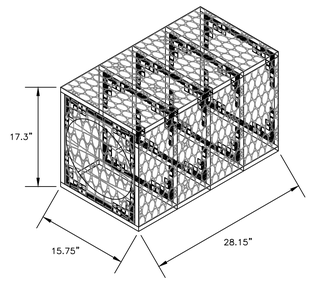
DRAWING NO.
C-45



PLAN VIEW

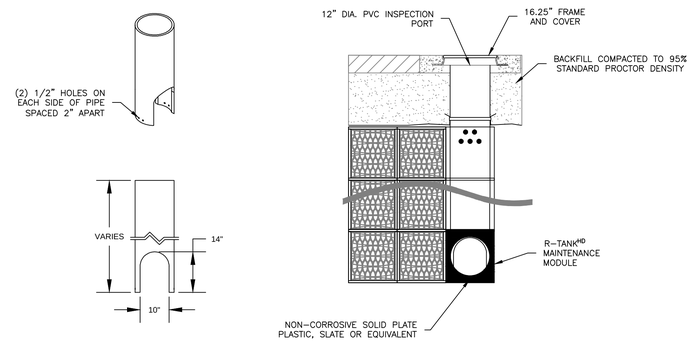
R-TANK MODULE DETAIL

NOT TO SCALE



ISOMETRIC VIEW

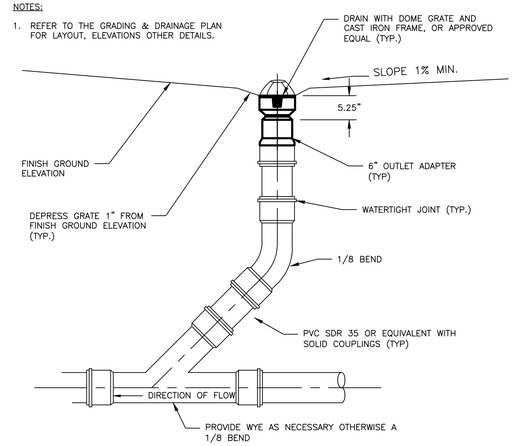
NOTES
1. THE INSPECTION PORT IS USED IN THE MAINTENANCE MODULE TO INSPECT THE LEVEL OF SEDIMENT ACCUMULATION.
2. MINIMUM REQUIRED MAINTENANCE INCLUDES A QUARTERLY INSPECTION DURING THE FIRST YEAR OF OPERATION AND A YEARLY INSPECTION THEREAFTER. FLUSH MAINTENANCE ROW VIA THE ACCESS STRUCTURE FROM EITHER END AS NEEDED.



ACCESS PORT WITH SOLID COVER

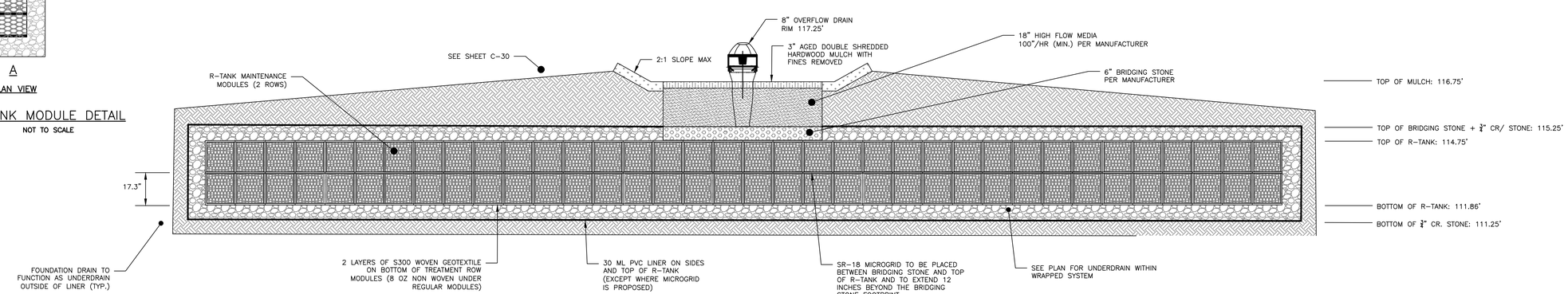
NOT TO SCALE

NOTES:
1. REFER TO THE GRADING & DRAINAGE PLAN FOR LAYOUT, ELEVATIONS OTHER DETAILS.



OVERFLOW BEEHIVE DRAIN

NOT TO SCALE



SECTION A–A

FOCAL POINT RAIN GARDEN WITH R-TANK TREATMENT ROW

NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL	1/8/21
MAJOR SITE PLAN	ZMS	8/28/23

DRAWING NAME: FOCAL POINT DETAIL

PROJECT NAME/ADDRESS: 30–32 ATLANTIC STREET DEVELOPMENT

CLIENT/OWNER OF RECORD: KESTREL LLC. 72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

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JN:	1109.5
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	ZMS
CHECKED BY:	SJL/WHS

STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
LICENSED
PROFESSIONAL ENGINEER
8/17/21

DRAWING NO.

C-46

1.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

AS PART OF THE SITE DEVELOPMENT, THE FOLLOWING TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE IMPLEMENTED. DEVICES SHALL BE INSTALLED AS DESCRIBED IN THIS REPORT OR WITHIN THE PLAN SET. SEE THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES FOR FURTHER REFERENCE.

1.1 TEMPORARY EROSION CONTROL MEASURES

THE FOLLOWING TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ARE PLANNED FOR THE PROJECT'S CONSTRUCTION PERIOD:

1.1.1 CRUSHED STONE STABILIZED CONSTRUCTION ENTRANCES SHALL BE PLACED AT ALL ACCESS POINTS TO THE PROJECT SITE WHERE THERE ARE DISTURBED AREAS. THE FOLLOWING SPECIFICATIONS SHALL BE FOLLOWED AT A MINIMUM:
- STONE SIZE SHALL BE 2–3 INCHES, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- THE THICKNESS OF THE ENTRANCE STONE LAYER SHALL BE NO LESS THAN 6 INCHES.
- THE ENTRANCE SHALL NOT BE LESS THAN 20 FEET WIDE, HOWEVER NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS. THE LENGTH SHALL NOT BE LESS THAN 50 FEET IN LENGTH.
- GEOTEXTILE FABRIC (WOVEN OR NON–WOVEN) SHALL BE PLACED OVER THE ENTIRE ENTRANCE AREA.
- THE ENTRANCE/EXIT SHALL BE MAINTAINED TO THE EXTENT THAT IT WILL PREVENT THE TRACKING OF SEDIMENT ONTO PUBLIC ROAD WAYS.

1.1.2 SILTATION FENCE OR EROSION CONTROL BERM SHALL BE INSTALLED DOWN GRADIENT OF ANY DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL PERMANENT STABILIZATION IS ACHIEVED. THE SILT FENCE OR EROSION CONTROL BERM SHALL BE INSTALLED PER THE DETAILS PROVIDED IN THE PLAN SET AND INSPECTED BEFORE AND IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIRS SHALL BE MADE IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE LINE OR BERM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THE FENCE OR BERM, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM.

1.1.3 HAY MULCH INCLUDING HYDRO SEEDING IS INTENDED TO PROVIDE COVER FOR DENUDED OR SEEDED AREAS UNTIL REVEGETATION IS ESTABLISHED. MULCH PLACED BETWEEN APRIL 15TH AND NOVEMBER 1ST ON SLOPES OF LESS THAN 15 PERCENT SHALL BE COVERED BY FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. MULCH PLACED BETWEEN NOVEMBER 1ST AND APRIL 15TH ON SLOPES EQUAL TO OR STEEPER THAN 8 PERCENT AND EQUAL TO OR FLATTER THAN 2:1 SHALL USE MATS OR FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

1.1.4 AT ANY TIME OF THE YEAR, ALL SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH DOUBLE NET EROSION CONTROL BLANKET BIONET SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL, OR EROSION CONTROL MIX SLOPE PROTECTION AS DETAILED WITHIN THE PLANS.

1.1.5 ATLANTIC STREET SHALL BE SWEPT TO CONTROL MUD AND DUST FROM THE CONSTRUCTION SITE AS NECESSARY. ADD ADDITIONAL STONE TO THE STABILIZED CONSTRUCTION ENTRANCE TO MINIMIZE THE TRACKING OF MATERIAL OFF THE SITE AND ONTO THE SURROUNDING ROADWAYS.

1.1.6 DURING DEMOLITION, CLEARING AND GRUBBING OPERATIONS, STONE CHECK DAMS SHALL BE INSTALLED AT ANY AREAS OF CONCENTRATED FLOW. THE MAXIMUM HEIGHT OF THE CHECK DAM SHALL NOT EXCEED 2 FEET. THE CENTER OF THE CHECK DAM SHALL BE 6 INCHES BELOW THE OUTER EDGES OF THE DAM. THE CONTRACTOR SHALL MULCH THE SIDE SLOPES AND INSTALL STONE CHECK DAMS FOR ALL NEWLY EXCAVATED DITCH LINES WITHIN 24 HOURS OF THEIR CREATION.

1.1.7 SILT FENCE STAKE SPACING SHALL NOT EXCEED 6 FEET UNLESS THE FENCE IS SUPPORTED WITH 14 GAUGE WIRE IN WHICH CASE THE MAXIMUM SPACING SHALL NOT EXCEED 10 FEET. THE SILT FENCE SHALL BE "TOED" INTO THE GROUND.

1.1.8 STORMDRAIN INLET PROTECTION SHALL BE PROVIDED TO STORMDRAINS THROUGH THE USE OF ANY OF THE FOLLOWING: HAY BALE DROP INLET STRUCTURES, SILT FENCE DROP INLET SEDIMENT FILTER, GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER, OR CURB INLET SEDIMENT FILTER. BARRIERS SHALL BE INSPECTED AFTER EVERY RAINFALL EVENT AND REPAIRED AS NECESSARY. SEDIMENTS SHALL BE REMOVED WHEN ACCUMULATION HAS REACHED ½ THE DESIGN HEIGHT.

1.1.9 DUST CONTROL SHALL BE ACCOMPLISHED BY THE USE OF ANY OF THE FOLLOWING: WATER, CALCIUM CHLORIDE, STONE, OR AN APPROVED MDEP PRODUCT. DUST CONTROL SHALL BE APPLIED AS NEEDED TO ACCOMPLISH DUST CONTROL.

1.1.10 TEMPORARY LOAM, SEED, AND MULCHING SHALL BE USED IN AREAS WHERE NO OTHER EROSION CONTROL MEASURE IS USED. APPLICATION RATES FOR SEEDING ARE PROVIDED AT THE END OF THIS REPORT.

1.1.11 STOCKPILES SHALL BE STABILIZED WITHIN 7 DAYS OF FORMATION UNLESS A SCHEDULED RAIN EVENT OCCURS PRIOR TO THE 7 DAY WINDOW, IN WHICH CASE THE STOCKPILE SHALL BE STABILIZED PRIOR TO THE RAIN EVENT. METHODS OF STABILIZATION SHALL BE MULCH, EROSION CONTROL MIX, OR EROSION CONTROL BLANKETS/MATS. SILT FENCE OR A WOOD WASTE COMPOST FILTER BERM SHALL BE PLACED DOWNHILL OF ANY SOIL STOCKPILE LOCATION.

1.1.12 FOR DISTURBANCE BETWEEN NOVEMBER 1 AND APRIL 15, PLEASE REFER TO WINTER STABILIZATION PLAN IN THIS REPORT AND THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR FURTHER INFORMATION.

1.1.13 IT IS OF THE UTMOST IMPORTANCE THAT STORMWATER RUNOFF AND POTENTIAL SEDIMENT FROM THE CONSTRUCTION SITE BE DIVERTED AROUND THE PROPOSED UNDERDRAINS UNTIL THE TRENCH IS BACKFILLED.

1.2 PERMANENT EROSION CONTROL MEASURES

THE FOLLOWING PERMANENT EROSION CONTROL MEASURES ARE INTENDED FOR POST DISTURBANCE AREAS OF THE PROJECT.

1.2.1 ALL DISTURBED AREAS DURING CONSTRUCTION, NOT SUBJECT TO OTHER PROPOSED CONDITIONS, SHALL RECEIVE A MINIMUM 4" OF LOAM, LIMED, AND MULCHED. EROSION CONTROL BLANKETS OR MATS SHALL BE PLACED OVER THE MULCH IN AREAS NOTED IN PARAGRAPH 4.1 OF THIS REPORT.
1.2.2 ALL STORMWATER DEVICES SHALL BE INSTALLED AND TRIBUTARY AREAS STABILIZED PRIOR RECEIVING STORMWATER.
1.2.3 REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

2.0 EROSION AND SEDIMENTATION CONTROL PLAN

2.1 THE EROSION AND SEDIMENTATION CONTROL PLAN IS INCLUDED WITHIN THE PLAN SET.

3.0 DETAILS AND SPECIFICATIONS

3.1 EROSION CONTROL DETAILS AND SPECIFICATIONS ARE INCLUDED IN THE PLAN SET.

4.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

WINTER CONSTRUCTION CONSISTS OF EARTHWORK DISTURBANCE BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15. IF A CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 75% MATURE VEGETATION COVER OR RIPRAP BY NOVEMBER 15, THEN THE SITE SHALL BE PROTECTED WITH OVER–WINTER STABILIZATION. ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MIX, EROSION CONTROL MATS, RIPRAP, OR GRAVEL BASE ON A ROAD SHALL BE CONSIDERED OPEN.

THE CONTRACTOR SHALL LIMIT THE WORK AREA TO AREAS THAT WORK WILL OCCUR IN DURING THE SUBSEQUENT 15 DAYS AND SO THAT IT CAN BE MULCHED ONE DAY PRIOR TO A SNOW EVENT. THE CONTRACTOR SHALL STABILIZE WORK AREAS PRIOR TO OPENING ADDITIONAL WORK AREAS TO MINIMIZE AREAS WITHOUT EROSION CONTROL MEASURES.

THE FOLLOWING MEASURES SHALL BE IMPLEMENTED DURING WINTER CONSTRUCTION PERIODS:

4.1 SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS OR ANY OTHER RECOGNIZED SEDIMENT BARRIERS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES OR SILT FENCES.

4.2 MULCHING

ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LB. PER 1,000 SQUARE FEET OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE OF 75–LBS./1,000 S.F. OR 1.5 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED. EROSION CONTROL MIX MUST BE APPLIED WITH A MINIMUM 4 INCH THICKNESS. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. THE SNOW SHALL BE REMOVED DOWN TO A ONE–INCH DEPTH OR LESS PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA SHALL BE PROPERLY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED OR ADEQUATELY ANCHORED SO THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, TRACKING OR WOOD CELLULOSE FIBER. THE COVER WILL BE CONSIDERED SUFFICIENT WHEN THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

4.3 SOIL STOCKPILING

STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A FOUR–INCH LAYER OF EROSION CONTROL MIX. THIS SHALL BE DONE WITHIN 24 HOURS OF STOCKING AND RE–ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL.

4.4 SEEDING

BETWEEN THE DATES OF OCTOBER 15TH AND APRIL 1ST, LOAM OR SEED SHALL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS NOT BEEN LOAMED, FINAL GRADING WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED.

DORMANT SEEDING MAY BE PLACED PRIOR TO THE PLACEMENT OF MULCH OR EROSION CONTROL BLANKETS. IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4" OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS/1,000 S.F. ALL AREAS SEEDED DURING THE WINTER SHALL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 75% CATCH) SHALL BE REVEGETATED BY REPLACING LOAM, SEED AND MULCH. IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE REVEGETATED IN THE SPRING.

4.5 OVER WINTER STABILIZATION OF DISTURBED SOILS

BY SEPTEMBER 15TH, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% SHALL BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN ONE OF THE FOLLOWING ACTIONS SHALL BE TAKEN TO STABILIZE THE SOIL FOR LATE FALL AND WINTER:

- STABILIZE THE SOIL WITH TEMPORARY VEGETATION – BY OCTOBER 1ST, SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3LBS PER 1,000 S.F., LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 LBS PER 1,000 S.F., AND ANCHOR THE MULCH WITH PLASTIC NETTING. MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 1ST, THEN MULCH THE AREA FOR OVER–WINTER PROTECTION.

- STABILIZE THE SOIL WITH SOD – STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.

- STABILIZE THE SOIL WITH MULCH – BY NOVEMBER 15TH, MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 LBS PER 1,000 S.F. ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

4.6 OVER WINTER STABILIZATION OF DISTURBED SLOPES

ALL STONE–COVERED SLOPES SHALL BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15TH. ALL SLOPES TO BE VEGETATED SHALL BE SEEDED AND MULCHED BY SEPTEMBER 1ST. A SLOPE IS CONSIDERED A GRADE GREATER THAN 15%. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1ST, THEN ONE OF THE FOLLOWING ACTION SHALL BE TAKEN TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER:

- STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS – BY OCTOBER 1ST THE DISTURBED SLOPE SHALL BE SEEDED WITH WINTER RYE AT A SEEDING RATE OF 3 LBS PER 1,000 S.F. AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED MULCH OVER THE SEEDING. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% F THE SLOPE BY NOVEMBER 1ST, THEN THE CONTRACTOR SHALL COVER THE SLOPE WITH A LAYER OF EROSION CONTROL MIX OR WITH STONE RIPRAP.

- STABILIZE THE SOIL WITH SOD – THE DISTURBED SLOPE SHALL BE STABILIZED WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE CONTRACTOR SHALL NOT USE LATE–SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 3H:1V OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

- STABILIZE THE SOIL WITH EROSION CONTROL MIX – EROSION CONTROL MIX SHALL BE PROPERLY INSTALLED BY NOVEMBER 15TH. THE CONTRACTOR SHALL NOT USE EROSION CONTROL MIX TO STABILIZE SLOPES HAVING GRADES GREATER THAN 2H:1V OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

- STABILIZE THE SOIL WITH STONE RIPRAP – PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15TH. A REGISTERED PROFESSIONAL ENGINEER SHALL BE HIRED TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

5.0 INSPECTION AND MAINTENANCE

A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT PERIODIC VISUAL INSPECTIONS OF INSTALLED EROSION CONTROL MEASURES. THE FREQUENCY OF INSPECTION SHALL OCCUR AT LEAST ONCE EVERY TWO WEEKS, AS WELL AS AFTER A "STORM EVENT". A "STORM EVENT" SHALL CONSIST 0.5 INCHES OF RAIN WITHIN A 24 HOUR PERIOD. THE FOLLOWING EROSION AND SEDIMENT CONTROL – BEST MANAGEMENT PRACTICES (BMP'S) SHALL INSPECTED IN THE MANNER AS DESCRIBED.

5.1 SEDIMENT BARRIERS

HAY BALE BARRIERS, SILT FENCES AND FILTER BERMS SHALL BE INSPECTED AND REPAIRED FOR THE FOLLOWING IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE–HALF THE HEIGHT OF THE BARRIER. FILTER BERMS SHOULD BE RESHAPED AS NEEDED. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

5.2 STABILIZED STONE CONSTRUCTION ENTRANCES

THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHALL BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL AND REDISTRIBUTED ON SITE IN A STABLE MANNER. THE ENTRANCE SHOULD THEN BE RECONSTRUCTED. THE CONTRACTOR SHALL SWEEP OR WASH PAVEMENT AT EXITS, WHICH HAVE EXPERIENCED MUD–TRACKING ON TO THE PAVEMENT OR TRAVELED WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

5.3 MULCHED AREAS

ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGE OCCUR, RE–INSTALL THE NETS AS NECESSARY AFTER REPAIRING DAMAGE TO THE SLOPE. WHERE MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE. REPAIR AS NEEDED.

5.4 DUST CONTROL

WHEN TEMPORARY DUST CONTROL MEASURES ARE USED, REPETITIVE TREATMENT SHALL BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.

5.5 STORMWATER APPURTENANCES

ALL UNDERDRAINS, STORM DRAINS, AND CATCH BASINS NEED TO BE OPERATING EFFECTIVELY AND FREE OF DEBRIS.

5.6 EROSION AND SEDIMENTATION CONTROL INSPECTIONS:

ACORN ENGINEERING HAS PERSONNEL QUALIFIED TO CONDUCT EROSION AND SEDIMENTATION CONTROL INSPECTIONS. FOR FURTHER INFORMATION CONTACT:

CONTACT: WILL SAVAGE, PE
TELEPHONE: (207) 775–2655

QUALIFICATIONS:

- 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 RETAINING AND FOUNDATION WALLS TO CONTAIN RUNOFF WITHIN THE SITE WHILE PROVIDING AN ENGINEERED OUTLET WITH SILTATION BARRIER TO THE MUNICIPAL STORMWATER SYSTEM WITHIN ATLANTIC STREET.
6. COMMENCE EARTHWORK OPERATIONS, WALL AND FOUNDATION INSTALLATION.
7. COMMENCE INSTALLATION OF UTILITIES.
8. CONTINUE EARTHWORK AND GRADING TO SUBGRADE AS NECESSARY FOR CONSTRUCTION.
9. COMPLETE INSTALLATION OF DRAINAGE INFRASTRUCTURE, AS WELL AS OTHER UTILITY WORK.
10. COMPLETE REMAINING EARTHWORK OPERATIONS.
11. INSTALL SUB–BASE AND BASE GRAVELS IN PAVED AREAS.
12. INSTALL PAVING, CURBING AND BRICKWORK.
13. LOAM, LIME, FERTILIZE, SEED AND MULCH DISTURBED AREAS AND COMPLETE ALL LANDSCAPING.
14. ONCE THE SITE IS STABILIZED, 90% CATCH OF GRASS HAS BEEN OBTAINED, OR MULCHING OF LANDSCAPE AREAS IS COMPLETE REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
15. TOUCH UP AREAS WITHOUT A VIGOROUS CATCH OF GRASS WITH LOAM AND SEED.
16. COMPLETE SITE SIGNAGE AND STRIPING.
17. EXECUTE PROPER MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES THROUGHOUT THE PROJECT.

THE ABOVE IMPLEMENTATION SEQUENCE SHOULD BE GENERALLY FOLLOWED BY THE SITE CONTRACTOR. HOWEVER, THE CONTRACTOR MAY CONSTRUCT SEVERAL ITEMS SIMULTANEOUSLY. THE CONTRACTOR SHALL SUBMIT TO THE OWNER A SCHEDULE OF THE COMPLETION OF THE WORK. IF THE CONTRACTOR IS TO COMMENCE THE CONSTRUCTION OF MORE THAN ONE ITEM ABOVE, THEY SHALL LIMIT THE AMOUNT OF EXPOSED AREAS TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDERTAKEN DURING THE FOLLOWING 30 DAYS.

THE CONTRACTOR SHALL RE–VEGETATE DISTURBED AREAS AS RAPIDLY AS POSSIBLE. ALL AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING OR BEFORE A STORM EVENT. THE CONTRACTOR SHALL INCORPORATE PLANNED INLETS AND DRAINAGE SYSTEMS AS EARLY AS POSSIBLE INTO THE CONSTRUCTION PHASE.

7.0 CONCLUSION

THE ABOVE EROSION CONTROL NARRATIVE IS INTENDED TO MINIMIZE THE DEVELOPMENT IMPACT BY IMPLEMENTING TEMPORARY AND PERMANENT EROSION CONTROL MEASURES. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

SEEDING PLAN

SITE PREPARATION

THE SEEDED AREAS SHALL BE FEASIBLY GRADED OUT TO PROVIDE THE USE OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. IF NECESSARY, THE SITE MAY REQUIRE ADDITIONAL TEMPORARY EROSION CONTROL MEASURES OUTLINED IN THE EROSION CONTROL REPORT.

SEEDBED PREPARATION

FERTILIZER SHALL BE APPLIED TO THE SITE AT A RATE OF 13.8 POUNDS PER 1,000 SQUARE FEET. THE COMPOSITION OF THE FERTILIZER SHALL BE 10–10–10 (N–P205–K20) OR EQUIVALENT.

LIMESTONE SHALL BE APPLIED TO THE SITE AT A RATE OF 138 POUNDS PER 1,000 SQUARE FEET.

SEEDING

THE COMPOSITION AND AMOUNT OF TEMPORARY SEED APPLIED TO A SITE SHALL BE DETERMINED BY THE FOLLOWING TABLE:

TEMPORARY SEED APPLICATION RATES

SEED	LBS / ACRE	RECOMMENDED SEEDING DATES
WINTER RYE	2.57	8/15 TO 10/1
OATS	1.84	4/1 TO 7/1 8/15 TO 9/15
ANNUAL RYGRASS	0.92	4/1 TO 7/1
SUDANGRASS	0.92	5/15 TO 8/15
PERENNIAL	0.92	8/15 TO 9/15
TOTAL	7.17 LBS/ACRE	

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.

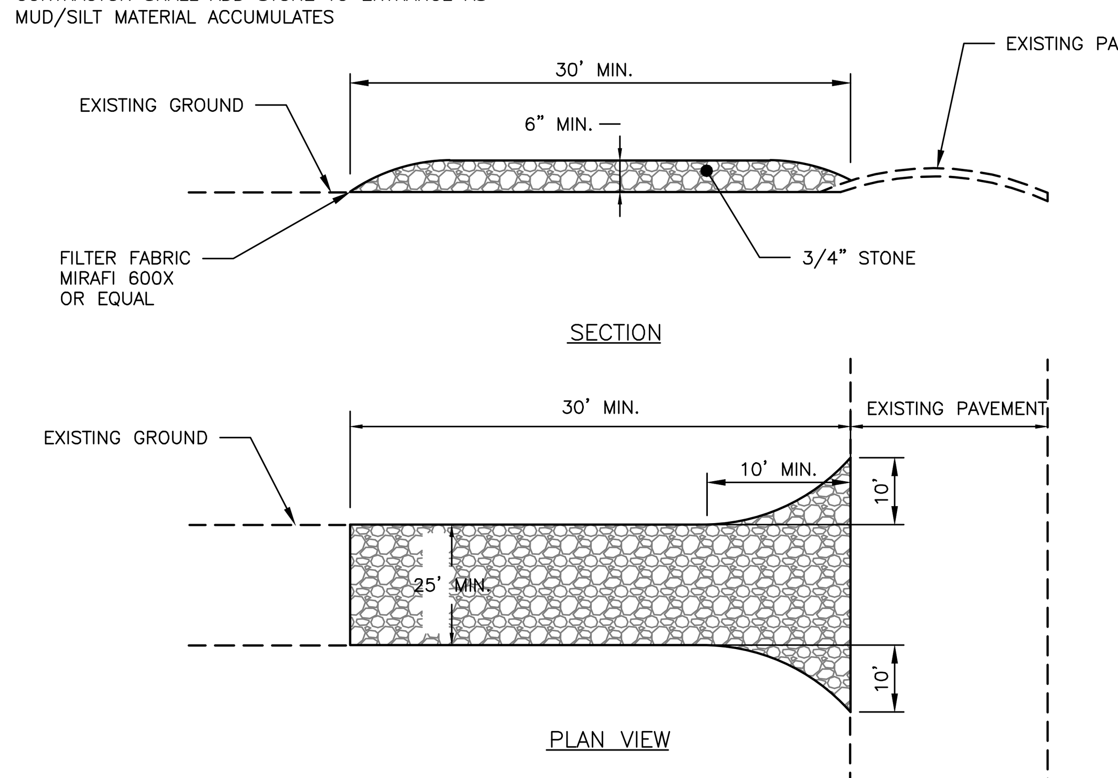
CONCLUSION

PLEASE REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION PERTAINING TO TEMPORARY SEEDING AND MULCHING.

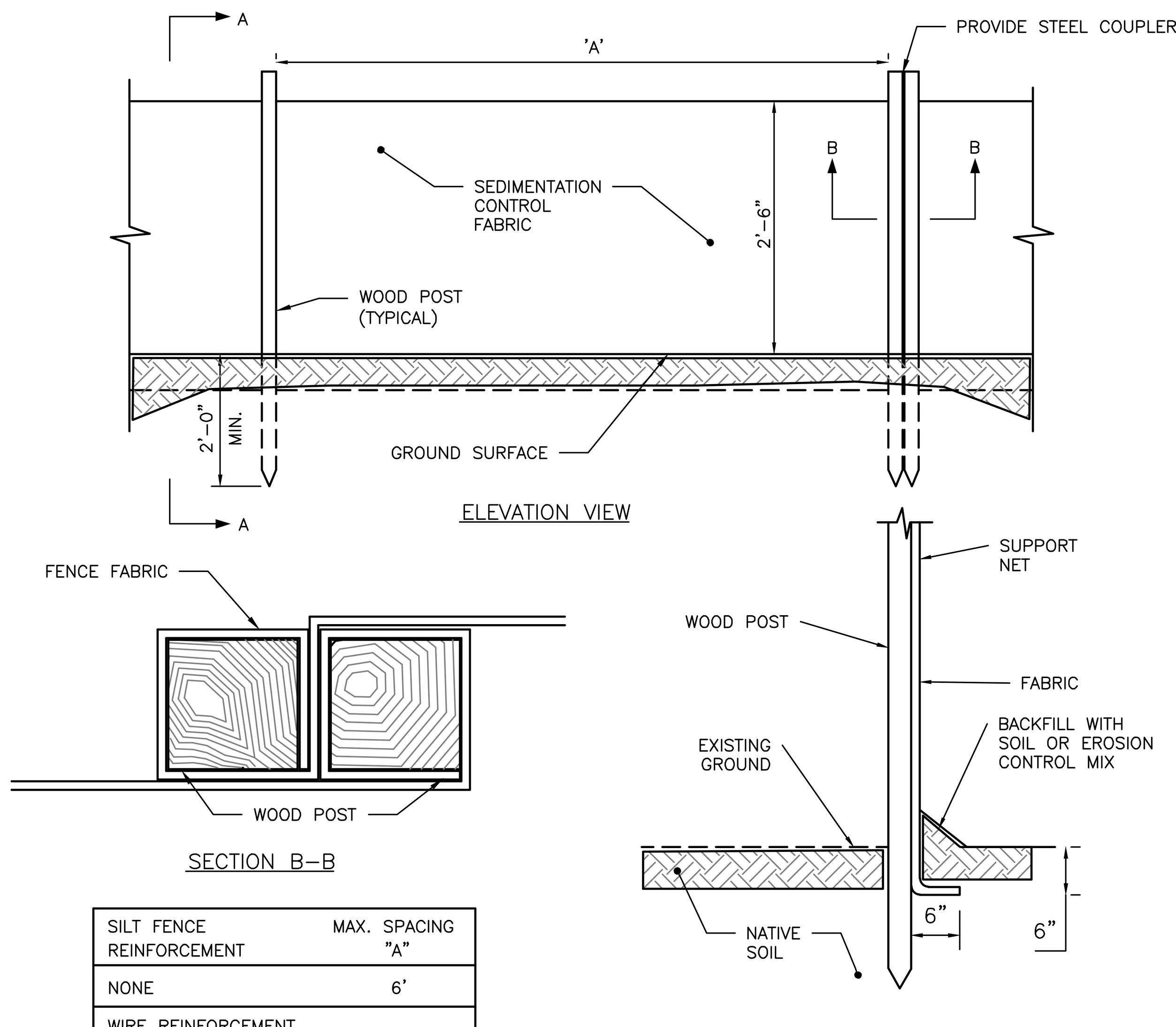
PRELIMINARY
NOT ISSUED FOR
CONSTRUCTION

NOTE:

CONTRACTOR SHALL ADD STONE TO ENTRANCE AS MUD/SILT MATERIAL ACCUMULATES

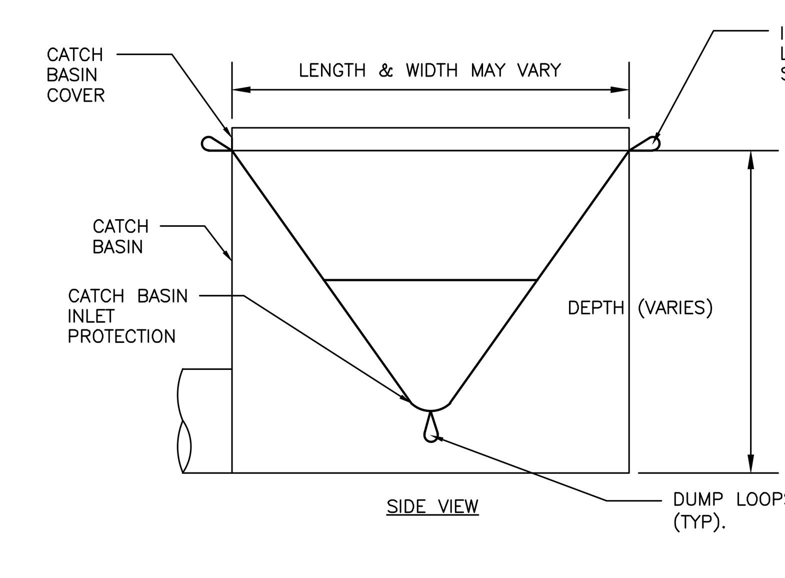


STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



SILT FENCE REINFORCEMENT	MAX. SPACING "A"
NONE	6'
WIRE REINFORCEMENT 14 GAUGE, 6" MESH	10'

SILTATION FENCE DETAIL
NOT TO SCALE



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

ISSUED FOR	BY / DATE
SCHEMATIC DESIGN/ISSUE FOR BUDGET ESTIMATE	SJL 3/8/21
MAJOR SITE PLAN	SJL 6/22/21

DRAWING NAME:
EROSION & SEDIMENTATION CONTROL DETAILS & NOTES

PROJECT NAME/ADDRESS:
30–32 ATLANTIC STREET DEVELOPMENT

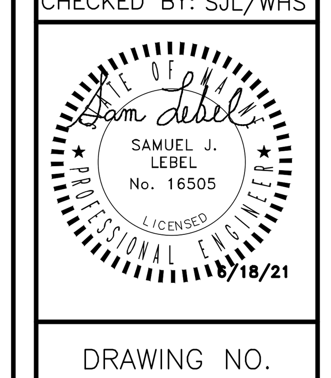
CLIENT/OWNER OF RECORD:
KESTREL LLC.
72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

A C O R N ENGINEERING, INC.

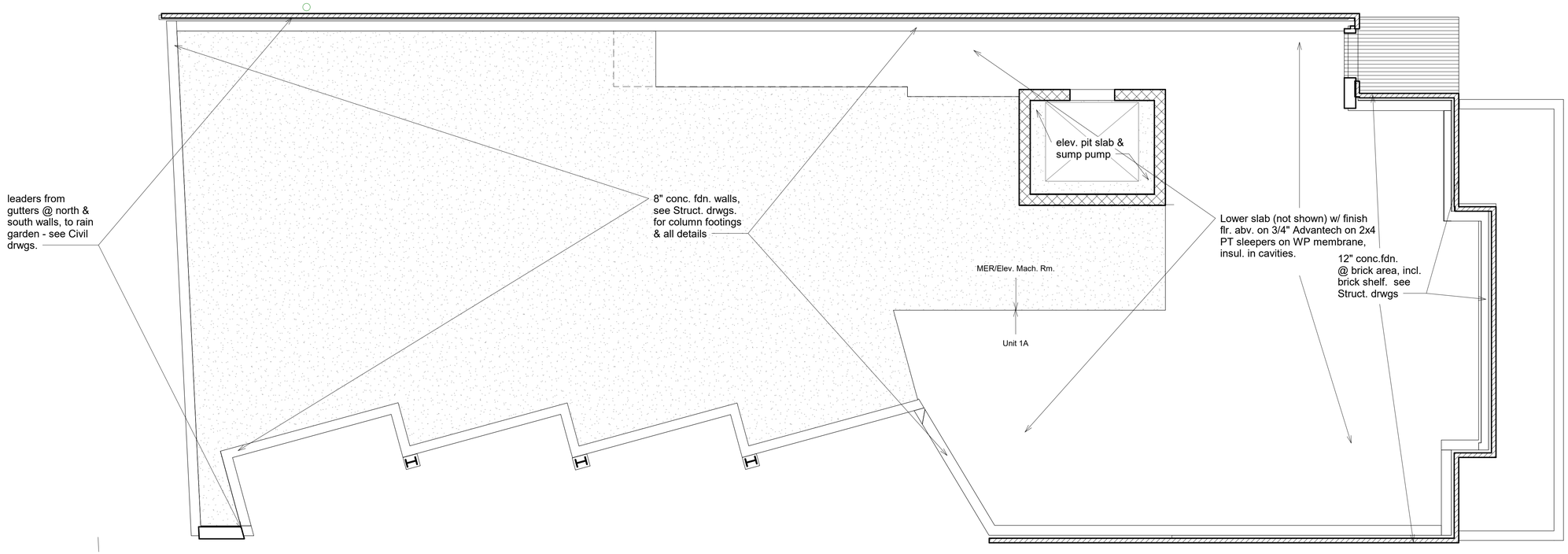
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775–2655

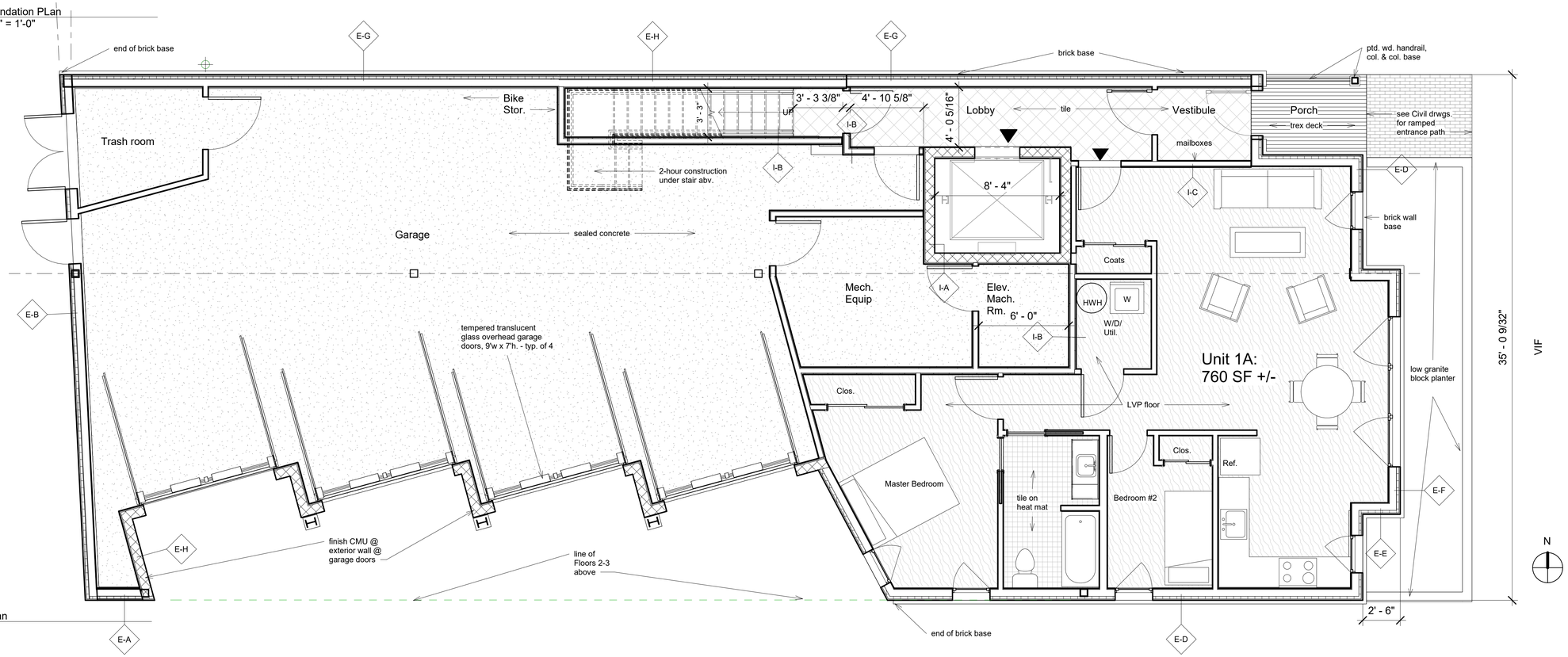
FILE: 1109.5_DETAILS
JN: 1109.5
SCALE: AS NOTED
DESIGNED BY: SJL
DRAWN BY: ZMS
CHECKED BY: SJL/WHS



DRAWING NO.
C-47



2 Foundation PLan
1/4" = 1'-0"



1 1st Floor Plan
1/4" = 1'-0"

Cornerstone Building & Restoration / Lauren J. Reiter Architect
72 Pine St., Portland, ME 04102
tel. 917-502-2225
email: lreiter@cornerstonebr.com

Consultants

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Trillium Engineering
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207-227-3479
Attn: Tony Dumais

Civil Engineer
Acorn Engineering
PO Box 3372, Portland, ME 04104
207-775-7655
Attn: Will Savage, Sam Lebel

Mechanical Engineer
Bennett Engineering
7 Bennett Rd., Freeport ME 04032
207-865-9475
Attn. Will Bennett

Revision Schedule

Revision Number	Revision Description	Revision Date

Issued for Major Site Plan Application
May 15, 2020

Revised in response to Planning Board & Historic Preserervation Comments
Oct. 25, 2021

K. PARSON

30-32 Atlantic Apartments

30-32 Atlantic Street

Portland, ME 04101

Foundation & First Floor Plans

Project number	Portland, ME 04101
Date	Issue Date
Drawn by	Author
Checked by	Checker

A201

Scale 1/4" = 1'-0"

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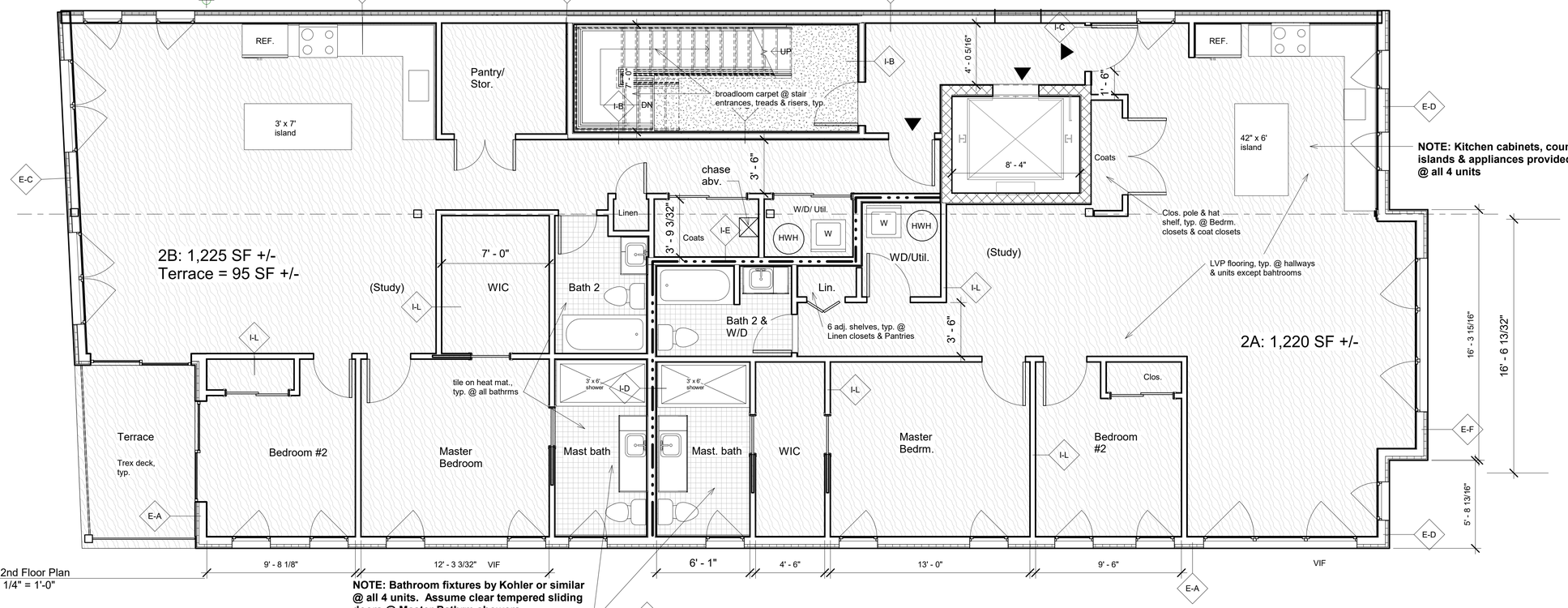
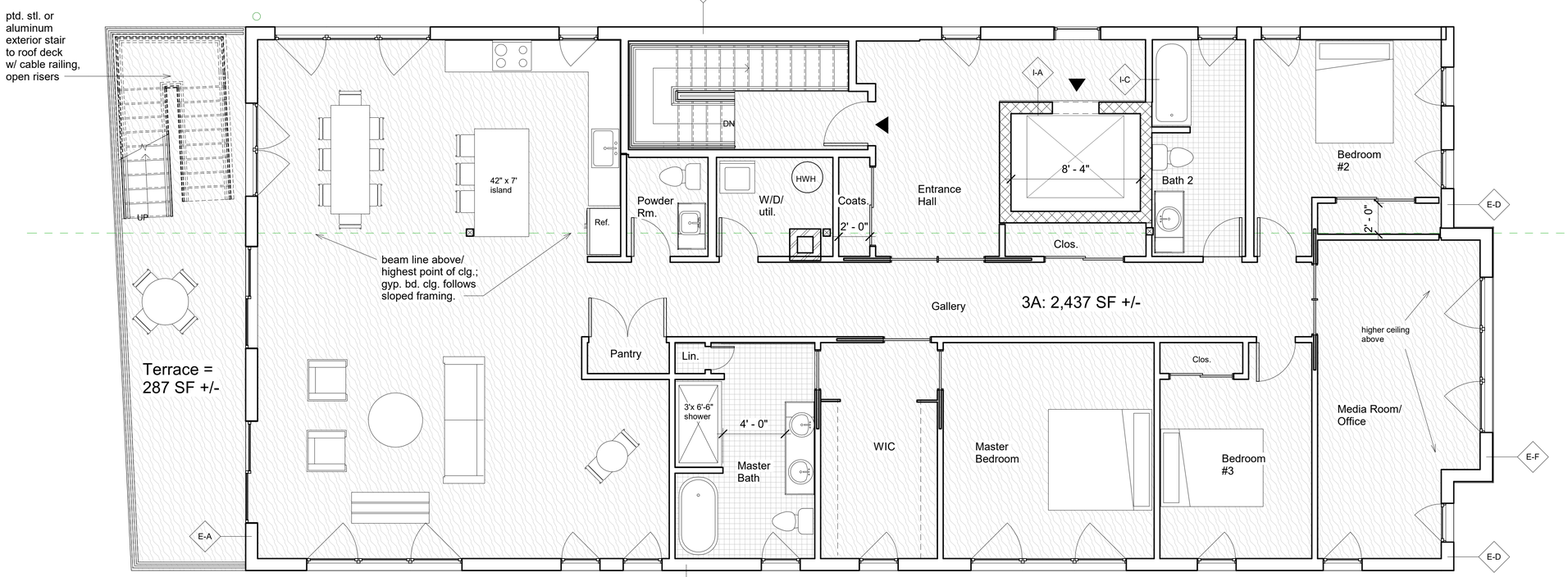


1 2nd Floor Plan
1/4" = 1'-0"



2 3rd Floor Plan
1/4" = 1'-0"

Cornerstone Building & Restoration /
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Revision Number	Revision Description	Revision Date

Issued for Major Site Plan Application
May 15, 2020

Revised in response to Planning Board &
Historic Preserervation Comments
Oct. 25, 2021

K. PARSON

30-32 Atlantic
Apartments

30-32 Atlantic Street

Portland, ME 04101

Second & Third Floor
Plans

Project number	Portland, ME 04101
Date	Issue Date
Drawn by	Author
Checked by	Checker

A202

Scale 1/4" = 1'-0"

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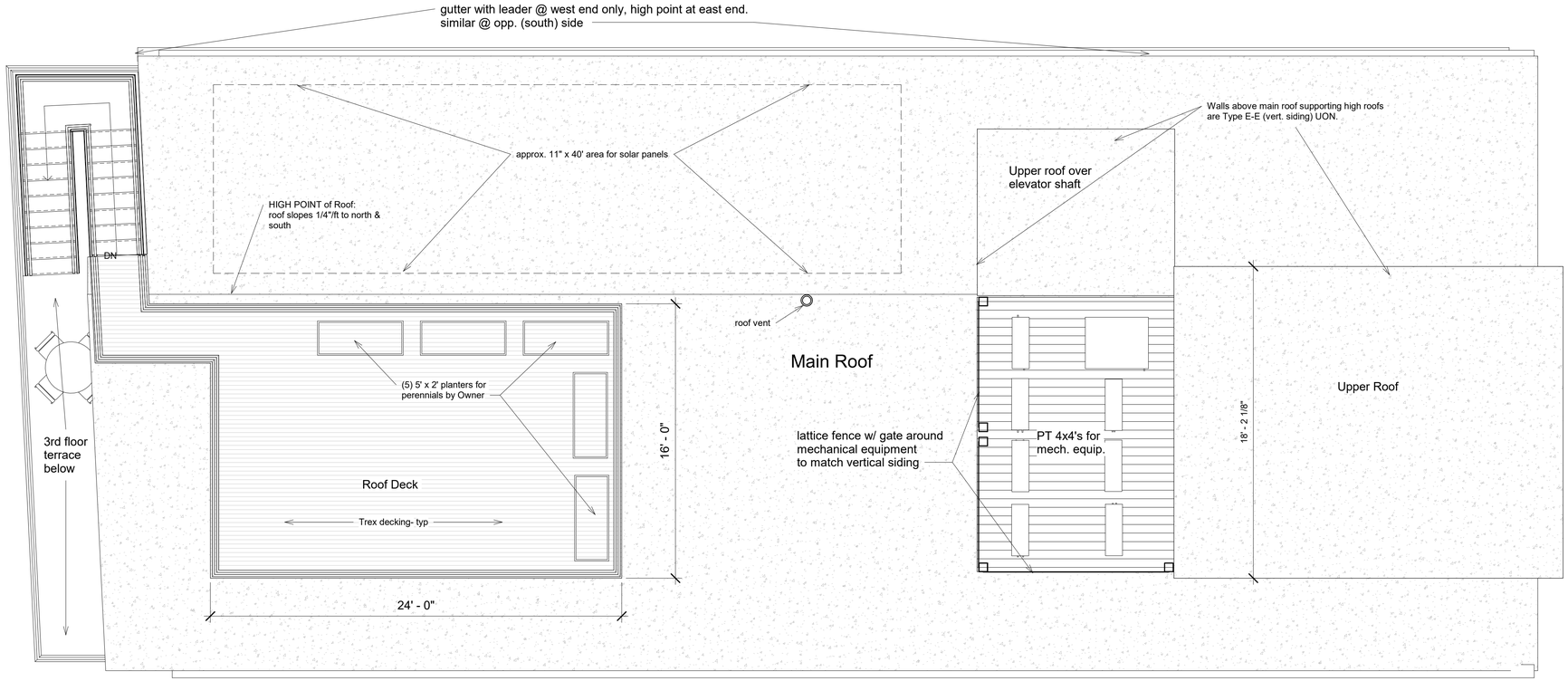

1 Roof Plan
1/4" = 1'-0"

Cornerstone Building & Restoration /
Lauren J. Reiter Architect
72 Pine St., Portland, ME 04102
tel. 917-502-2225
email: lreiter@cornerstonebr.com

Consultants

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Attn. Will Bennett

Revision Schedule

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Revised in response to Planning Board &
Historic Presererservation Comments
Oct. 25, 2022

K. PARSON

30-32 Atlantic Apartments

30-32 Atlantic Street

Portland, ME 04101

Roof Plan

Project number	Portland, ME 04101
Date	Issue Date
Drawn by	Author
Checked by	Checker

A203

Scale	1/4" = 1'-0"

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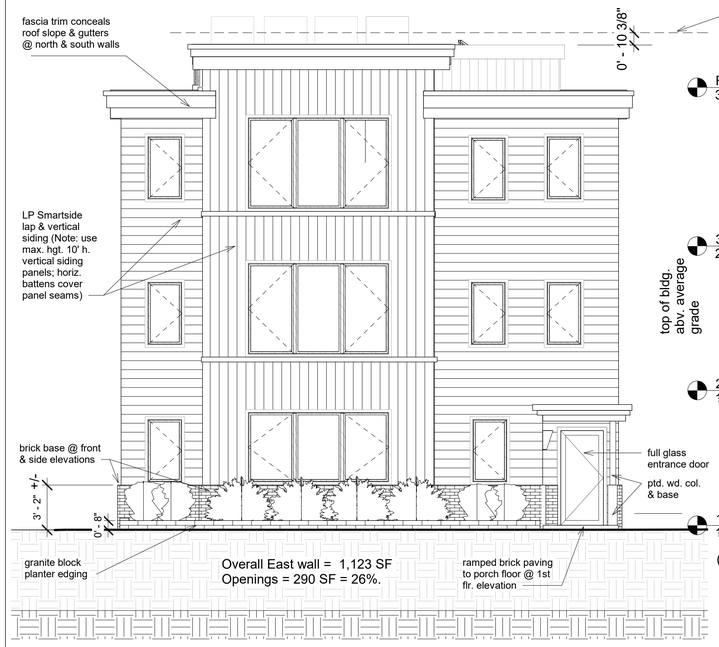
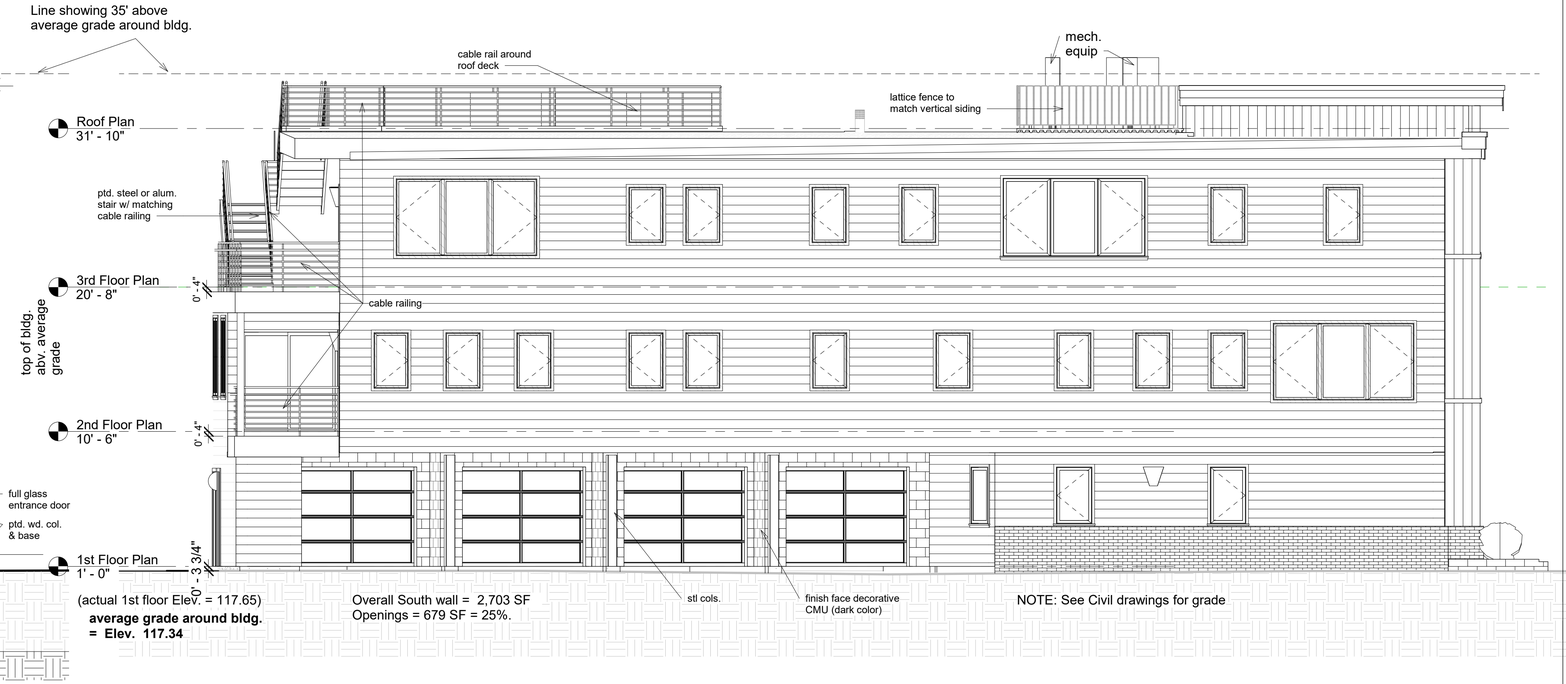
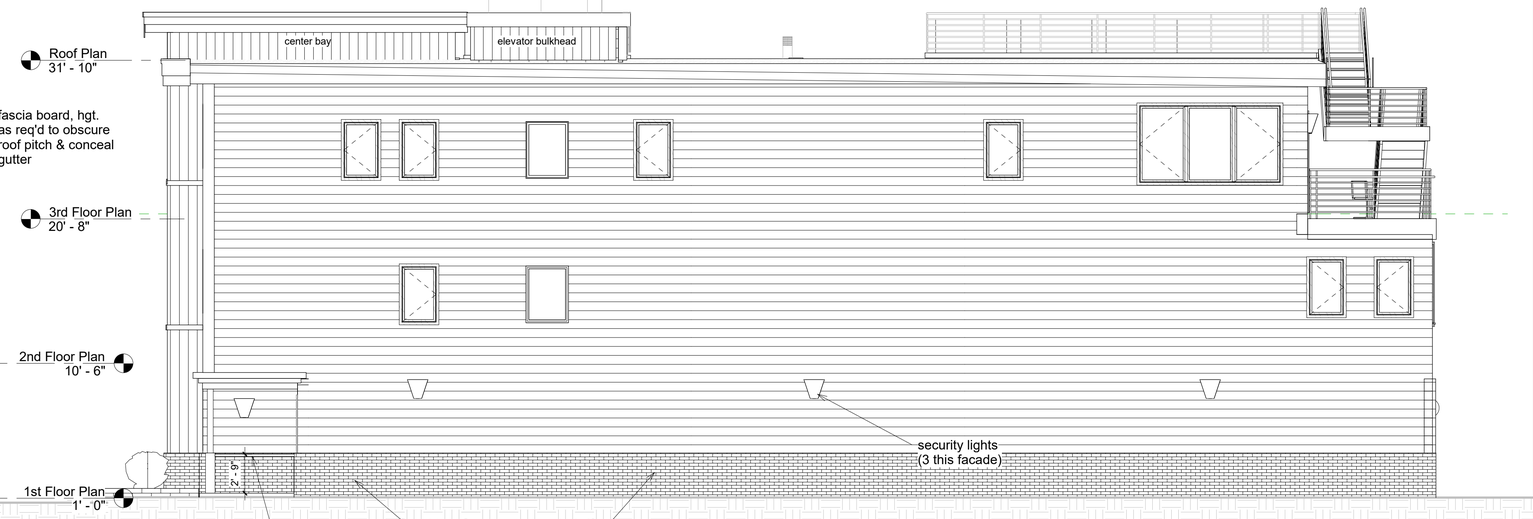


1 Proposed East Elevation
3/16" = 1'-0"



2 Proposed South Elevation
3/16" = 1'-0"

4 Proposed West Elevation
3/16" = 1'-0"



3 Proposed North Elevation
3/16" = 1'-0"

Cornerstone Building & Restoration / Lauren J. Reiter Architect
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Revision Number	Revision Description	Revision Date

Issued for Major Site Plan Application
May 15, 2020

Revised in response to Planning Board & Historic Preserervation Comments
Oct. 25, 2021

K. PARSON

30-32 Atlantic Apartments

30-32 Atlantic Street

Portland, ME 04101

Exterior Elevations

Project number	Portland, ME 04101
Date	Issue Date
Drawn by	Author
Checked by	Checker

A301

Scale	3/16" = 1'-0"

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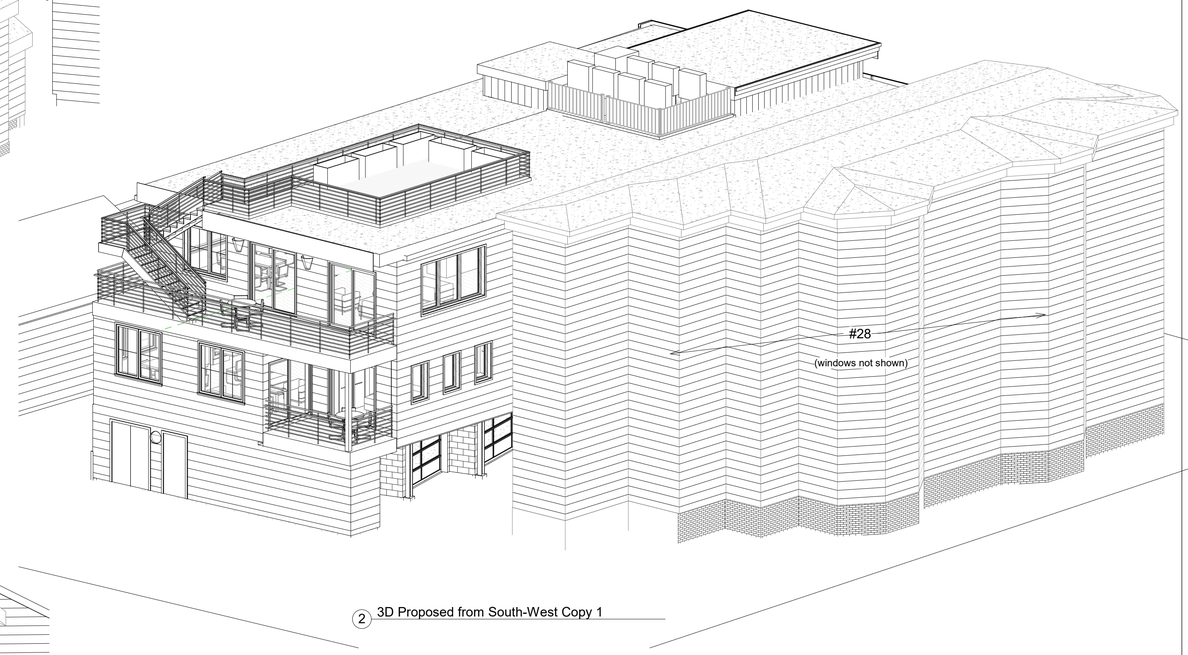
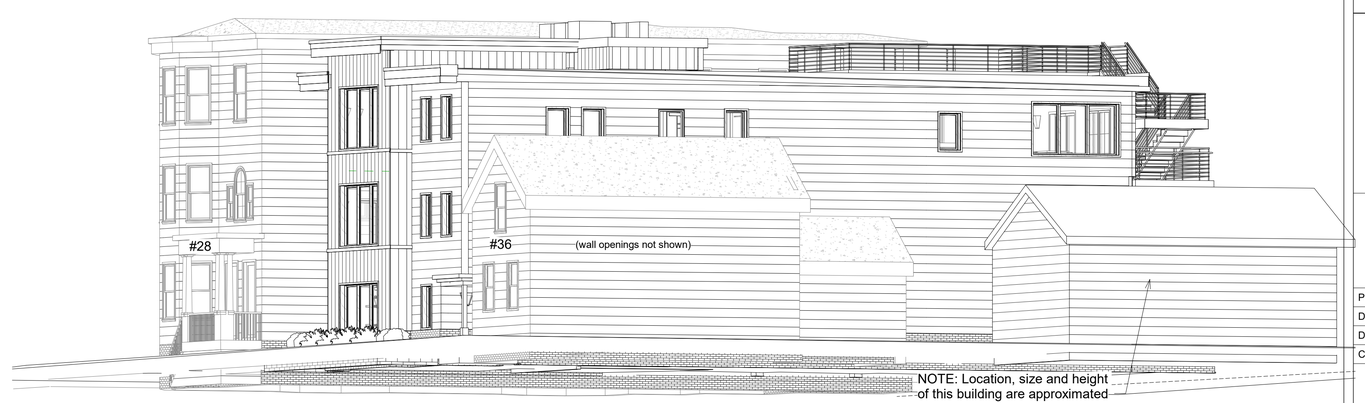
1 3D Proposed from North_East



2 3D Proposed from South-West Copy 1

3 3D Proposed from South-East



4 3D View from "Up the Street"

Cornerstone Building & Restoration /
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Revision Schedule

Revision Number	Revision Description	Revision Date
	Issued for Major Site Plan Application May 15, 2020	
	Revised in response to Planning Board & Historic Preserervation Comments Oct. 25, 2021	

K. PARSON

30-32 Atlantic Apartments

30-32 Atlantic Street

Portland, ME 04101

3D Views

Project number	Portland, ME 04101
Date	Issue Date
Drawn by	Author
Checked by	Checker

A302

Scale

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SPACE AND BULK STANDARDS		
ZONING: R6 RESIDENTIAL & MUNJOY HILL NEIGHBORHOOD CONSERVATION OVERLAY DISTRICT	REQUIRED	PROPOSED
MINIMUM LOT SIZE	2000 SF	5235 SF
MINIMUM STREET FRONTAGE	20'	51'
MINIMUM FRONT YARD SETBACK	5'	5.25'
MINIMUM SIDE YARD SETBACK	5'	5.56'
MINIMUM REAR YARD SETBACK	10'	10.56'
MAXIMUM LOT COVERAGE	60%	58.2%
SIDE YARD STEPBACK	10'	N/A
REAR YARD STEPBACK	7.5'	N/A
MINIMUM LOT WIDTH	20'	51'
MAXIMUM BUILDING HEIGHT	35'	35'
MINIMUM LANDSCAPED OPEN AREA	20%	20.4%
MAX IMPERVIOUS AREA	80%	79.6%
MAXIMUM NUMBER OF DWELLING UNITS	725 SF/UNIT = 7 UNITS	4 UNITS
RESIDENTIAL PARKING	1 SPACE PER UNIT AFTER 3 UNITS = 1 SPACE	3 SPACES
MINIMUM INTERNAL RESIDENT BICYCLE STORAGE SPACES	2 SPACES/5 UNITS = 1.6	2

DEVELOPER/ARCHITECT:

CORNERSTONE BUILDING & RESTORATION
PORTLAND, MAINE
CONTACT: LAUREN J. REITER, R.A.
(917) 502-2225

SURVEYOR:

OWEN HASKELL, INC.
FALMOUTH, MAINE
CONTACT: RANDY R. LOUBIER, PLS
(207) 774-0424

CIVIL ENGINEER:

ACORN ENGINEERING, INC
PORTLAND, MAINE
CONTACT: SAM LEBEL, PE
(207) 775-2655

PROPERTY LINE
SETBACK
PROPOSED BUILDING
PROPOSED PAVEMENT
BRICK
SNOW STORAGE
CURB
STRIPING
CAST IRON ROD FOUND/SET

PARKING SUMMARY	
	# PARKING SPACES
EXISTING	N/A
STANDARD (9'X18')	1
COMPACT (9'X16')	1
ADA (9'X18')	1
TOTAL PROPOSED SPACES	3

UNIT TABULATION	
UNIT NUMBER	SIZE (SF)*
1A	760
2A	1,220
2B	1,225
3A	2,437

RECORDING INFORMATION
STATE OF MAINE, CUMBERLAND
COUNTY REGISTRY OF DEEDS

RECEIVED: _____

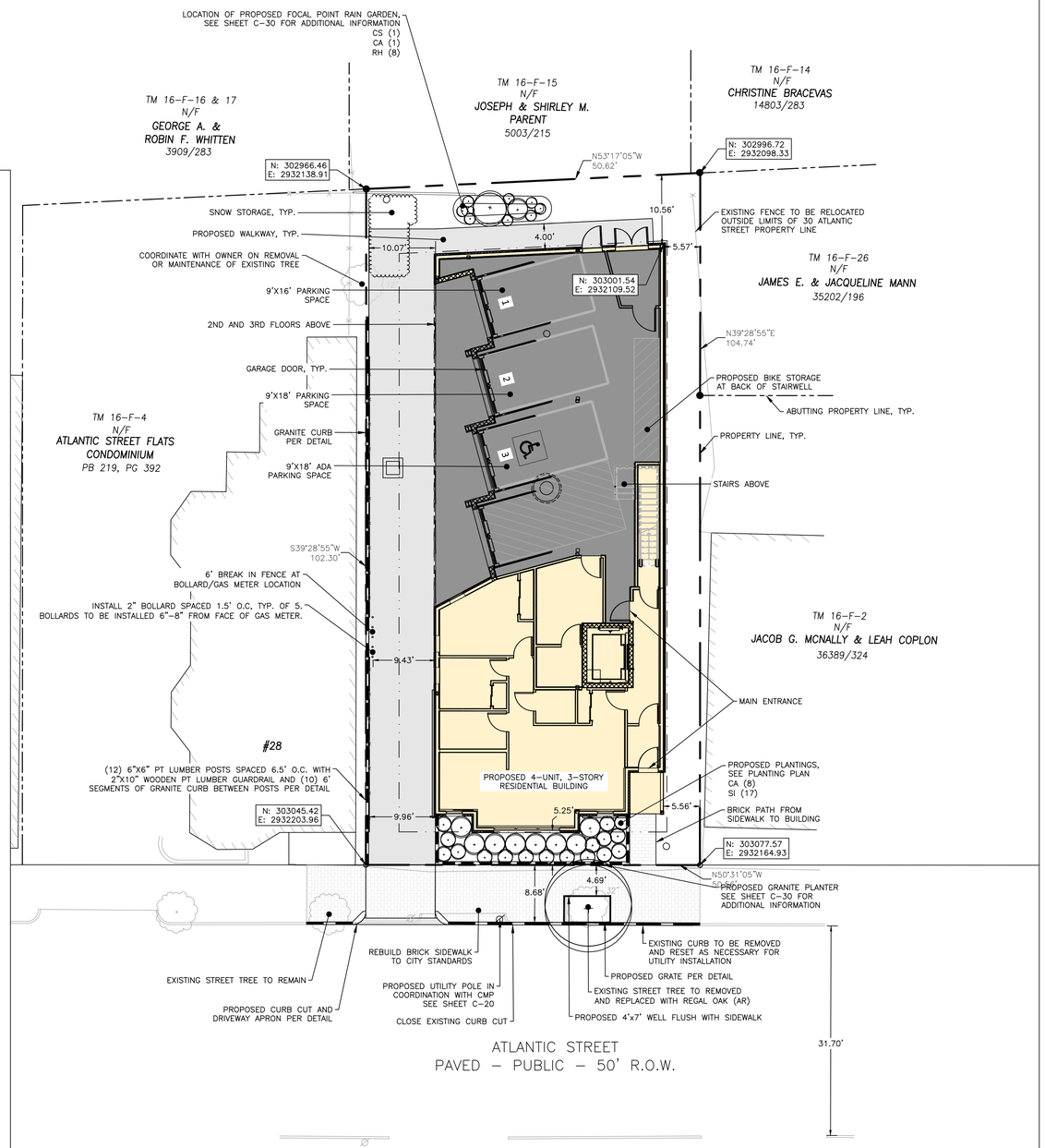
RECORDED IN: _____

ATTEST: _____
REGISTRAR

APPROVED: PORTLAND PLANNING BOARD

CHAIRPERSON: DATE:

VICINITY MAP
NOT TO SCALE



GENERAL NOTES:

1. FOR INFORMATION REGARDING THE PROPOSED SITE, REFER TO THE SITE PLAN, C-10, MOST RECENT VERSION.
2. FOR INFORMATION REGARDING PROPOSED UTILITIES, REFER TO THE UTILITY PLAN, SHEET C-20, MOST RECENT VERSION.
3. FOR INFORMATION REGARDING PROPOSED GRADING AND STORMWATER, REFER TO THE GRADING & DRAINAGE PLAN, SHEET C-30, MOST RECENT VERSION.
4. UNIT TABULATION PROVIDED BY CORNERSTONE BUILDING & RESTORATION; REFER TO ARCHITECTURAL PLANS FOR FLOOR PLANS AND BUILDING HEIGHTS.
5. PROPERTY PINS WERE SET BY PROFESSIONAL LAND SURVEYOR.
6. AS OF 7/20/2021, THE SITE IS BOUNDED BY THE R-6 ZONE & MUNJOY HILL NEIGHBORHOOD CONSERVATION OVERLAY DISTRICT ON EAST, WEST, SOUTH, AND NORTH SIDES PER THE CITY OF PORTLAND GIS WEBSITE.
7. PARCEL IS SHOWN ON THE CITY OF PORTLAND ASSESSOR'S MAP 16, BLOCK F, LOTS 3 & 25.
8. PARCEL DOES NOT FALL IN A SPECIAL FLOOD HAZARD AREA PER FEMA FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 23005100014B, DATED 7/17/1986.
9. ALL BUILDING CORNER OFFSETS TO BOUNDARY LINES ARE FROM THE BUILDING FOUNDATION, UNLESS OTHERWISE NOTED.
10. THIS SHEET IS THE SUBDIVISION PLAT FOR THE CREATION OF UP TO FOUR (4) DWELLING UNITS ON THE EXISTING SUBJECT PROPERTY.
11. FOLLOWING COMPLETION OF CONSTRUCTION, THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SITE LIGHTING, TRASH REMOVAL AND SNOW REMOVAL.
12. PLAN REFERENECES
    12.1. PLAN TITLED "BOUNDARY & TOPOGRAPHIC SURVEY" PREPARED BY OWEN HASKELL, INC. DATED DECEMBER 14TH, 2020

SURVEY NOTES:

1. OWNER OF RECORD: KESTREL, LLC, 118 ROWLEY DRIVE, STONINGTON, CT 06378, C.C.R.D. BOOK 37252 PAGE 290
2. LOCUS IS SHOWN AS LOTS 3, 25 ON CITY OF PORTLAND'S ASSESSORS MAP 16 BLOCK F.
3. PROPERTY IS LOCATED IN CITY OF PORTLAND RESIDENTIAL ZONE R6.
4. BEARINGS ARE BASED ON CITY DATUM UTILIZING THE CONTROL POINTS SHOWN.
5. ELEVATIONS ARE BASED ON ELEVATIONS ARE CITY DATUM AS BASED ON CITY MONUMENT T102-69-7 ELEVATION 131.02.
6. UTILITY NOTE
   6.1. 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.

EASEMENTS:

THERE ARE NO EXISTING EASEMENTS AS IDENTIFIED BY PLAN TITLED BOUNDARY & TOPOGRAPHIC SURVEY BY OWEN HASKELL, INC. DATED DECEMBER 14TH 2020.

PROPOSED EASEMENTS:
1. DRAINAGE EASEMENT TO BENEFIT 28 ATLANTIC STREET FROM 30-32 ATLANTIC STREET.
2. UTILITY EASEMENT TO BENEFIT 28 ATLANTIC STREET FROM 30-32 ATLANTIC STREET.

WAIVERS & CONDITIONS OF APPROVAL:

TBD.

THIS SURVEY CONFORMS TO THE CURRENT STANDARDS OF PRACTICE SET FORTH BY THE MAINE STATE BOARD OF LICENSURE FOR LAND SURVEYORS.

RANDY R. LOUBIER, MAINE P.L.S. #2407 DATE:
OWEN HASKELL, INC.

10 0 10 20
SCALE: 1" = 10'

DRAFT
NOT FOR RECORDING
AT REGISTRY OF DEEDS

ISSUED FOR	BY	DATE
MAJOR SITE PLAN	SJL	8/24/21

DRAWING NAME: SUBDIVISION PLAT

PROJECT NAME/ADDRESS: 30-32 ATLANTIC STREET DEVELOPMENT

CLIENT/OWNER OF RECORD: KESTREL LLC.
72 PINE STREET SUITE #16, PORTLAND, MAINE 04102

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS, WHETHER OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

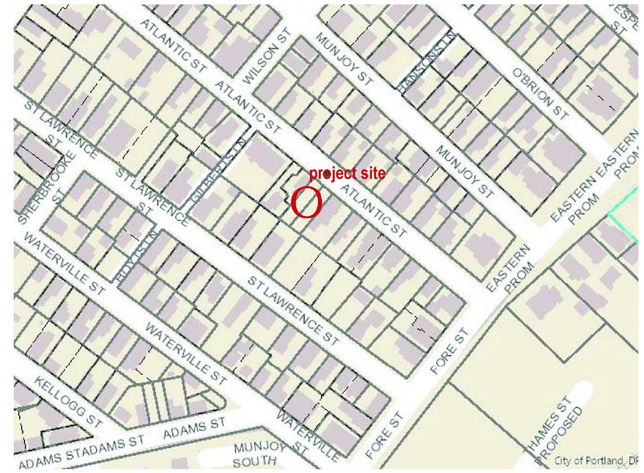
ACORN ENGINEERING, INC
PO BOX 4371, PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1109.5_CIVIL
JN:	1109.5
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	ZMS
CHECKED BY:	SJL/WHS

STATE OF MAINE
SAMUEL J. LEBEL
No. 16505
LICENSED
PROFESSIONAL ENGINEER
10/15/21

DRAWING NO.
PLAT

1 3D view from SouthEast



30-32 Atlantic Street / CBL 016 F003001 & 016 F025001 / Zoning: R6

DRAWING LIST

A100 Cover Sheet
A105 General Notes
A201 Foundation & First Floor Plans
A202 Second & Third Floor Plans
A203 Roof Plan
A204 Wall Types
A205 Furniture Plans (for information only)
A301 Exterior Elevations
A302 3D Views
A303 Window & Door Schedules
A401 Building Sections
A402 Detail Exterior Wall Sections
A403 Entrance Lobby Details
A501 First Floor RCP & Fixture Schedule
A502 Second & Third Floor RCPs
C-01 Cover Sheet & Legend
C-02 General Notes
Ex Boundary & Topographic Survey
C-10 Site & Landscape Plan
C-20 Utility Plan
C-30 Grading & Drainage Plan
C-40 Site Details -1
C-41 Site Details -2
C-42 Landscape Details
C-43 Utility Details -1
C-44 Utility Details -2
C-45 Drainage Details
C-46 Focal Point Details
C-47 Erosion & Sedimentation Control Details
S0.0 Structural Notes
S1.1 Foundation Plan
S1.2 Second Floor Framing Plan
S1.3 Third Floor Framing Plan
S1.4 Roof Floor Framing Plan
M101 First Floor Mechanical Plan
M102 Second & Third Floor Mechanical Plan
M103 Roof Mechanical Plan
M201 Underside & First Floor Plumbing Plans
M202 Second & Third Floor Plumbing Plans
M203 Roof Plumbing Plan
E0.00 Electrical Cover Sheet
E1.00 Power Plans Site & First Floor
E1.01 Power Plans Second & Third Floors
E1.02 Power Plan Roof

Cornerstone Building & Restoration / Lauren J. Reiter Architect
72 Pine St., Portland, ME 04102
tel. 917-502-2225
email: lreiter@cornerstonebr.com

Consultants

Structural Engineer
Trillium Engineering
189 Main St., Yarmouth ME 04096
207-227-3479
Attn: Tony Dumais

Civil Engineer
Acorn Engineering
PO Box 3372, Portland, ME 04104
207-775-7655
Attn: Will Savage, Sam Lebel

Mechanical Engineer
Bennett Engineering
7 Bennett Rd., Freeport ME 04032
207-865-9475
Attn. Will Bennett

Revision Schedule

Revision Number	Revision Description	Revision Date

Issued for Major Site Plan Application
May 15, 2020
NOTE: Selected drawings area included with this submission (not all drawings listed)

Revised in response to Planning Board & Historic Presererva tion Comments
Oct. 25, 2021

K. PARSON

30-32 Atlantic Apartments

30-32 Atlantic Street

Portland, ME 04101

Cover Sheet

Project number	Portland, ME 04101
Date	Issue Date
Drawn by	Author
Checked by	Checker

A100

Scale

10/26/2021 3:13:30 PM